Pre-Kindergarten Math Standards and Benchmarks

Standard 1: Numbers and Operations: Children understand amount, including use of numbers and counting.

1.1. Recognizes and names some number symbols.
1.2. Counts objects, using one-to-one correspondence
1.3. Demonstrates adding and subtracting small quantities by handling concrete objects.

Standard 2: Algebra: Children understand patterns.

2.1. Sorts, classifies, and orders objects by size, number, function, and other properties.
2.2. Recognizes, describes, extends, and creates patterns, such as sequences of sounds and shapes

Standard 3: Geometry: Children understand shapes and spatial relationships.

3.1. Names, describes, compares, and sorts common two- and three- dimensional shapes.
3.2. Demonstrates understanding of spatial words.

Standard 4: Measurement: Children understand measurements and comparisons.

4.1. Makes comparisons between several objects based on one or more attributes, such as length, size, and weight, using words such as shorter, taller, bigger, smaller, or heavier, lighter.
4.2. Measures using standard and non-standard units.

Standard 5: Data Analysis and Probability: Children gather and represent data.

5.1. Gathers and represents data using concrete objects and pictures.

Standard 6: Problem Solving: Children apply and adapt strategies to solve problems.

6.1. Participates in simple activities to test observations, draws conclusions, and forms generalizations.

Pre-Kindergarten Syllabus for Math

1st Quarter

*Recognize and identify colors
*Recognize and identify different textures
*Recognize and identify different sounds
*Label and identify big and small objects
*Focus on long and short
*Focus on tall and short
*Review height and length
*Introduce wide, narrow, thick and thin
*Make simple size comparisons
*Introduce and use positional language
*Introduce, describe, and name and explore 3-D shapes

2nd Quarter

*Introduce sorting and classifying
*Introduce, describe, and order using size comparisons
*Introduce 1, 2, 3, 4, and 5
*Counting
*Representations of quantity
*Number matching
*Introduce and identify patterns
*Match and compare designs

3rd Quarter

*Match different representations of numbers
*Number recognition
*Continue counting skills
*Number review
*Introduce the part-part-total idea
*Counting one more
*Explore picture graphs
*Match quantities and number symbols
*Counting back from five
*Match different representations of numbers
*Introduce heavy and light
*Compare weights
*Use language related to capacity and volume

4th Quarter

*Introduce two-dimensional shapes
*Recognize, march and reinforce shape recognition
*Introduce, describe, and find repeating patterns
*Extend a continuous/repeating pattern
*Introduce ordinal numbers

*Using first, second, third and last
*Describe order of events
*Predict position
*Count to ten
*Recognize number symbols

Course Outline – Pre-K

(Numbers in outline indicate chapter numbers)

Topic 1: Same or Different

Topic 2: Big or Small

Topic 3: Space and Shape

Topic 4: Sorting

Topic 5: Comparing and Ordering

Topic 6: One, Two, Three, Four, Five

Topic 7: Designs and Patterns

Topic 8: Focus on Four

Topic 9: Focus on Five

Topic 10: Heavy or Light? More or Less?

Topic 11: Shapes and Patterns

Topic 12: Numbers in Order

Week 1 Overview – Getting to Know You

	MAIN ACTIVITY	ONGOING ACTIVITIES		
	Whole Group Page GS-3 [illegible]	Teacher-directed small-group Page GS-20		Center Plans Pages [illegible]
DAY 1	• Circle Time Song • All Aboard! To the Block Center • Circle Time Song • All Aboard! To the Home Center	We Can 2-3 days	My Favorite Things 2-3 days	Block Center Home Center
DAY 2	• Storybook Time • All Aboard! To the Craft Center			Craft Center
DAY 3	• Storybook Time • All Aboard! To the Art Center • Clothes for Wilbur • Moving to Centers			Art Center

Week 2 Overview – Our Week

	MAIN ACTIVITY	ONGOING ACTIVITIES		
	Whole Group Page GS-[illegible]	Teacher-directed small-group Page GS-28		Center Plans Pages [illegible]
DAY 1	• Song and Storybook Time • All Aboard! To the Sand Center • Storybook Time • All Aboard! To the Science Center	Copy the Action 2-3 days	My Favorite Things 2-3 days	Sand Center Science Center
DAY 2	• Storybook Time • All Aboard! To the Dramatic Play Center			Dramatic Play Center
DAY 3	• Weather Watching • All Aboard! To the Math Center • Day by Day • Moving to Centers			Math Center

Topic 1 - Week 1 Overview – Same and Different Colors

MAIN ACTIVITY		ONGOING ACTIVITIES							
Whole group Page 1-5		Teacher-directed small-group Page 1-12		Health Centers Page 1-13		Free Choice Page 1-14			
DAY 1	• Circle Time Song* • Picture Chat* • Match the Picture	Color Match*	Color Puppets	Balloon Match	Color Clothespins*	Paint It!	Set the Table	Laundry Fun	Collage Colors
DAY 2	• Balloon Colors • Nature's Colors								
DAY 3	• Streamer Fun* • Choose the Color • Color Spy • Song Review								

Topic 1 - Week 2 Overview – Exploring Texture and Sound

MAIN ACTIVITY		ONGOING ACTIVITIES							
Whole group Page 1-15		Teacher-directed small-group Page 1-20		Health Centers Page 1-21		Free Choice Page 1-22			
DAY 1	• Circle Time Song* • Picture Chat* • Texture Talk and Walk	Look and Feel	Feel It*	Feely Box	Texture Dominoes*	Join the Band	Texture Picture	Feel the Finger Paint	Match Me
DAY 2	• Sound Textures								
DAY 3	• Storybook Time* • What's the Same?*								

Topic 2 - Week 1 Overview – Big and Small

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole group Page 2-3 to 2-4	Teacher-directed small-group Page 2-12		Math Center Page 2-13		Reading Center Page 2-14			
DAY 1	• Circle Time Song* • Label It!	Big and Small Game	Toy Sort*	Which Is Big?*	Which Basket?	In the Kitchen	Clothes Sort	Sandcastles	Draw It!
DAY 2	• Simon Says* • Picture Chat*								
DAY 3	• Baby and Adult Animals • Big and Small Pairs								

Topic 2 - Week 2 Overview – Long, Short, and Tall

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole group Page 2-3 to 2-4	Teacher-directed small-group Page 2-20		Math Center Page 2-21		Reading Center Page 2-22			
DAY 1	• Circle Time Song* • Picture Chat* • Twirling the Ribbons	Short to Long	Snakes and Towers*	Long or Short?	Build a Tower	Picture Pairs	Pin It Up	Crazy Creatures	Stack It Up
DAY 2	• Picture Chat* • Long Trains and Tall Towers								
DAY 3	• Label It! • Tall or Short? • Toy Store Magnets*								

Topic 2 - Week 3 Overview – Wide, Narrow, Thick, and Thin

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole group Page 2-3 to 2-4	Teacher-directed small-group Page 1-12		Math Center Page 2-13		Reading Center Page 2-14			
DAY 1	• Circle Time Song* • Wide or Narrow? • Thick or Thin	Roll It and Shape It*	Compare Sizes	Build the Picture*	Mail It!	Sort and Sell	Shoelace Pictures	Roller Pictures	Fit That Lid
DAY 2	• Storybook Time*								
DAY 3	• Size Actions* • Where Do Animals Hide?*								

Topic 3 - Week 3 Overview – Positional Language

MAIN ACTIVITY		ONGOING ACTIVITIES							
	[illegible]	Teacher-directed small-group Page 3-12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DAY 1	• Circle Time Song* • Storybook Time*	Obstacle Course	Where's the Bear?*	Beanbag Throw*	Feltboard Fun	Set Up House	Farm Land	Bird Puppets	Paint a Position
DAY 2	• Hold It There • Show Us								
DAY 3	• Picture Chat* • Where is the Worm? • Animal Safety and Shelter								

Topic 3 - Week 2 Overview – Three Dimensional Shapes

MAIN ACTIVITY		ONGOING ACTIVITIES							
	[illegible]	Teacher-directed small-group Page 3-20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DAY 1	• Circle Time Song* • Storybook Time*	Mystery Shapes	Play-dough Shapes*	Shape Sort*	Copy Me	Shape Detectives	Wrap the Present	Sand Solids	Junk Creatures
DAY 2	• Does it Roll? • Visualizing Shapes								
DAY 3	• Picture Chat • What Is It? Where Is It?*								

Topic 4 - Week 1 Overview – Deciding How to Sort

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole-group Page 4-7	Teacher-directed small-group Page 4-12		Matching and Pairing Page 4-17		Free-choice Page 4-4			
DAY 1	• Circle Time Song* • Storybook Time*	Animal Groups*	Ribbon Sort	Button Sort*	Vehicle Sort	Sort the Blocks	Dragon Hats	In the Kitchen	Sort the Animals
DAY 2	• Dramatic Play								
DAY 3	• What's My Sorting Rule?* • Nature Sort • Sort and Label								

Topic 4 - Week 3 Overview – Describing Sorting Rules

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole-group Page 4-13	Teacher-directed small-group Page 4-20		Matching and Pairing Page 4-27		Free-choice Page 4-4			
DAY 1	• Circle Time Song* • Picture Chat* • Sort Yourselves	Helping Wilbur	Graphing Picture Sort	Card Sort*	Super Sort	Which is Different?	Favorites	Play-Dough Groups	Library Sort
DAY 2	• Does It Belong?* • Storybook Time								
DAY 3	• People Picture Sort • Sort It Out!								

Review Week: Topics 1-4

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole-group Page 4-30	Topic 1 Page 4-25		Topic 2 Page 4-25	Topic 3 Page 4-25			Topic 4 Page 4-25	
DAY 1	• Circle Time Song* • Wide or Narrow? • Thick or Thin	What Will Wilbur Wear?	Collage Creations	Size Paintings	Hiding-Game Sizes	Animal Antics	Shapes Like Wayne	One Doesn't Belong	Kitchen Business
DAY 2	• Storybook Time*								
DAY 3	• Size Actions* • Where Do Animals Hide?*								

Topic 5 – Week 1 Overview – Size Comparisons

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole-group Page 5-8	Teacher-directed small-group Page 5-12		Math Centers Page 5-13		Teacher-directed Page 5-14			
DAY 1	• Circle Time Song* • Storybook Time*	Taller or Shorter?	Taller? Tallest? Shorter? Shortest?	Lids in Lids	Arrange the Ribbons	Sponge Shapes	Let's Be Clowns	Chains & Chains	Arrange It
DAY 2	• Bigger or Smaller?								
DAY 3	• Biggest, Smallest • Picture Chat* • Storybook Time*								

Topic 5 – Week 2 Overview – Sequencing Events

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole-group Page 5-8	Teacher-directed small-group Page 5-20		Math Centers Page 5-21		Teacher-directed Page 5-22			
DAY 1	• Circle Time Song* • Picture Chat*	Picture Sequence	Day and Night Picture Collages	Drawing Day and Night*	Before and After	Growing Things	People Pictures	Animals and Babies	Then and Now
DAY 2	• Picture Chat								
DAY 3	• Day by Day* • How Things Grow								

Topic 6 – Week 1 Overview – Counting to Five

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole-group Page 6-6	Teacher-directed small-group Page 6-12	Math Centers Page 6-10			Independent Page 6-11			
DAY 1	• Circle Time Song* • Picture Chat*	Cube Puppets*	Animal Talk	Beady Business	Fill the Bags	Make an Instrument	Sort It Out	Hide and Go Seek	Count on Me
DAY 2	• Picture Chat*								
DAY 3	• Counting Sounds • Number Play								

Topic 6 – Week 2 Overview – Matching Numbers and Groups

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole-group Page 6-6	Teacher-directed small-group Page 6-20	Math Centers Page 6-18			Independent Page 6-19			
DAY 1	• Circle Time Song* • Storybook Time*	Magnet Match*	How Many Bears?	Clothespin Count	Dinosaur Dominoes*	Let's Go Shopping	Paint the Animals	Toss and Count	Animal Groups
DAY 2	• Number Cards								
DAY 3	• Dinosaur Match • 1, 2, 3*								

Topic 6 – Week 3 Overview – Making Groups

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole-group Page 6-6	Teacher-directed small-group Page 6-28	Math Centers Page 6-26			Independent Page 6-27			
DAY 1	• Circle Time Song* • Picture Chat*	Follow the Path	Bear Hunt*	Park the Cars	Number Books	Play-Dough Numbers	Paint the Numbers	Find It	Dinner for Three
DAY 2	• Make the Number								
DAY 3	• Cube Groups • Flipping and Matching*								

Topic 7 – Week 1 Overview – Recognizing Patterns

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole group Page 7-9	Teacher-directed small-group Page 7-12		Math Center Page 7-13		Preschool Page 7-14			
DAY 1	• Circle Time Song* • Picture Chat*	Act Like Wilbur	Over and Under	Sponge Designs	Snack Time Patterns	Musical Patterns	Science Table	Take My Fingerprints	Play Dough Patterns
DAY 2	• Patterns Everywhere								
DAY 3	• Playing Patterns* • People Patterns • Shoe Patterns								

Topic 7 – Week 2 Overview – Sorting and Matching Patterns

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole group Page 7-19	Teacher-directed small-group Page 7-20		Math Center Page 7-21		Preschool Page 7-22			
DAY 1	• Circle Time Song* • Storybook Time*	Sorting Patterns*	Finding Patterns	Penguin Parade	Wilbur's Fashions*	Pattern Rubbing	Fashion Parade	Patterns in the Sand	Pattern Painter
DAY 2	• Design Match*								
DAY 3	• Sorting Designs • Bow Tie Patterns								

Topic 8 – Week 1 Overview – Counting to Four

MAIN ACTIVITY		ONGOING ACTIVITIES							
	[illegible]	Teacher-directed small-group Page 8-12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DAY 1	• Circle Time Song* • Cube Combinations*	Four Bears*	Toss the Cube	Match the Number*	Our Number 4 Book	Build It Up	Symbol Sort	Paint a 4 Picture	Target Toss
DAY 2	• Picture Chat*								
DAY 3	• The Number Symbol 4 • Number Match								

Topic 8 – Week 2 Overview – Fun with Four

MAIN ACTIVITY		ONGOING ACTIVITIES							
	[illegible]	Teacher-directed small-group Page 8-20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DAY 1	• Circle Time Song* • Picture Chat* • Moving Cars	Shirt Buttons	Square Arrangements*	Magnet Sort*	Gone Fishing	Number Dress Up	What's My Number	Magic Numbers	Car Garages
DAY 2	• Making Squares*								
DAY 3	• Number Bingo • Find One, Two, Three, or Four • Domino Totals								

Review Week: Topics 5-8

MAIN ACTIVITY		ONGOING ACTIVITIES							
	[illegible]	Topic 5 Page 8-25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DAY 1	• Comparing and Ordering • One, Two, Three, Four, Five	Order by Size	Draw the Bears	Magnet Match	Dinosaur Dominoes	Bead Patterns	Patterns for Wilbur	Draw Four	Magnet Memory
DAY 2	• Designs and Patterns								
DAY 3	• Focus on Four								

Topic 9 – Week 1 Overview – Matching Numbers and Groups

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole-group [illegible]	Teacher-directed small-group Page 9-12		Math Centers Page 9-13		Center Choices Page 9-14			
DAY 1	• Circle Time Song* • Picture Chat*	Match Pictures and Symbols	Magnet Match	Fill the Bags*	Our Number Book for 5	Pet Shop	Hang It Up	Writing Numbers	Tinsel Numbers
DAY 2	• Picture Chat								
DAY 3	• Storybook Time • The Number Symbol 5*								

Topic 9 – Week 2 Overview – Different Representations of Numbers

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole-group [illegible]	Teacher-directed small-group Page 9-20		Math Centers Page 9-21		Center Choices Page 9-22			
DAY 1	• Circle Time Song* • Picture Chat*	Checking*	Toss the Cube	Animal Numbers	My Vehicle Graph*	Pasta Numbers	Felt Numbers	Feely Numbers	Numbers in the Sand
DAY 2	• Picture Chat								
DAY 3	• One to Four on a Five-frame* • Picture Chat								

Topic 10 – Week 1 Overview – Comparing Weight

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole-group Page 10-11	Teacher-directed small-group Page 10-12		Math Centers Page 10-13		Free-choice Page 10-14			
DAY 1	• Circle Time Song* • Heavy and Heavier*	Which is Heavier?	Heavier and Lighter	Balance the Scales*	Bottles, Bottles	Feel It!	Travel Time	Sand Box	Heavy Art, Light Art
DAY 2	• Light and Lighter*								
DAY 3	• Size and Weight • Introducing Balance Scales								

Topic 10 – Week 2 Overview – Comparing Capacity

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole-group Page 10-18 to 10-19	Teacher-directed small-group Page 10-20		Math Centers Page 10-21		Free-choice Page 10-22			
DAY 1	• Circle Time Song* • Pour Some More*	More or Less Sand?*	Fill It Up	Rice Is Nice!*	Full and Empty	Colored Sand	Shopping Trip	Rice Break	Sand Play
DAY 2	• Picture Chat*								
DAY 3	• Comparing Containers • Water Music								

Topic 10 – Week 3 Overview – Comparing Capacity More and Less

MAIN ACTIVITY		ONGOING ACTIVITIES							
	Whole-group Page 10-26 to 10-27	Teacher-directed small-group Page 10-28		Math Centers Page 10-29		Free-choice Page 10-30			
DAY 1	• Circle Time Song* • Weather Data • Storybook Time*	Make More*	Pennies in Purses	More Mix and Match*	Links and Blocks	Dinner Time	Towering Towers	Spot the Difference	Nursery Rhyme Painting
DAY 2	• Storybook Time • Showing More Cubes								
DAY 3	• Picture Chat* • Mix and Match Fun • Mix and Match Game								

Topic 11 – Week 1 Overview – Two-dimensional Shapes

MAIN ACTIVITY	ONGOING ACTIVITIES							
	Whole group Page 11-11	Teacher-directed small-group Page 11-12		Math Centers Page 11-13			Other Centers Page 11-14	
DAY 1	• Circle Time Song* • Picture Chat*	Play-Dough Shapes	Feel That Shape*	Picture Puzzles	Trace a Shape*	Shape Meal	Shapes in the Sand	Draw Shapes	Shape Creatures
DAY 2	• Shape Games								
DAY 3	• Changing Shapes* • Shape Sort								

Topic 11 – Week 2 Overview – Repeating Patterns

MAIN ACTIVITY	ONGOING ACTIVITIES							
	Whole group Page 11-19	Teacher-directed small-group Page 11-20		Math Centers Page 11-21			Other Centers Page 11-22	
DAY 1	• Circle Time Song* • Picture Chat*	Hidden Magnets*	Pretty Patterns	Copy the Pattern	Pattern Block Fun*	Natural Patterns	Finger patterns	Sponge Patterns	Play Dough Patterns
DAY 2	• Storybook Time*								
DAY 3	• Hoop Patterns • Rolling a Pattern								

Topic 12 – Week 2 Overview – Comparing Capacity

MAIN ACTIVITY		ONGOING ACTIVITIES							
	[illegible]	Teacher-directed small-group Page 12-12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DAY 1	• Circle Time Song* • Picture Chat*	Let's Eat!*	Colors in Order	Racing	Follow the Leader	Paint a Race	Make Sandwiches	Car Race	Bus Ride
DAY 2	• Picture Chat								
DAY 3	• Storybook Time* • Who's in the House								

Topic 12 – Week 2 Overview – Ordering from 1 to 6

MAIN ACTIVITY		ONGOING ACTIVITIES							
	[illegible]	Teacher-directed small-group Page 12-20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DAY 1	• Circle Time Song* • Picture Chat*	Ordering Numbers	Money Order	Trucks in Order*	Order and Check	Number Dinner	The Puppets' Party	Guess How Many?	Six Clowns
DAY 2	• Picture Chat*								
DAY 3	• Storybook Time • Numbers in Order to 6*								

Review Week: Topics 5-8

MAIN ACTIVITY		ONGOING ACTIVITIES							
	[illegible]	Topic 9 Page 12-25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DAY 1	• Focus on Five • Heavy or Light? More or Less?	Empty the Barn	Number Match-up	Sand Scoops	What Balances?	Triangle Fun	Shapes on Shapes	Number Collage	Race Time
DAY 2	• Shapes and Patterns								
DAY 3	• Numbers in Order								

Subject Area: Math- Topic 3 **Length of Unit:** 2 Weeks

Instructor: Pre-Kindergarten Teacher-Bass

Standard 4: Measurement: Children understand measurements and comparisons.
Benchmarks:

4.1. Makes comparisons between several objects based on one or more attributes, such as length, size, and weight using words such as shorter, taller, bigger, smaller, or heavier, lighter

Standard 3: Geometry: Children understand shapes and spatial relationships.
Benchmarks:

3.1. Names, describes, compares, and sorts common two- and three – dimensional shapes.
3.2. Demonstrates understanding of spatial words.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
4.1	Topic 3	Students will learn vocabulary top, down, shorter, taller, heavier, lighter	Verbally give commands – students act out "reach high" "reach left"	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE
4.1	Topic 3	Students can sort objects big small, short, tall	Student will sort objects according to attributes	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE
4.1	Topic 3	Students can label objects big small, short, tall	Pencil/Paper assessment of objects, marking which is short or which is small.	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE
3.2	Topic 3	Students will be able to demonstrate understanding of spatial words; back, next to, below	Verbally give commands to display objects using spatial words "put the block next to the crayon" "put the block below the table"	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE
3.1	Topic 3	Students will be able to name & describe common 2 & 3 dimensional shapes	When shown a shape the child will be able to name the shape and describe what it looks like	Communication Skills
3.1	Topic 3	Students will be able to compare and sort common 2 & 3 dimensional shapes	Given shapes the student will be able to sort into common groups using comparison skills	Learning Skills

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math - Topic 4 **Length of Unit:** 2 Weeks

Instructor: Pre-Kindergarten Teacher – Bass

Standard 2: Algebra: Children understand patterns.
Benchmarks:
2.1. Sorts, classifies, and orders objects by size, number, function, and other properties.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
2.1	Topic 4	The student will be able to sort, classify and order objects by size (small, medium, large)	Give the student sorting cups and ask them to show you the small, medium, large bears, they will then line them up in order to size, and then sort them in groups of small, medium, large	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE
2.1	Topic 4	The student will be able to sort, classify, and order objects by number.	Give the child number cards and have them match the number of items to the number card	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE
2.1	Topic 4	The student will be able to sort, classify, and order objects by function or other properties.	Using pencils, paint brushes, paper, etc ask the child to show you the items you write with, write on, paint with etc.	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math- Topic 5 Length of Unit: 2 Weeks

Instructor: Pre Kindergarten Teacher - Bass

Standard 5: Data Analysis and Probability: Children gather and represent data.
Benchmarks:
5.1. Gathers and represents data using concrete objects and pictures.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
5.1	Topic 5	The student will be able to gather and represent data using concrete objects and pictures.	Ask the child to show you the number of children in the class using counting bears.	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math - Topic 6 **Length of Unit:** 2 Weeks

Instructor: Pre-Kindergarten Teacher – Bass

Standard 1: Numbers and Operations: Children understand amount, including use of numbers and counting.
Benchmarks:
1.1. Recognizes and names some number symbols
1.2. Counts objects, using one-to-one correspondence

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 6	Student will be able to recognize and name some number symbols (1-5)	When presented flashcards, students will be able to verbally identify numbers 1-5	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE; AR
1.2	Topic 6	Student will be able to count objects, using one-to-one correspondence	Student will be able to count objects in a picture.	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE; AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math- Topic 7 **Length of Unit:** 2 Weeks

Instructor: Pre-Kindergarten Teacher - Bass

Standard 2: Algebra: Children understand patterns.
Benchmarks:
2.2. Recognizes, describes, extends, and creates patterns, such as sequences of sounds and shapes

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
2.2	Topic 7	Recognizes patterns such as sequences of sounds and shapes.	Give the child 3 choices- 2 that does not show a pattern and one that does. The child will show you the choice that shows a pattern	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE; AR
2.2	Topic 7	Describes patterns such as sequences of sounds and shapes.	When asked, the child will be able to tell you what a pattern is and how to make one.	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE; AR
2.2	Topic 7	Extends patterns such as sequences of sounds and shapes.	Give a child a pattern and have them extend it.	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE; AR
2.2	Topic 7	Creates patterns such as sequences of sounds and shapes.	Give the child object and let them create a pattern.	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE; AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math - Topic 8 **Length of Unit:** 2 Weeks

Instructor: Pre-Kindergarten Teacher - Bass

Standard 1: Numbers and Operations: Children understand amount, including use of numbers and counting.
Benchmarks:
1.3. Demonstrates adding and subtracting small quantities by handling concrete objects.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.3	Topic 8	Students will learn vocabulary add, subtract, more, less	When asked, the child will tell you what it means to add, subtract, to have more, to have less	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE; AR
1.3	Topic 8	Students will be able to demonstrate adding and subtracting small quantities using concrete objects	Using counters the student will be able to make more or less upon teacher request.	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE; AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math - Topic 10 **Length of Unit:** 2 Weeks

Instructor: Pre-Kindergarten - Teacher - Bass

Standard 1: Numbers and Operations: Children understand amount, including use of numbers and counting.
Benchmarks:
1.3. Demonstrates adding and subtracting small quantities by handling concrete objects.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.3	Topic 9	Students will demonstrate adding small quantities by handling concrete objects.	Ask the child to count a number of objects in the group and then add one more.	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG; LS; CS; GS; HGD; CE; AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math - Topic 10 **Length of Unit:** 2 Weeks

Instructor: Pre-Kindergarten - Teacher - Bass

Standard 4: Measurement: Children understand measurements and comparisons.
Benchmarks:
4.2. Measures using standard and non-standard units.

Standard 6: Problem Solving: Children apply and adapt strategies to solve problems.
Benchmarks:
6.1. Participates in simple activities to test observations, draws conclusions, and forms generalizations.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
4.2	Topic 10	The student will be able to measure using standard units heavy, light, more, less.	Ask the child to show you the heavy/light object, to show you more, less.	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG;LS; CS; GS; HGD; CE; AR
4.2	Topic 10	The student will be able to measure using non-standard units.	Ask the child to show/tell you how many paperclips etc an object is.	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG;LS; CS; GS; HGD; CE; AR
6.1	Topic 10	The student will be able to participate in simple activities to test observations.	Ask the child to tell you which object they think weighs more, then let them weigh them and see if they are correct.	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG;LS; CS; GS; HGD; CE; AR
6.1	Topic 10	The student will be able to draw conclusions.	Ask the child to weigh a block and then find another block that will weigh the same.	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG;LS; CS; GS; HGD; CE; AR
6.1	Topic 10	The student will be able to form generalizations.	Ask the child to tell you about how the objects are all the same or different.	HOTS; SPECIAL; MEDIA; TECH; MCGF; GUID; TAG;LS; CS; GS; HGD; CE; AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Pre-K Math

Pre-test
&
Post-test

June 2005

(page A-32) Date: _____

Correctly Use Language describing the position of an object **Comments:**

	Yes	No
• Places an object *inside* another	☐	☐
• Places an object *on top of* another	☐	☐
• Places an object *next to* another	☐	☐

• Words child correctly uses to describe where objects are placed:

_____

(page A-33) Date: _____

Match 3-D shapes to pictures of shapes **Comments:**

	Yes	No
• Matches cone to picture of cone	☐	☐
• Matches sphere to picture of sphere	☐	☐
• Matches cylinder to picture of cylinder	☐	☐
• Matches cube to picture of cube	☐	☐

(page A-34) Date: _____

Sort Objects according to a specified attribute or sorting rule **Comments:**

	Yes	No
• Correctly sorts objects by color	☐	☐
• Matches cube to picture of cube	☐	☐

• Key words child uses to explain how he or she knows where particular objects belong:

_____

_____

(page A-34) Date: _____

Sort objects according to an appropriate self-selected attribute or sorting rules, and explain the sorting

	Yes	No
Sorts objects using a different "rule" from Task 1	☐	☐

(page A-35) Date: _____

Describe how a group of objects has been sorted **Comments:**

	Yes	No
• Correctly describes how objects have been sorted	☐	☐

- How child provides explanation (e.g., points to and describes one group at a time or gives a more general explanation):

_____

_____

(page A-38) Date: _____

Count the number of objects in a group **Comments:**

	Yes	No
• Correctly identifies a group with three objects	☐	☐

- How child identified number (counting one by one or answering without counting):

_____

_____

(page A-39) Date: _____

Match number symbols 1, 2, and 3 to groups of objects **Comments:**

Identifies a dot arrangement or picture to match:

	Yes	No
• The number symbol 3	☐	☐
• The number symbol 2	☐	☐
• The number symbol 1	☐	☐

(page A-40) Date: _____

Demonstrate pattern through actions **Comments:**

Identifies a dot arrangement or picture to match:

	Yes	No
• Continues a simple action pattern	☐	☐

• Pattern: _____

_____

(page A-41) Date: _____

Identify and describe patterns such as stripes and spots **Comments:**

Correctly identifies:	Yes	No
• stripes	☐	☐
• spots	☐	☐
• checks	☐	☐

• Key words the child uses in his or her description of patterns:

_____

(page A-41) Date: _____

Participate in creating a pattern **Comments:**

	Yes	No
• Correctly selects and places bears to continue a pattern	☐	☐

• Pattern

_____

_____

(page A-46) Date: _____

Identify and describe an object as *heavy* or *light* (or as *heavier/lighter)* Comments:

	Yes	No
• Correctly identifies an object as *light*	☐	☐
• Selects an object that is *heavier* than a given object	☐	☐

• Key words used to explain selection:

_____

_____

• Correctly describes real-world objects as heavy or light (List examples.)	☐	☐

Heavy: _____

Light: _____

(page A-47) Date: _____

Understand and use language such as *empty, full, more,* and *less* in relation to capacity Comments:

	Yes	No
• Identifies *empty* container	☐	☐
• Identifies *full* container	☐	☐
• Places sand or other material in a container to show *more* than a given amount	☐	☐
• Shows *less* than a given amount	☐	☐

(page A-47) Date: _____

Identify and describe quantities in terms of *more* and *less (fewer)* Comments:

	Yes	No
• Arranges pictures of one-five objects in correct order	☐	☐

• Key words used to explain selection:

_____

_____

Math Curriculum 2005

Van Buren Community Schools
Math Curriculum K-6
2005-2006

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ACKNOWLEDGEMENT

In the spring of 2005 a committee was formed of 12 elementary teachers and 7 secondary teachers to develop a Mathematics curriculum with a K-12 continuum. On June 1, 2000 the committee members joined together with their unique competencies and interests in a joint effort to develop this curriculum, which is the result of interactions and idea exchanges among the committee members, from teachers and administrators within the school system.

This curriculum should assist teachers in determining the expected concept and performance level at the various grades. It is not designed to restrict or limit the creativity or imagination of the teachers. The guide serves as a springboard for the development of additional concepts and master of skills, depending on the ability and interests of each student.

This project was successfully completed in the summer of 2005, because of the dedication and consistent efforts of the committee members who participated in this project: Secondary - Vicki Shepard, Dave Atwood, Carole Snook, Kristin Marshall, Sherry Peck, Heath Teeter, Jason Marshall; Elementary - Linda Golden, Jolene Davis, Marnie Starnes, Ann Skaggs, Carol Alvis, Teri Dickenson, Kelly Loeffler, Joyce Ward, Jane Graf, Lori Cochran, Anita Corry and Linda Hinshaw.

We are grateful to these committee members and support and compliment their fine efforts.

It is our wish that by faithful use of this curriculum, all mathematics teachers will be more effective, and through the use of this manual in the effort to give a sound mathematics foundation to our children.

Table of contents

FORWARD

The purpose of this guide is to assist teachers in the organization and instruction of mathematics classes in the Van Buren Community Schools District.

This guide provides direction for teachers of kindergarten through grade twelve, and is adaptable for individual and class needs. It is, however, important that teachers follow the suggested sequence and scope of lesson content to ensure systematic and comprehensive instruction of concepts and skills.

Committee members established basic agreement on the philosophy and goals of mathematics in our school system.

This guide, prepared by classroom teachers for use by classroom teachers provides a scope and sequence for instruction.

Chapter 12
GENERAL ACCRDITATION STANDARDS

The goal for the early childhood through twelfth grade educational system in Iowa is to improve the learning, achievement, and performance of all students so they become successful members of a community and workforce. It is expected that each school and school district shall continue to improve its educational system so that more students will increase their learning, achievement, and performance.

Accreditation focuses on an ongoing school improvement process for schools and school districts. However, general accreditation standards are the minimum requirements that must be met by an Iowa shall be merged, by the state board of education, with one or more contiguous school districts as required by Iowa Code subsection 256.11(12). A nonpublic school must meet the general accreditation standards if it wishes to be designated as accredited for operation in Iowa.

General accreditation standards are intended to fulfill the state's responsibility for making available an appropriate educational program that has high expectations for all students in Iowa. The accreditation standards ensure that each child has access to an educational program that meets the needs and abilities of the child regardless of race, color, national origin, gender, disability, religion, creed, marital status, geographic location, or socioeconomic backgrounds.

With local community input, school districts and accredited nonpublic schools shall incorporate accountability for student achievement into comprehensive school improvement plans designed to increase the learning, achievement, and performance of all students. As applicable, and to the extent possible, comprehensive school improvement plans shall consolidate federal and state program goal setting, planning, and reporting requirements. Provisions for multicultural and gender fair education, technology integration, global education, gifted and talented students, at-risk students, students with disabilities, and the professional development of all staff shall be incorporated, as applicable, into the comprehensive school improvement plan. See subrules 12.5(8) to 12.5(13), 12.7(1), and 12.8(1).

DIVISION I
GENERAL STANDARDS

281-12.1(256) General standards.

12.1(1) Schools and school districts governed by general accreditation standards. These standards govern the accreditation of all prekindergarten, if offered, or kindergarten through grade 12 school districts operated by public school corporations and the accreditation, if requested, of prekindergarten or kindergarten through grade 12 schools operated under nonpublic auspices. Each school district shall take affirmative steps to integrate students in attendance centers and courses. Schools and school districts shall collect and annually review district, attendance center, and course enrollment data on the basis of race, national origin, gender, and disability. Equal opportunity in programs shall be provided to all students regardless of race, color, national origin, gender, disability, religion, or creed. Nothing in this rule shall be construed as prohibiting any bona fide religious institution from imposing qualifications abased upon religion when such qualifications are related to a bona fide religious purpose.

12.5(2) ***Kindergarten program.*** *The kindergarten program shall include experiences designed to develop healthy emotional and social habits and growth in the language arts and communication skills, as well as a capacity for the completion of individual tasks, and protect and increase physical well-being with attention given to experiences relating to the development of life skills and human growth and development. A kindergarten teacher shall be licensed/certificated to teach in kindergarten. An accredited nonpublic school must meet the requirements of this subrule only if the nonpublic school offers a kindergarten program.*

12.5(3) ***Elementary program, grades 1-6.*** *The following areas shall be taught in grades one through six: English-language arts, social studies,* ***mathematics****, science, human growth and development, physical education, traffic safety, music, and visual.*

In implementing the elementary program standards, the following general curriculum definitions shall be used.

c. ***Mathematics.*** *Mathematics instruction shall include number sense and numeration; concepts and computational skills with whole numbers, fractions, mixed numbers and decimals; estimation and mental arithmetic; geometry; measurement; statistics and probability; and patterns and relationships. This content shall be taught through an emphasis on mathematical problem solving, reasoning, and applications; language and symbolism to communicate mathematical ideas; and connections among mathematical topics and between mathematics and other disciplines. Calculators and computers shall be used in concept development and problem solving.*

Code No. 100

EDUCATIONAL PHILOSOPHY

The Board of Directors of the Van Buren Community School District is committed to the operation of schools whose purpose is to serve by assisting each learner develop into a mature individual and contributing member of society. The goals of education and the goals of democracy are fundamentally the same. The board believes the nature of learning is a continuous experience throughout the life of each individual. This experience is influenced by a variety of factors including the environment surrounding the learner. The board also believes, and recognizes, the nature of a learner requires an awareness of the unique needs of each individual and the various stages of development associated with growth. It is believed all have the capability of learning given appropriate opportunity.

The Board of Directors recognizes the guardianship of public education is a trust and an obligation. Consequently, the board believes that a desirable learning atmosphere must be provided which includes the following: (1) Appropriate facilities; (2) Competent staff; (3) Appropriate educational and instructional materials; (4) Assurance of safety; (5) Recognition of individual dignity and worth; (6) A scope of educational experiences to challenge each student; and (7) Periodic review, revision, and evaluation.

The Board further believes the scope of educational experience should meet the needs of varied learners and include experiences that encompass the intellect and associated basic and developmental skills, as well as aesthetic, physical, civic, social, vocational, multicultural, and technological awareness.

Date of Adoption: May 9, 1990

Date Reviewed: March 9, 2005

Date Revised: November 8, 1995

EDUCATIONAL EQUITY POLICY

1. It is the policy of Van Buren Community School District to provide equal educational and employment opportunities and not to illegally discriminate on the basis of gender, color, national origin, religion, age, marital status or disability in its educational programs, activities or its employment and personnel policies.

2. This district shall provide program activities, a curriculum and instructional resources which will reflect the racial and cultural diversity present in the United States and the variety of careers, roles and life styles open to both men and women in our society. One of the objectives of the district's programs, curriculum, services and teaching strategies is to reduce stereotyping and to eliminate bias on the basis of gender, race, ethnicity, religion, age, marital status and disability. The curriculum, programs and services shall foster respect and appreciation for the cultural diversity found in our country and an awareness of the rights, duties and responsibilities of each individual as a member of a pluralistic society.

3. It is the policy of this district to affirmatively recruit women and men, members of diverse racial/ethnic groups and persons with disabilities for job categories where they are underrepresented. A fair and supportive environment will be provided for all students and employees regardless of their gender, race, national origin, creed, age, marital status or disability. Harassment or discriminatory behavior that denies civil rights or access to equal educational opportunities including comments, name-calling, physical conduct or other expressive behavior directed at an individual or group that intentionally demeans the race, color, national origin, gender, disability, age or religion, made from one employee to another, from an employee to a student or vice versa, and from one student to another creating an intimidating, hostile or demeaning environment is a violation of this policy.

4. The board requires all persons, agencies, vendors, contractors and other persons and organizations doing business with or performing services for the school district to subscribe to all applicable federal and state laws, executive orders, rules and regulations pertaining to contract compliance and equal opportunity.

5. Inquiries regarding compliance of equity policies may be directed to the following:
   Title IX - High School Principal; Title VI and Section 504 - Associate Superintendent, Van Buren Jr/Sr. High School, 503 Henry Street, Keosauqua, Iowa 52565, 319-293-3334, to the Director of the Iowa Civil Rights Commission, Des Moines, Iowa, or to the Director of the Region VII Office of Civil Rights, Department of Education, Kansas City, Missouri.

6. The Affirmative Action Coordinator for the district shall be the Superintendent. The Educational Equity Coordinator for the district will be the Associate Superintendent. Inquiries concerning a grievance procedure should be addressed to either coordinator.

Federal and state regulations require that the non-discrimination policy, the identity of the designated local coordinator and notification about the existence of the grievance procedure be disseminated to employees, students and parents on an annual or ongoing basis. This notification must be included in major annual or general publications such as:

Student Handbooks *School Newsletters* *Teacher Handbooks*
Local Newspapers *Employee (Staff) Handbooks* *Employment*
Application Forms *Registration Handbook* *Program Brochures & Publications*
Agreement forms with labor organizations and businesses which hold professional agreements with the school or agency.

Legal Reference:

20 U.S.C. 1221 et seq. (1994)
20 U.S.C. 1681 et seq. (1994)
20 U.S.C. 1701 et seq. (1994)
29 U.S.C. 794 (1994)
42 U.S.C. 12101 et seq. (1994)
34 C.F.R. Pt. 100 (1999)
34 C.F.R. Pt. 104 (1999)
Iowa Code 216.9; 256.11, .11A; 280.3 (2001)
281 I.A.C. 12

Cross Reference:

100.2 District Educational Equity Policy
402 Staff Educational Equity Policy
516 Student Educational Equity Policy

Date of Adoption: May 9, 1990

Date of Review: February 9, 2005

Date of Revision: March 9, 2005

Code No. 608

FREEDOM TO TEACH, TO LEARN, AND TO EXPRESS IDEAS IN THE PUBLIC SCHOOLS

The freedom to teach, to learn, and to express ideas without fear of censorship are fundamental rights held by public school teachers and students as well as all other citizens. These freedoms, expressed and guaranteed in the First Amendment to the U.S. Constitution, must be preserved in the teaching/learning process in a society of diverse beliefs and viewpoints and shared freedoms. Public schools must promote an atmosphere of free inquiry and a view of subject matter reflecting a broad range of ideas so that students are prepared for responsible citizenship. However, criticism of educational resources and teaching methods and the advocacy of additional educational resources are also essential First Amendment rights of students, faculty, parents, and other members of the community.

Public school personnel should:

1. Select curriculum, teaching methods, resources, and materials appropriate to the education objectives and the maturity and skill levels of the students based on their professional competence as educators and according to established school board policies and procedures. However, teachers should not be allowed to indoctrinate students with their own personal views.

2. Provide students with access to a broad range of ideas and viewpoints.

3. Encourage students to become decision makers, to exercise freedom of thought, and to make independent judgments through the examination and evaluation of relevant information, evidence, facts, and differing viewpoints.

4. Support students' rights to present their ideas even if some people might find the ideas objectionable.

5. Discuss issues, including those viewed by some as controversial, since such discussion is essential to students' development of critical thinking and other skills which prepare them for full participation as citizens in a democratic society.

Individuals or groups outside the public schools should not be allowed to:

1. Use the public schools to indoctrinate students with particular viewpoints or beliefs.

2. Determine which viewpoints will be presented or avoided in public schools.

3. Require the disciplining of professional staff for including issues or resources considered controversial in their classes if the reasons for including them are educationally sound.

Date of Adoption: August 13, 1986

Date of Review: March 14, 2001

Date of Revision: _____

MATHEMATICS PHILOSOPHY

A high-quality mathematics program encourages students to experience mathematics rather than observe it. Students must be actively engaged in their learning. They must be provided with experiences that will cause them to become active, flexible problem-solvers. The program will enable the students to develop confidence in their own ability to use math to broaden their career and economic horizons. In order for students to adapt with the changing times, they must be exposed to modern technology as our society advances in an age of global communications.

The primary focus of the mathematics curriculum is to help students become good problem-solvers. A good problem-solver must first have a good knowledge of the basic facts. These facts are then used as the knowledge base to solve problems. Classroom instruction in problem-solving should provide for a natural learning sequence, which allows for the transition from concrete to symbolic to abstract learning experiences.

Since students comprehend mathematics through various learning strategies, a variety of evaluation techniques must be employed. Assessment of the students' knowledge base and problem-solving ability may take many forms and not be limited to paper and pencil testing.

RATIONALE

Mathematics education is essential in the total educational process. We live in a mathematical and technological society; therefore mathematics must occupy a place of prominence in the total curriculum.

Van Buren students must have a strong foundation in math to enable them to expand their knowledge, to analyze and interpret information, to make reasonable decisions, and to solve increasingly complex problems using various strategies and tools. Mathematics in instruction must reflect and implement these expectations.

Calculators and computers are essential tools at all levels. Through the appropriate use of these tools, students are able to solve realistic problems, investigate patterns, explore procedures, and focus on the steps to solve problems instead of on the computations.

Infusions Law

*12.5(7) **Career education.** (CE) Each school or school district shall incorporate school-to-career educational programming into its comprehensive school improvement plan. Curricular and co-curricular teaching and learning experiences regarding career education shall be provided from the prekindergarten level through grade 12. Career education shall be incorporated into the total educational program and shall include, but is not limited to, awareness of self in relation to others and the needs of society; exploration of employment opportunities, at a minimum, within Iowa; experiences in personal decision making; experiences that help students connect work values into all aspects of their lives; and the development of employability skills. In the implementation of this subrule, the board shall comply with Iowa Code section 280.9.*

*12.5(8) **Multicultural and gender fair approaches to the educational program.** (MCGF) The board shall establish a policy to ensure that students are free from discriminatory practices in the educational program as required as required by Iowa Code section 256.11. In developing or revising the policy, parents, student's instructional and non-instructional staff, and community members shall be involved. Each school or school district shall incorporate multicultural and gender fair goals for the educational program into its comprehensive school improvement plan. Incorporation shall include the following:*

a. Multicultural approaches to the educational program. These shall be defined as approaches which foster knowledge of, and respect and appreciation for, the historical and contemporary contributions of divers cultural groups, including race, color, national origin, gender, disability, religion, creed, and socioeconomic background. The contributions and perspectives of Asian Americans, African Americans, Hispanic Americans, American Indians, European Americans, and persons with disabilities shall be included in the program.

b. Gender fair approaches to the educational program. These shall be defined as approaches which foster knowledge of, and respect and appreciation for, the historical and contemporary contributions of women and men to society. The program shall reflect the wide variety of roles open to both women and men to society. The program shall reflect the wide variety of roles open to both women and men and shall provide equal opportunity to both sexes.

*12.5(9) **Special education.** The board of each school district shall provide special education programs and services for its resident children which comply with rules of the state board of education implementing Iowa Code chapters 256,256B, 273 and 280.*

*12.5(10) **Technology integration.** Each school or school district shall incorporate into its comprehensive school improvement plan demonstrated use of technology to meet its student learning goals. As described in Iowa Code section 295.3, progress with the use of technology shall be included in the school district's annual progress report.*

*12.5(11) **Global education.** Each school or school district shall incorporate global education into its comprehensive school improvement plan as required by Iowa Code section 256.11. Global education shall be incorporated into all areas and levels of the educational program so students have the opportunity to acquire a realistic perspective on world issues, problems, and the relationship between an individual's self-interest and the concerns of people elsewhere in the world.*

*12.5(12) **Provisions for gifted and talented students.** Each school district shall incorporate gifted and talented programming into its comprehensive school improvement plan as required by Iowa Code section 257.43. The comprehensive school improvement plan shall include the following gifted and talented program provisions; valid and systematic procedures, including multiple selection criteria for identifying gifted and talented students from the total student population; goals and performance measures; a qualitatively differentiated program to meet the students' cognitive and affective needs; staffing provisions; and in-service*

design; a budget, and qualifications of personnel administering the program. Each school district shall review and evaluate its gifted and talented programming. This subrule does not apply to accredited nonpublic schools.

*12.5(13) **Provisions for at-risk students.** Each school district shall include in its comprehensive school improvement plan the following provisions for meeting the needs of at-risk students: valid and systematic procedures and criteria to identify at-risk students throughout the school district's school-age population, determination of appropriate ongoing educational strategies for alternative options education programs as required in Iowa Code section 280.19A, and review and evaluation of the effectiveness of provisions for at-risk students. This subrule does not apply to accredited nonpublic schools.*

Each school district using additional allowable growth for provisions for at-risk students shall incorporate educational program goals for at-risk students into its comprehensive school improvement plan. Provisions for at-risk students shall align with the student learning goals and content standards established by the school district or by school districts participating in a consortium. The comprehensives school improvement plan shall also include objectives, activities, cooperative arrangements with other service agencies and service groups, and strategies for parental involvement to meet the needs of at-risk children. The incorporation of these requirements into a school district's comprehensive school improvement plan shall serve as the annual application for additional allowable growth designated in Iowa Code section 257.38.

Infusions List
Higher Order Thinking Skills (HOTS)
Media Information Skills (MEDIA)
Multi-Cultural Gender Fair (MCGF)
Guidance (GUID)
Learning Skills (LS)
Communication Skills (CS)
Global Studies (GS)
Human Growth and Development (HGD)
Career Education (CE)
Special Education (SPECIAL)

Provisions for list
At-risk (AR)
Talented and Gifted (TAG)
Technology (TECH)

Van Buren Community Schools 5- Year Goal for Mathematics:

All students will be proficient in mathematics and meet the annual yearly progress trajectory.

Scope and Sequence													
		Number and Operations			Algebra		Geometry		Measurement		Data Analysis and Probability		
Kindergarten		x			x		x		x		x		
1st		x			x		x		x		x		
2nd		x			x		x		x		x		
3rd		x			x		x		x		x		
4th		x					x		x		x		
5th		x			x		x		x		x		
6th		x			x		x		x		x		

K-6
MATH STANDARDS & BENCHMARKS
GRADE LEVEL INDICATORS
***To provide for more continuity, these additions will be introduced but not tested.**

1. CONTENT PROBLEM SOLVING

1.1. COUNT, READ, WRITE, REPRESENT, COMPARE AND ORDER NUMBERS IN REGULAR, EXPANDED AND EXPONENTIAL FORMAT

K – CAN COUNT, ORDER, WRITE, AND IDENTIFY NUMBERS 1-10

1 – CAN COUNT, ORDER, WRITE, AND IDENTIFY NUMBERS 1-100

2 – CAN COUNT, ORDER, WRITE, IDENTIFY 1-1000

3 – MASTERY OF ADDITION AND SUBTRACTION FACTS TO 18
3 – KNOW MULTIPLICATION AND DIVISION FACTS TO 9
*3 – Counts, orders, writes, and identifies numbers 1 – 10,000

4 – COUNT, READ AND WRITE NUMBERS GREATER THAN 1000
*4 – Counts, reads, and writes numbers 1 – 100,000

5 – ADD AND SUBTRACT DECIMALS
*5 – Counts, reads, and writes numbers 1 – 1,000,000 and decimals to ten-thousandths place

6 – REPRESENT PROBLEM SITUATIONS IN AND TRANSLATE AMONG ORAL, WRITTEN, CONCRETE, PICTORIAL, AND GRAPHICAL FORMS
*6 – Counts, reads, and writes numbers 1 – 1,000,000,000 and decimals to hundred-thousandths place

1.2. DESCRIBE AND APPLY PROPERTIES OF WHOLE NUMBERS AND FRACTIONS IN PHYSICAL, VERBAL AND SYMBOLIC REPRESENTATIONS.

K – UNDERSTAND THE COMBINATION AND SEPARATION OF OBJECTS IN SETS OF UP TO TEN ITEMS (E.G., SIMPLE ADDITION AND SUBTRACTION WITH PICTURES OR DRAWINGS)
*K- Uses positional language terms (beside, before, after, over)
*K- Classify and sort objects into groups according to various attributes

1 – KNOW BASIC ADDITION AND SUBTRACTION FACTS TO 10
*1 – Understands the concept of one-half
*1 – Uses positional language terms (left, right, ordinal #'s)
*1 – Understand basic addition & subtraction facts to 18.

2 – MASTERY OF ADDITION AND SUBTRACTION FACTS TO 10
2 – KNOW ADDITION AND SUBTRACTION TO 18
2 – CAN SOLVE ADDITION AND SUBTRACTION OF TWO-DIGIT NUMBERS WITH AND WITHOUT REGROUPING
*2 – Knows fractions of ½, 1/3, and ¼

3 – ADD AND SUBTRACT WHOLE NUMBERS, EACH 9,999 OR LESS, WITH OR WITHOUT REGROUPING
3 – ADD AND SUBTRACT DECIMALS THROUGH THE HUNDREDTHS IN SITUATIONS INVOLVING MONEY
*3 – Mastery of addition and subtraction facts to 18
*3 – Knows multiplication and division facts to 9
*3 – Knows fractions as parts of a whole and parts of a set

4 – ADD, SUBTRACT, MULTIPLY AND DIVIDE WHOLE NUMBERS AND DECIMALS
4 – UNDERSTAND PHYSICAL, VERBAL, AND SYMBOLIC REPRESENTATION OF THE FRACTIONS ½, 1/3, ¼, 1/8, AND 1/10 OF A WHOLE AND OF A SET
*4 – Adds and subtracts whole numbers (Major emphasis on decimals is in fifth and sixth grade.)

*5 – Introduced to all four operations with fractions

6 – UNDERSTAND THE CONCEPT OF EQUIVALENT FRACTIONS (E.G., FOR HALVES, THIRDS, FOURTHS, EIGHTHS, TENTHS, SIXTEENTHS)
*6 – equivalent fractions are introduced in fifth grade

1.3. CLASSIFY NUMBERS BY DIVISIBILITY (MULTIPLY, DIVIDE & CLASSIFY WHOLE NUMBERS WITH & WITHOUT REMAINDERS) ORDER OF MAGNITUDE.

1 - UNDERSTAND THE CONCEPT OF PLACE VALUE THROUGH THE TENS PLACE

2 – UNDERSTAND THE CONCEPT OF PLACE VALUE FOR WHOLE NUMBERS THROUGH THE HUNDREDS PLACE (I.E., ONES, TENS, HUNDREDS)
*2 – Can use repeated addition to describe equal groups.

3 – UNDERSTAND THE CONCEPT OF PLACE VALUE OF WHOLE NUMBERS THROUGH THE TEN-THOUSANDTH PLACE (*Assuming this means ***thousands***)

4 – MULTIPLY MULTIPLE-DIGIT WHOLE NUMBERS BY SINGLE-DIGIT NUMBERS
4 – MULTIPLY AND DIVIDE WHOLE NUMBERS (E.G., MULTIPLY TWO WHOLE NUMBERS WITH UP TO THREE DIGITS; DIVIDE BY ONE-DIGIT NUMBERS WITH AND WITHOUT REMAINDERS)

5 – UNDERSTAND THE CONCEPT OF PLACE VALUE FOR WHOLE NUMBERS THROUGH THE MILLIONS (E.G., ONES, TENS, HUNDREDS, THOUSANDS, TEN-THOUSANDS, HUNDRED-THOUSANDS, MILLIONS)

6 – UNDERSTAND THE CONCEPT OF PLACE VALUE FOR NUMBERS FROM THE THOUSANDS PLACE TO THE HUNDRED MILLIONS PLACE
6 – UNDERSTAND THE RELATIONSHIPS AMONG FACTORS, MULTIPLES, DIVISORS, AND PRODUCTS (E.G., PRIME FACTORIZATION, GREATEST COMMON FACTOR, AND LEAST COMMON MULTIPLE; RULES OF DIVISIBILITY FOR 2, 3, 5, AND 10)
*6 – relationships among factors is introduced in fifth grade

1.4. CHECK REASONABILITY OF ANSWERS BY PERFORMING OPERATIONS & ROUNDING.

1 – UNDERSTAND BASIC ROUNDING TECHNIQUES (E.G., ROUNDING TO THE NEAREST TEN IN CONTEXTUAL SITUATIONS)
1- RESTATE PROBLEMS IN OWN WORDS TO DEMONSTRATE UNDERSTANDING [N]

2 – KNOW THE DIFFERENCE BETWEEN PERTINENT AND EXTRANEOUS INFORMATION WHEN SOLVING PROBLEMS
2 – ESTIMATE REASONABLE SOLUTIONS TO PROBLEMS [N]
2 – USE A VARIETY OF PROBLEM-SOLVING STRATEGIES

3 – USE A VARIETY OF PROBLEM-SOLVING STRATEGIES
*3 – *Knows how to round numbers and make reasonable estimates*

4 – CHECK THE REASONABILITY OF ANSWERS AND VERIFIES RESULTS

5 – CHECK THE REASONABILITY OF ANSWERS AND VERIFIES RESULTS
5 – UNDERSTAND THE CONCEPT OF ROUNDING NUMBERS EXPRESSED THROUGH THE MILLIONS (E.G., TO THE NEAREST THOUSAND, TEN THOUSAND, HUNDRED THOUSAND)

6 – USE ESTIMATION STRATEGIES TO SOLVE AND TO CHECK THE REASONABLENESS OF RESULTS

2. ALGEBRA

2.1. USE AND INTERPRET OPERATIONS AND RELATIONAL SYMBOLS (EQUAL, GREATER THAN, LESS THAN)

1 – USE ORAL, SYMBOLIC, AND PICTORIAL FORMS TO REPRESENT PROBLEM SITUATIONS (E.G., TRANSLATE FROM PICTURES OF OBJECTS TO NUMERICAL EXPRESSIONS)

4 – USE SYMBOLS OF EQUALITY (=) AND INEQUALITY (<, >)

2.2. SOLVE EQUATIONS AND INEQUALITIES

2 – EXTEND AND UNDERSTAND THE RULE OF A WIDE VARIETY OF PATTERNS (LINEAR AND NON-LINEAR)
*2 – Describe, interpret, and apply ideas about direction and distance in navigating space (coordinates).

3 – UNDERSTAND THE CONCEPT OF AN EQUATION WITH ADDITION AND SUBTRACTION (I.E., A NUMBER SENTENCE THAT SHOW TWO QUANTITIES THAT ARE EQUAL) [N]

4 – SOLVE PROBLEMS WITH A MISSING FACTOR

5 – SOLVE EQUATIONS AND OPEN SENTENCES WITH UNKNOWN VARIABLE(S)

6- UNDERSTANDS BASIC FEATURES OF COORDINATES

2.3. USE EXPRESSIONS TO MODEL SITUATIONS SOLVING SIMPLE OPEN SENTENCES.

K – USE WHOLE NUMBER MODELS (E.G., PATTERN BLOCKS, TILES, OR OTHER MANIPULATIVE MATERIALS) TO REPRESENT PROBLEMS [N]

1 – SOLVE SINGLE-STEP PROBLEMS INVOLVING ADDITION AND SUBTRACTION

2 – SOLVE SIMPLE OPEN NUMBER SENTENCES

2.4. UNDERSTAND AND EXPLORE NUMERICAL PATTERNS

*K- Understand simple repeating patterns

1 – UNDERSTAND SIMPLE REPEATING PATTERNS (E.G., SKIP COUNTING PATTERNS; REPEATING PATTERNS IN DESIGNS)
*1 – Extend simple repeating patterns

*2 – Can count by 2's, 3's, 5's, 10's and odd and even numbers.

5 – USE APPROPRIATE OPERATION AND METHOD OF CALCULATION (E.G., MENTAL MATH, PAPER AND PENCIL, CALCULATOR, COMPUTER) TO SOLVE PROBLEMS AND TO CHECK THE REASONABLENESS OF RESULTS [N]

6 – UNDERSTAND AND APPLY BASIC AND ADVANCED PROPERTIES OF THE CONCEPTS OF NUMBERS

3. GEOMETRY

3.1. IDENTIFY, CLASSIFY, AND COMPARE GEOMETRIC FIGURES KNOWING BASIC GEOMETRIC LANGUAGE FOR SHAPES.

K – CAN NAME GEOMETRIC SHAPES – CIRCLE, SQUARE, TRIANGLE, AND RECTANGLE
*K – Recognize solid geometric figures (3-D)

*1 – Names solid geometric figures (3-D)
*1 – Mastery of circle, square, triangle, and rectangle (2-D)

*2 – Mastery of solid geometric figures (3-D)

3 – UNDERSTAND PROPERTIES OF AND SIMILARITIES AND DIFFERENCES AMONG BASIC SOLID FIGURES (E.G., SPHERES, CUBES, RECTANGULAR PRISMS, CYLINDERS, PYRAMIDS, CONES) AND BASIC GEOMETRIC TERMS (E.G., FACES, EDGES, COMERS) ASSOCIATED WITH THESE FIGURES.

4 – KNOW BASIC GEOMETRIC LANGUAGE FOR DESCRIBING AND NAMING SHAPES (E.G., TRAPEZOID, PARALLELOGRAM, CUBE, SPHERE, AND POLYGON)

6 – UNDERSTAND SIMILARITIES AND DIFFERENCES AMONG VARIOUS POLYGONS AND SOLID FIGURES

3.2. DESCRIBE GEOMETRIC PROPERTIES, PATTERNS AND RELATIONSHIPS (TRAPEZOIDS, PARALLELOGRAMS, CUBE, SPHERE, AND POLYGON)

2 – KNOW BASIC CHARACTERISTICS AND PROPERTIES OF BASIC PLANE FIGURES (E.G., A SQUARE HAS FOUR EQUALS SIDES; CLOSED VERSUS OPEN FIGURES)
*2 – Recognize and create shapes that have symmetry and can identify lines of symmetry.

5 – UNDERSTAND THE CHARACTERISTICS OF AND RELATIONSHIPS AMONG POINTS, LINES, LINE SEGMENTS, RAYS, AND PLANES

6 – UNDERSTAND THE MATHEMATICAL CONCEPTS OF SIMILARITY (E.G., SCALE, PROPORTION) CONGRUENCY (E.G., CONGRUENT PARTS OF FIGURES), AND SYMMETRY (E.G., POINTS, LINES OF SYMMETRY)

3.3. APPLY CONCEPTS OF PERIMETER, AREA, AND VOLUME

*2 – Can identify parallel lines, horizontal and vertical lines, and square corners.
*2 – Can measure area using non-standard units.

6 – SOLVE PROBLEMS INVOLVING PERIMETER (CIRCUMFERENCE) AND AREA OF VARIOUS SHAPES (E.G., PARALLELOGRAMS, TRIANGLES, CIRCLES) AND VOLUME

4. MEASUREMENT

4.1. IDENTIFY AND USE APPROPRIATE UNITS OF MEASUREMENT (METRIC, US)

1 – KNOW THE DAYS OF THE WEEK IN ORDER AND UNDERSTAND
s THE RELATIONSHIP BETWEEN (days) AND WEEKS

2 – CAN COUNT SETS OF COINS UP TO ONE DOLLAR

3 – KNOW APPROXIMATE SIZE OF BASIC STANDARD UNITS (U.S. CUSTOMARY)

4 – KNOW THE APPROPRIATE UNITS (METRIC AND U.S. CUSTOMARY) FOR MEASURING LENGTH/DISTANCE, WEIGHT/MASS, AREA, CAPACITY/VOLUME, TIME, TEMPERATURE

5 – KNOWS APPROXIMATE SIZE OF BASIC STANDARD AND METRIC UNITS AND RELATIONSHIPS BETWEEN THEM

6 – USE APPROPRIATE MEASUREMENT UNITS AND TOOLS (METRIC AND U.S. CUSTOMARY)

4.2. MEASURE LENGTH/DISTANCE, TIME, TEMPERATURE, WEIGHT, MASS AND VOLUME.

K – TELL TIME TO THE HOUR USING AN ANALOG OR DIGITAL CLOCK

1 – TELL TO THE HOUR AND HALF HOUR
*1 – Understand the process of measuring length & weight.

2 – CAN MEASURE USING CENTIMETERS, INCHES, KILOGRAMS, POUNDS, LITERS, AND CUPS

3 – TELL TIME TO THE 5 MINUTES USING DIGITAL AND ANALOG CLOCKS [N]

4.3. ESTIMATE MEASUREMENTS WITH APPROPRIATE PRECISION (SOLVING PROBLEMS INVOLVING MONEY)

K – CAN NAME THE COINS – PENNIES, NICKELS, DIMES, AND QUARTERS

1 – CAN NAME AND UNDERSTAND THE VALUE OF PENNY, NICKEL, DIME AND QUARTER
*1 – Understand the process of counting pennies, nickels, dimes, and quarters.

2 – TELL TIME TO THE 15 MINUTES – DIGITAL AND ANALOG

3 – SOLVE PROBLEMS INVOLVING MONEY (COUNT SETS OF BILLS AND COINS)

4 – SOLVE PROBLEMS INVOLVING MONEY (COUNT SETS OF BILLS AND COINS, COMPARE AND ORDER MONEY AMOUNTS)

5. PROBABILITY STATISTICS

5.1. APPLY PROBABILITY CONCEPTS AND COUNTING RULES TO DETERMINE PROBABILITY OF SIMPLE EVENTS.

2 – UNDERSTAND THAT SOME EVENTS ARE CERTAIN AND OTHERS ARE IMPOSSIBLE [N]

3 – UNDERSTAND THE BASIC CONCEPTS OF LIKELY AND UNLIKELY OUTCOMES

4 – DETERMINE THE PROBABILITY OF SIMPLE EVENTS USING BASIC EXPERIMENTS OR SIMULATIONS (E.G., USING COINS, SPINNERS, DICE) [N]

5 – DRAW CONCLUSIONS AND MAKE PREDICTIONS FROM SETS OF DATA (E.G., UNDERSTAND RELATIONSHIPS AND TRENDS)

6 – USE THE BASIC MEASURES OF CENTRAL TENDENCY (I.E., MODE, MEDIAN, MEAN) TO DESCRIBE DATA

5.2. READ AND INTERPRET SIMPLE TABLES & GRAPHS TO DEMONSTRATE UNDERSTANDING AND APPLICATION OF MEASURES OF CENTRAL TENDENCY AND VARIABILITY.

K – READ SIMPLE REAL OBJECT AND PICTURE GRAPHS [N]

1 – READ BASIC DISPLAYS OF DATA ON GRAPHS

2 – USE PICTOGRAPHS, TALLIES, TABLES, AND BAR GRAPHS TO DISPLAY INFORMATION [N]

3 – READ AND MAKE SIMPLE INFERENCES FROM DATA DISPLAYED IN DIAGRAMS, CHARTS, BAR GRAPHS, AND TABLES (E.G., GENERALIZE OF DRAW SIMPLE CONCLUSIONS)

4 – READ AND INTERPRET SIMPLE TABLES, GRAPHS (E.G., SIMPLE BAR, LINE) AND CHARS (E.G., PIE)

5 – READ AND INTERPRET TABLES, GRAPHS (E.G., CLUSTERED BAR, LINE) AND CHARTS (E.G., DETERMINE RANK, PERFORM OPERATIONS)

6 – READ, INTERPRET, AND DESIGN TABLES, GRAPHS (E.G., STACKED BAR, DOUBLE-LINE, HISTOGRAM), AND CHARTS

MATH
STANDARDS & BENCHMARKS
GRADE LEVEL INDICATORS- KINDERGARTEN

***To provide for more continuity, these additions will be introduced but not tested.**

1. CONTENT PROBLEM SOLVING

1.1. COUNT, READ, WRITE, REPRESENT, COMPARE AND ORDER NUMBERS IN REGULAR, EXPANDED AND EXPONENTIAL FORMAT

K - CAN COUNT, ORDER, WRITE, AND IDENTIFY NUMBERS 1-10

1.2. DESCRIBE AND APPLY PROPERTIES OF WHOLE NUMBERS AND FRACTIONS IN PHYSICAL, VERBAL AND SYMBOLIC REPRESENTATIONS.

K - UNDERSTAND THE COMBINATION AND SEPARATION OF OBJECTS IN SETS OF UP TO TEN ITEMS (E.G., SIMPLE ADDITION AND SUBTRACTION WITH PICTURES OR DRAWINGS)

*K- Uses positional language terms (beside, before, after, over)

*K- Classify and sort objects into groups according to various attributes

2. ALGEBRA

2.3. USE EXPRESSIONS TO MODEL SITUATIONS SOLVING SIMPLE OPEN SENTENCES.

K - USE WHOLE NUMBER MODELS (E.G., PATTERN BLOCKS, TILES, OR OTHER MANIPULATIVE MATERIALS) TO REPRESENT PROBLEMS [N]

2.4. UNDERSTAND AND EXPLORE NUMERICAL PATTERNS

*K- Understand simple repeating patterns

3. GEOMETRY

3.1. IDENTIFY, CLASSIFY, AND COMPARE GEOMETRIC FIGURES KNOWING BASIC GEOMETRIC LANGUAGE FOR SHAPES.

K - CAN NAME GEOMETRIC SHAPES - CIRCLE, SQUARE, TRIANGLE, AND RECTANGLE

*K - Recognize solid geometric figures (3-D)

4. MEASUREMENT

4.2. MEASURE LENGTH/DISTANCE, TIME, TEMPERATURE, WEIGHT, MASS AND VOLUME.

K - TELL TIME TO THE HOUR USING AN ANALOG OR DIGITAL CLOCK

4.3. ESTIMATE MEASUREMENTS WITH APPROPRIATE PRECISION (SOLVING PROBLEMS INVOLVING MONEY)

K - CAN NAME THE COINS - PENNIES, NICKELS, DIMES, AND QUARTERS

5. PROBABILITY STATISTICS

5.2. READ AND INTERPRET SIMPLE TABLES & GRAPHS TO DEMONSTRATE UNDERSTANDING AND APPLICATION OF MEASURES OF CENTRAL TENDENCY AND VARIABILITY.

K - READ SIMPLE REAL OBJECT AND PICTURE GRAPHS [N]

Course Outline-Kindergarten

(Numbers in outline indicate chapter numbers)

Topic 1: Sorting and Classifying

Topic 2: Counting to Ten

Topic 3: Space, 3-D Shapes, and Patterns

Topic 4: Exploring Numbers 0-9

Topic 5: Introducing Measurement

Topic 6: Comparing, Ordering, and Joining Numbers

Topic 7: Exploring 2-D Shapes and Patterns

Topic 8: Grouping and Separating Numbers

Topic 9: Exploring Numbers 11-15

Topic 10: Measurement

Topic 11: Exploring Numbers 0-20

Topic 12: Equal Groups, Sharing, & Fractions

Topic 1 – Week 1 Introduction to Sorting

	DAILY ACTIVITIES	ONGOING ACTIVITIES				
DAY 1	• What a Mess! – problem-solving activity		Secret Shapes	Farm Colors	Color Monsters	Books About Us
DAY 2	• *Who Is Wearing Red?* – whole group activity	Color Collage				
DAY 3	• Color Game – whole-group picture chat*					
DAY 4	• Cube Color Sort – whole-group activity*	Animal Color Sort*				
DAY 5	• Bears and Blobs – whole-group activity* • Can You Wear It? – whole-group activity*					
		Student Book page 5 provides an opportunity for children to practice and consolidate what they have been learning in Week 1				

Topic 1 – Week 2 Sorting and Classifying

	DAILY ACTIVITIES	ONGOING ACTIVITIES				
DAY 1	• Who is Wearing Green? – data collection activity*		Ice Tray Sort	Parking Sort*	Build and Park	Color Costumes
DAY 2	• Vehicle Sort – whole-group activity*	Color Grid Sort*				
DAY 3	• How Can We Sort? – whole-group picture chat					
DAY 4	• Guess the Rule – whole-group activity	What's My Rule?				
DAY 5	• Other Children's Sorts – whole group picture chat*					
		Student Book page 6 provides an opportunity for children to practice and consolidate what they have been learning in Week 2.				

Topic 2 – Week 1 Counting 1 to 5

	DAILY ACTIVITIES	ONGOING ACTIVITIES				
DAY 1	• Perky Puppy – problem-solving activity		Grab and Count*	Roll and Build	Buried Treasure	Color Record
DAY 2	• *Ten Funny Creatures* – whole-group song*	Pom-Pom Grab*				
DAY 3	• *The Animal Parade* – whole-group story*					
DAY 4	• Number Pop – whole-group activity	Letters in My Name				
DAY 5	• Counting Groups – whole-group picture chat*					
		Student Book page 7-9 provide an opportunity for children to practice and consolidate what they are learning in Week 1				

Topic 2 – Week 2 Counting 6-10

	DAILY ACTIVITIES	ONGOING ACTIVITIES				
DAY 1	• Go Fishing – data collection activity		Pom-Pom Toss	Creature House	Blow by Blow	Long and Tall
DAY 2	• *Five Silly Monkeys* – whole-group song*	Let's Move*				
DAY 3	• *More Silly Monkeys* – whole group song*					
DAY 4	• *The Animal Parade* – whole-group story • More Number Pop – whole-group activity	Hidden Counters				
DAY 5	• How Many Toys? – whole-group picture chat*					
		Student Book page 10-12 provide an opportunity for children to practice and consolidate what they have been learning in Week 2.				

Topic 3 – Week 1 Positional Language

	DAILY ACTIVITIES		ONGOING ACTIVITIES			
DAY 1	• A farm Full of Bunnies – Problem-solving activity		In or Under*	Where's Bear?	Left-Side Prints	Stack and put away
DAY 2	• *Big Bear Wobble – Right* – whole-group song*	Right-Side Prints*				
DAY 3	• *Big Bear Wobble – Left* – whole-group song					
DAY 4	• Big Bear and his Friends – whole-group picture chat*	Special Structures				
DAY 5	• *Where is Monkey?* – whole-group song* • Puppet Positions – whole-group activity					
		Student Book pages 13-14 provide an opportunity for children to practice and consolidate what they have been learning in Week 1				

Topic 3 – Week 2 Three-Dimensional Shapes

	DAILY ACTIVITIES		ONGOING ACTIVITIES			
DAY 1	• Introducing the Weather Graph – data collection activity		Block Moves	Block Tower Guess*	Wrap It Up	Clay Sculptures
DAY 2	• *Shape Up!* – whole-group story*	Mystery Shapes*				
DAY 3	• Rolling and Stacking – whole-group activity*					
DAY 4	• Sorting 3-D Shapes – whole-group picture chat*	3-D Card Sort				
DAY 5	• Matching Shapes – whole-group picture chat					
		Student Book pages 15-16 provide an opportunity for children to practice and consolidate what they have been learning in Week 2.				

Topic 3 – Week 3 Patterns

	DAILY ACTIVITIES		ONGOING ACTIVITIES			
DAY 1	• *Make a Pattern* – whole-group song* • Action Patterns – whole-group activity		Roll a Pattern*	Pattern Block Guess	Kitchen Prints	Musical Patterns
DAY 2	• Picture Patterns – whole-group picture chat	Pattern Fun*				
DAY 3	• Percussion Patterns – whole-group activity*					
DAY 4	• Circle Patterns – whole-group activity*	Print Patterns				
DAY 5	• What's Missing? – whole-group activity					

Student Book pages 17-18 provide an opportunity for children to practice and consolidate what they have been learning in Week 3

Topic 4 – Week 1 Working with Numbers

	DAILY ACTIVITIES		ONGOING ACTIVITIES			
DAY 1	• Terry's Dream City – problem-solving activity		Link Chairs	Cover It Up!	Flower Shop	Number Bracelets
DAY 2	• Numbers on Parade – whole-group story*	Goldfish Count*				
DAY 3	• Describing Groups – whole-group picture chat*					
DAY 4	• *Writing Numerals 0-5* – whole-group song*	Numeral Practice				
DAY 5	• Number Hokey Pokey – whole-group activity					

Student Book pages 19-22 provide an opportunity for children to practice and consolidate what they have been learning in Week 2.

Topic 4 – Week 2 Numbers in Order

	DAILY ACTIVITIES		ONGOING ACTIVITIES			
DAY 1	• Do You Like Mud? – data collection activity		More Link Chairs	Creature Card Match	Number Sculptures	Musical Numbers
DAY 2	• Flip and Match – whole-group activity	More Flip Book Fun*				
DAY 3	• Number Words and Numerals – whole-group picture chat*					
DAY 4	• *March in Order* – whole-group song*	Shirts in Order				
DAY 5	• Bears in Order – whole-group picture chat					

Student Book pages 23-26 provide an opportunity for children to practice and consolidate what they have been learning in Week 2

Week 3 – Review Week A

	DAILY ACTIVITIES		ONGOING ACTIVITIES									
DAY 1	• Introducing the Review Week		Sorting Buttons	Matching Bears and Numbers	Writing Numerals 0-5	Matching Quantities 1 to 6	Counting Cubes	Sorting 3-D Shape Pictures	Coloring Six	Counting Creatures	Matching Qtys. & Numerals	Counting & Placing Animals
DAY 2	•Reviewing *Same* and *Different*	Tasks 1.1 to 1.3										
DAY 3	• Reviewing Counting	Task 2.1 to 2.4										
DAY 4	• Reviewing Patterns	Tasks 3.1 to 3.4										

DAY 5	• Reviewing Numbers 1-9	Tasks 4.1 to 4.4										
		Student Book page 27-32 provide an opportunity for children to practice and consolidate what they have learned in Topics 1 to 4.										

Topic 5 – Week 1 Exploring Length, Weights, and Capacity

	DAILY ACTIVITIES	ONGOING ACTIVITIES				
DAY 1	• Milton and His Many Mice – problem-solving activity		Everything in Order	Clown Triplets	Short Hair/Long Hair	Feeding Time
DAY 2	• *We Can measure* – whole-group song	Sorting by Size				
DAY 3	• Long and Tall – whole-group picture chat*					
DAY 4	• Heavier or Lighter? – whole-group activity*	Pan Balance Fun*				
DAY 5	• Which Holds More? – whole-group activity*					
		Student Book pages in Week 2, after children have had many hands-on experiences with measuring.				

Topic 5– Week 2 Working with Length and Time

	DAILY ACTIVITIES	ONGOING ACTIVITIES				
DAY 1	• Making a House Glyph – data collection activity		Which is Heavier?	Rows and Rows	Big, Little and Middle-Sized	Nature/s Order
DAY 2	• Putting Things in Order – whole-group activity*	Fire Station Fun				
DAY 3	• What's the Order? – whole-group picture chat					
DAY 4	• Seasonal Changes – whole-group story*	One-Minute Tasks*				
DAY 5	• Revisit Ben's Beans – whole-group activity • Moving Fast, Moving Slowly – whole-group					
		Student Book pages 33-36 provide an opportunity for children to practice and consolidate what they have been learning in Weeks 1 and 2.				

Topic 6 – Week 1 Comparing Numbers

	DAILY ACTIVITIES	ONGOING ACTIVITIES				
DAY 1	• Butterflies, Caterpillars, and Mice – problem-solving activity		Secret Shapes	Farm Colors	Color Monsters	Books About Us
DAY 2	• *Comparing Song* – whole-group song*	Feel and Compare*				
DAY 3	• More Buttons – whole-group picture chat*					
DAY 4	• *Writing Numerals 6-10* – whole-group song*	More and Less				
DAY 5	• Comparing Numerals – whole-group activity					
		Student Book pages 37-40 provide an opportunity for children to practice and consolidate what they are learning in Week 1.				

Topic 6 – Week 2 Ordering Numbers

	DAILY ACTIVITIES	ONGOING ACTIVITIES				
DAY 1	• Making Bear Graphs – data collection activity		Count and Match	Order Up	Send Numbers	Phone A Friend
DAY 2	• Number Track Ordering – whole-group activity	Comparing Number Mats*				
DAY 3	• Pockets of Numbers – whole-group activity*					
DAY 4	• Houses, Boats, and Trucks – whole-group picture chat	Ordering Number Mats				
DAY 5	• Flip and Order – whole-group activity					
		Student Book pages 41-43 provide an opportunity for children to practice and consolidate what they are learning in Week 2.				

Topic 6 – Week 3 Joining Numbers

	DAILY ACTIVITIES	ONGOING ACTIVITIES				
DAY 1	• Making a Creature Glyph – data collection activity		Many Are Riding?	How Many Now?	At the Repair Shop	People in Wagons
DAY 2	• Identifying Two Groups – whole-group picture chat	Pom-Poms on Wings*				

DAY 3	• Toss the Total – whole-group activity*					
DAY 4	• Two Groups of Cookies – whole-group picture chat*	Number Mat Join				
DAY 5	• Joining Groups – whole-group activity					
		Student Book pages 44-48 provide an opportunity for children to practice and consolidate what they have been learning in Week 3.				

Topic 7 – Week 1 Naming Two-Dimensional Shapes

	DAILY ACTIVITIES	ONGOING ACTIVITIES				
DAY 1	• Playground Fun – problem-solving activity		Block Stamps	Roll a Picture	Sand Prints	Shape People
DAY 2	• Shape Prints – whole-group picture chat	3-D Footprints				
DAY 3	• Shape Puzzles – whole-group picture chat*					
DAY 4	• *2-D Shapes* – whole-group song*	2-D Shape Match*				
DAY 5	• 2-D Shape Wobble – whole-group activity					
		Student Book pages 49-50 provide an opportunity for children to practice and consolidate what they are learning in Week 1.				

Topic 7 – Week 2 Sorting Two-Dimensional Shapes

	DAILY ACTIVITIES	ONGOING ACTIVITIES				
DAY 1	• Block Stack and Print – data collection activity		Shape Puzzles	Circles in a Row	Sponge Shape Fun	My Shape Book
DAY 2	• *2-D Shapes* – whole-group song • Body Shapes – whole-group activity	Shape Logic*				
DAY 3	• Shape Sort – whole-group activity*					
DAY 4	• Pattern Block Graph – whole-group picture chat	Spin and Sort				
DAY 5	• Two-Attribute Sort – whole-group picture chat*					
		Student Book pages 51-52 provide an opportunity for children to practice and consolidate what they are learning in Week 2.				

Topic 7 – Week 3 More Work with Patterns

	DAILY ACTIVITIES	ONGOING ACTIVITIES				
DAY 1	• Making a Shape Glyph – data collection activity		Changing Shapes	Bear Is Missing	Pattern Print	Pattern Block Snakes
DAY 2	• Pattern Bracelets – whole-group activity	Pattern Block				

DAY 3	• What Comes Next? – whole-group picture chat*	Fun				
DAY 4	• Is it a Pattern? – whole-group activity	Continue the Pattern*				
DAY 5	• What's Missing? – whole-group activity*					
		Student Book pages 53 and 54 provide an opportunity for children to practice and consolidate what they have been learning in Week 3.				

Topic 8 – Week 1 Ordering Numbers; Addition

	DAILY ACTIVITIES		ONGOING ACTIVITIES			
DAY 1	• The Ruined Shirt – problem-solving activity		Bags of Stuff	Heads or Tails	Number Necklaces	Bags of Small Things
DAY 2	• Ted Ten says…-whole-group activity*	Groups to Ten				
DAY 3	• What's Missing? – whole-group song					
DAY 4	• Jumping Frogs – whole-group picture chat*	More Jumping Frogs				
DAY 5	• Pin People Get-Together – whole-group activity					
		Student Book pages 55 - 60 provide an opportunity for children to practice and consolidate what they have been learning in Week 1.				

Topic 8 – Week 2 Working with Coins; Subtraction

	DAILY ACTIVITIES		ONGOING ACTIVITIES			
DAY 1	• The Gingerbread Man – data collection activity		What's in the Bag?	Making a Ten	Shopping Mall	Writing Creature Numbers
DAY 2	• Coin Puzzles – whole-group picture chat*	Coin Purses				
DAY 3	• What's the Difference? – whole-group activity • Combining Pennies – whole-group picture chat					
DAY 4	•*Separating Song* – whole group song*	Frog Stories*				
DAY 5	• Taking Away with Ted Ten – whole-group activity					
		Student Book pages 61-64 provide an opportunity for children to practice and consolidate what they are learning in Week 2.				

Week 3 Review Week B

DAILY ACTIVITIES	ONGOING ACTIVITIES

DAY 1	• Introducing the Review Week		Clothes in Order	Is It Longer?	Lids in Order	Match the Creatures	Birthday Cards in Line	Floor Shapes	Shapes of String	Shape Pattern Prints	How Many Dots?	What's Missing?
DAY 2	• Reviewing Length	Tasks 5.1 to 5.4										
DAY 3	• Reviewing Part-Part-Total	Tasks 6.1 to 6.4										
DAY 4	• Reviewing 2-D Shapes and Patterns	Tasks 7.1 to 7.4										
DAY 5	• Reviewing Separating Stories	Tasks 8.1 to 8.4										
		Student Book pages 65-70 provide an opportunity for children to practice and consolidate what they have learned in Topics 5 to 8.										

Topic 9 – Week 1 Introducing 11-15

	DAILY ACTIVITIES		ONGOING ACTIVITIES			
DAY 1	• Octopi and Black Ink – problem-solving activity		Number Concentration	Making a Dozen	Cookie Packers	What's Cooking
DAY 2	• Tea Party Numbers – whole-group picture chat**	Tea Party Cakes				
DAY 3	• Number Match 10-12 – whole-group activity					
DAY 4	• Counting Down from 15 – whole-group picture chat*	Ordering Numbers 11-15				
DAY 5	• Number Match 13-15 – whole-group activity					
		Student Book pages 71-73 provide an opportunity for children to practice and consolidate what they are learning in Week 1.				

Topic 9 – Week 2 Working with 11-15

	DAILY ACTIVITIES		ONGOING ACTIVITIES			
DAY 1	• My Favorite Snack – data collection activity		Money Bags	How Many Pin People	My Friends	Sharing Nuts
DAY 2	• Count the Nuts – whole-group story*	More, Fewer, Same				
DAY 3	• Pin-People Toss – whole-group activity					
DAY 4	• Nuts in Equal Groups – whole-group activity	Pin-People Totals				
DAY 5	• *Cool Teen Numbers!* – whole-group song*					
		Student Book pages74-76 provides an opportunity for children to practice and consolidate what they have been learning in Weeks 1 and 2.				

Topic 10 – Week 1 Working with Nonstandard Units

	DAILY ACTIVITIES		ONGOING ACTIVITIES			
DAY 1	• Hide and Seek – problem-solving activity		Stuff the Boxes	Hand Holding	Sand Cakes	Build It High
DAY 2	• Ways to Measure – whole-group picture chat*	How Many Dinosaurs Tall?				
DAY 3	• Measuring a Cubit – whole-group activity					
DAY 4	• How Many Cupfuls? – whole-group picture chat*	Make It Balance				
DAY 5	• Covering Shapes – whole-group picture chat*					
		Student Book pages 77-78 provide an opportunity for children to practice and consolidate what they have been learning in Weeks 1.				

Topic 10 – Week 2 Exploring Change Over Time

	DAILY ACTIVITIES		ONGOING ACTIVITIES			
DAY 1	• Ben's Beans – data collection activity		Solve the Puzzles	Creature Cover	How Much Water?	Decorate the Bear
DAY 2	• *Growing Song* – whole-group song	How We Have Grown*				
DAY 3	• Using Links to Measure Length – whole-group picture chat*					
DAY 4	• What's the Story? – whole-group activity	Tell Another Story				
DAY 5	• What Comes Next? – whole-group activity*					
		Student Book pages 79-80 provide an opportunity for children to practice and consolidate what they have been learning in Weeks 1 and 2.				

Topic 11 – Week 1 Introducing 16-20

	DAILY ACTIVITIES		ONGOING ACTIVITIES			
DAY 1	• Mr. Green's Toy Store – problem-solving activity		Count and Match (11-20)	Roll and Count	Finger Fives	At the Restaurant
DAY 2	• Counting to Twenty – whole-group activity	Animals in the Field*				
DAY 3	• Fruit Store Numbers – whole-group picture chat*					
DAY 4	• *Twenty Fingers* – whole-group song*	Four-Hand Fun				
DAY 5	• Count to Thirty – whole-group activity • Fruit Arrangements – whole-group activity*					
		Student Book pages 81-84 provide an opportunity for children to practice and consolidate what they are learning in Weeks 1.				

Topic 11 – Week 2 Working with Numbers to 20

	DAILY ACTIVITIES		ONGOING ACTIVITIES			
DAY 1	• Making a Purse Glyph – data collection activity		Order Up (11-20)	Fifteen in All	Bugs, Bugs, Bugs	Teen Birthdays
DAY 2	• Story Path Problems – whole-group picture chat	"Spin for Gold" Game				
DAY 3	• Count to Forty – whole-group activity • Dinosaur Bake Sale – whole-group activity*					
DAY 4	• Solving Addition Problems – whole-group activity*	Mix-and-Match Money Game*				
DAY 5	• Count to Fifty – whole-group activity • Solving Subtraction Problems – whole-group*					
		Student Book pages 85-88 provide an opportunity for children to practice and consolidate what they have been learning in Weeks 1 and 2.				

Topic 12 – Week 1 Working with Equal Groups

	DAILY ACTIVITIES	ONGOING ACTIVITIES				
DAY 1	• Zack and Zoe, Zookeepers – problem-solving activity		Animal Groups	Sharing Fish	Eggs in Nests	Garage Groups
DAY 2	• Finding Animal Groups – whole-group picture chat*	Animal Corral*				
DAY 3	• Count to Seventy – whole-group activity • Combining Groups – whole-group activity*					
DAY 4	• *Let's Share* – whole-group song*	"Bug" Share				
DAY 5	• Count to Ninety – whole-group activity • "Nut" Share – whole-group activity					
		Student Book pages 89-90 provide an opportunity for children to practice and consolidate what they are learning in Weeks 1.				

Topic 12 – Week 2 Sharing Between Two

	DAILY ACTIVITIES	ONGOING ACTIVITIES				
DAY 1	• Favorite Bear Vote – data collection activity		Pom-Pom Plates	Half Cookies	Half Full	Butterfly Halves
DAY 2	• Coconut Share – whole-group story*	"Sharing" stories*				
DAY 3	• Picnic Problems – whole-group picture chat					
DAY 4	• Picnic Shares – whole-group picture chat*	Half-Cup Snack Mix				
DAY 5	• One Hundred Funny Creatures – whole-group activity					
		Student Book pages 91-92 provide an opportunity for children to practice and consolidate what they are learning in Weeks 2.				

Week 3 Review Week

	DAILY ACTIVITIES		ONGOING ACTIVITIES									
DAY 1	• Introducing the Review Week		Bug Count	Frog Jump-Away	Mix-and-Match Money	Measure a Friend	Tell a Story	Pin People Match	Fish Shop	Tote-Bag Teens	Baskets of Bears	Half-Shapes Picture
DAY 2	• Reviewing Part-Part-Total	Tasks 9.1 to 9.4										
DAY 3	• Reviewing Length	Tasks 10.1 to 10.4										
DAY 4	• Reviewing Left and Right	Tasks 11.1 to 11.4										
DAY 5	• Reviewing Numbers in Order	Tasks 12.1 to 12.4										
		Student Book pages 93-96 provide an opportunity for children to practice and consolidate what they have learned in Topics 9 to 12.										

	DAILY ACTIVITIES		ONGOING ACTIVITIES									
DAY 1	• Introducing the Review Week		Bug Count	Frog Jump-Away	Mix-and-Match Money	Measure a Friend	Tell a Story	Pin People Match	Fish Shop	Tote-Bag Teens	Baskets of Bears	Half-Shapes Picture
DAY 2	• Reviewing Part-Part-Total	Tasks 9.1 to 9.4										
DAY 3	• Reviewing Length	Tasks 10.1 to 10.4										
DAY 4	• Reviewing Left and Right	Tasks 11.1 to 11.4										
DAY 5	• Reviewing Numbers in Order	Tasks 12.1 to 12.4										
		Student Book pages 93-96 provide an opportunity for children to practice and consolidate what they have learned in Topics 9 to 12.										

Subject Area: Math **Length of Unit:** Getting started – On going

Instructor: Kindergarten

Standard 1 - Content Problem Solving
Benchmarks:
1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
K – Can count, order, write, and identify numbers 1-10
1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations
K – Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)
Standard 2 – Algebra
Benchmarks:
2.3 Use expressions to model situations solving simple open sentences.
K – Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems [N]
Standard 5 - Probability Statistics
Benchmarks:
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.
K – Read simple real object and picture graphs [N]

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Getting Started	Can count, order, write, and identify numbers 1-10	In class observation	HOTS, MCGF, LS, AR,SPECIAL,CS
1.2	Getting Started	Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)	In class observation	HOTS, MCGF, LS, AR,SPECIAL,CS
2.3	Getting Started	Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems [N]	In class observation	HOTS, MCGF, LS, AR,SPECIAL,CS
5.2	Getting Started	Read simple real object and picture graphs [N]	In class observation	HOTS, MCGF, LS, AR,SPECIAL,CS

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Kindergarten Math **Length of Unit:** Sorting and Classifying - 2 weeks

Instructor: Kindergarten teacher Topic 1

Standard 1 - Content Problem Solving
Benchmarks:
1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations
K – Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)
Standard 2 – Algebra
Benchmarks:
2.3 Use expressions to model situations solving simple open sentences.
K – Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems [N]
Standard 5 - Probability Statistics
Benchmarks:
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.
K – Read simple real object and picture graphs [N]

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Sorting and Classifying Topic 1	Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)	On-going- in class observation & portfolio -Periodic- assessment task, performance task	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH
2.3	Sorting and Classifying Topic 1	Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems	On-going- in class observation & portfolio -Periodic- assessment task, performance task	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH
5.2	Sorting and Classifying Topic 1	Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.	On-going- in class observation & portfolio -Periodic- assessment task, performance task	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Kindergarten Math **Length of Unit:** Counting to Ten – 2 weeks

Instructor: Kindergarten Teacher Topic 2

Standard 1 - Content Problem Solving
Benchmarks:
1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
K – Can count, order, write, and identify numbers 1-10
1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations
K – Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)
Standard 2 – Algebra
Benchmarks:
2.3 Use expressions to model situations solving simple open sentences.
K – Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems [N]
Standard 5 - Probability Statistics
Benchmarks:
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.
K – Read simple real object and picture graphs [N]

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Counting to ten Topic 2	Can count, order, write, and identify numbers 1-10	On going- in class observation and portfolio Periodic – assessment tasks, performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG
1.2	Counting to ten Topic 2	Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)	On going- in class observation and portfolio Periodic – assessment tasks, performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG
2.3	Counting to ten Topic 2	Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent	On going- in class observation and portfolio Periodic – assessment tasks, performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG
5.2	Counting to ten Topic 2	Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.	On going- in class observation and portfolio Periodic – assessment tasks, performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Kindergarten Math

Length of Unit: Space, 3-D shapes, and Patterns – 3 weeks

Instructor: Kindergarten Teacher

Topic 3

Standard 1 - Content Problem Solving
Benchmarks:
1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
K – Can count, order, write, and identify numbers 1-10
1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations
K – Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)
Standard 2 – Algebra
Benchmarks:
2.3 Use expressions to model situations solving simple open sentences.
K – Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems [N]
Standard 3 – Geometry
3.1 Identify, classify, and compare geometric figures knowing basic geometric language for shapes.
K- Can name geometric shapes – circle, square, triangle, and rectangle
Standard 5 - Probability Statistics
Benchmarks:
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.
K – Read simple real object and picture graphs [N]

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Space, 3-D shapes, and Patterns Topic 3	Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)	On going- in class observation & portfolio -Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, CE, GS
2.3	Space, 3-D shapes, and Patterns Topic 3	Use expressions to model situations solving simple open sentences.	On going- in class observation & portfolio -Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, CE, GS
3.1	Space, 3-D shapes, and Patterns Topic 3	Identify, classify, and compare geometric figures knowing basic geometric language for shapes.	On going- in class observation & portfolio -Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, CE, GS

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Kindergarten Math

Length of Unit: Space, 3-D shapes, and Patterns – 3 weeks

Instructor: Kindergarten Teacher

Topic 3 (con't.)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
5.2	Space, 3-D shapes, and Patterns Topic 3	Read simple real object and picture graphs	On going- in class observation & portfolio -Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, CE, GS

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Kindergarten Math

Length of Unit: Exploring Numbers 0-9 – 2 weeks

Instructor: Kindergarten Teacher

Topic 4

Standard 1 - Content Problem Solving

Benchmarks:

1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format

K – Can count, order, write, and identify numbers 1-10

Standard 2 – Algebra

Benchmarks:

2.3 Use expressions to model situations solving simple open sentences.

K – Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems [N]

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Exploring Numbers 0-9 Topic 4	Can count, order, write, and identify numbers 1-10	On going- in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LA, CS, SPECIAL, AR, TECH, TAG
2.3	Exploring Numbers 0-9 Topic 4	Use expressions to model situations solving simple open sentences.	On going- in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LA, CS, SPECIAL, AR, TECH, TAG

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Kindergarten Math

Length of Unit: Introducing Measurement – Week 2

Instructor: Kindergarten Teacher

Topic 5

Standard 1 - Content Problem Solving
Benchmarks:
1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
K – Can count, order, write, and identify numbers 1-10
Standard 5 - Probability Statistics
Benchmarks:
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.
K – Read simple real object and picture graphs [N]

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Introducing Measurement Topic 5	Can count, order, write, and identify numbers 1-10	On-going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, HGD
5.2	Introducing Measurement Topic 5	Read simple real object and picture graphs	On-going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, HGD

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Kindergarten Math **Length of Unit:** Comparing, ordering, and joining numbers – 3 weeks

Instructor: Kindergarten Teacher Topic 6

Standard 1 - Content Problem Solving
Benchmarks:
1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
K – Can count, order, write, and identify numbers 1-10
1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations
K – Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)
Standard 2 – Algebra
Benchmarks:
2.3 Use expressions to model situations solving simple open sentences.
K – Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems [N]
Standard 5 - Probability Statistics
Benchmarks:
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.
K – Read simple real object and picture graphs [N]

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Comparing, ordering, and joining numbers Topic 6	Can count, order, write, and identify numbers 1-10	On going – in class observation & portfolio -Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG
1.2	Comparing, ordering, and joining numbers Topic 6	Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)	On going – in class observation & portfolio -Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG
2.3	Comparing, ordering, and joining numbers Topic 6	Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems	On going – in class observation & portfolio -Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG
5.2	Comparing, ordering, and joining numbers Topic 6	Read simple real object and picture graphs	On going – in class observation & portfolio -Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Kindergarten Math **Length of Unit:** Exploring 2-D Shapes and Patterns – 3 weeks

Instructor: Kindergarten Teacher Topic 7

Standard 2 – Algebra
Benchmarks:
2.3 Use expressions to model situations solving simple open sentences.
K – Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems [N]
Standard 3 – Geometry
3.1 Identify, classify, and compare geometric figures knowing basic geometric language for shapes.
K- Can name geometric shapes – circle, square, triangle, and rectangle
Standard 5 - Probability Statistics
Benchmarks:
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.
K – Read simple real object and picture graphs [N]

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
2.3	Topic 7	Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent	On-going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG, GS
3.1	Topic 7	Can name geometric shapes – circle, square, triangle, and rectangle	On-going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG, GS
5.2	Topic 7	Read simple real object and picture graphs	On-going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG, GS

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Kindergarten Math **Length of Unit:** Grouping and Separating Numbers – 2 weeks

Instructor: Kindergarten Teacher Topic 8

Standard 1 - Content Problem Solving
Benchmarks:
1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
K – Can count, order, write, and identify numbers 1-10
1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations
K – Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)
Standard 2 – Algebra
Benchmarks:
2.3 Use expressions to model situations solving simple open sentences.
K – Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems [N]
Standard 4 - Measurement
4.3 Estimate measurements with appropriate precision (solving problems involving money)
K – Can name the coins – pennies, nickels, dimes, and quarters
Standard 5 - Probability Statistics
Benchmarks:
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.
K – Read simple real object and picture graphs [N]

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 8	Can count, order, write, and identify numbers 1-10	On going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TAG, CE
1.2	Topic 8	Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)	On going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TAG, CE
2.3	Topic 8	Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems [N]	On going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TAG, CE

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Kindergarten Math

Length of Unit: Grouping and Separating Numbers – 2 weeks

Instructor: Kindergarten Teacher

Topic 8 (con't)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
4.3	Topic 8	Can name the coins – pennies, nickels, dimes, and quarters	On going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TAG, CE
5.2	Topic 8	Read simple real object and picture graphs [N]	On going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TAG, CE

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Kindergarten Math

Length of Unit: Exploring Numbers 11-15 – 2 weeks

Instructor: Kindergarten Teacher

Topic 9

Standard 1 - Content Problem Solving
Benchmarks:
1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
K – Can count, order, write, and identify numbers 1-10
Standard 2 – Algebra
Benchmarks:
2.3 Use expressions to model situations solving simple open sentences.
K – Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems [N]
Standard 5 - Probability Statistics
Benchmarks:
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.
K – Read simple real object and picture graphs [N]

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 9	Can count, order, write, and identify numbers 1-10	On-going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG, HGD
2.3	Topic 9	Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems [N]	On-going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG, HGD
5.2	Topic 9	Read simple real object and picture graphs [N]	On-going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG, HGD

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Kindergarten Math

Length of Unit: Measurement – 2 weeks

Instructor: Kindergarten Teacher

Topic 10

Standard 4 – Measurement
Benchmarks:
4.2 Measure length/distance, time, temperature, weight, mass and volume.
K – Tell time to the hour using an analog or digital clock
Standard 5 - Probability Statistics
Benchmarks:
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.
K – Read simple real object and picture graphs [N]

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
4.2	Topic 10	Tell time to the hour using an analog or digital clock	On going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG, CE
5.2	Topic 10	Read simple real object and picture graphs [N]	On going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG, CE

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Kindergarten Math

Length of Unit: Exploring Numbers 0-20– 2 weeks

Instructor: Kindergarten Teacher

Topic 11

Standard 1 - Content Problem Solving
Benchmarks:
1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
K – Can count, order, write, and identify numbers 1-10
1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations
K – Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)
Standard 2 – Algebra
Benchmarks:
2.3 Use expressions to model situations solving simple open sentences.
K – Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems [N]
Standard 5 - Probability Statistics
Benchmarks:
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.
K – Read simple real object and picture graphs [N]

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 11	Can count, order, write, and identify numbers 1-10	On going – in class observation & portfolio -Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG
1.2	Topic 11	Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)	On going – in class observation & portfolio -Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG
2.3	Topic 11	Use whole number models (e.g., pattern blocks, tiles, or other manipulative materials) to represent problems [N]	On going – in class observation & portfolio -Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG
5.2	Topic 11	Read simple real object and picture graphs [N]	On going – in class observation & portfolio -Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Kindergarten Math

Length of Unit: Equal groups, sharing & Fractions– 2 weeks

Instructor: Kindergarten Teacher

Topic 12

Standard 1 - Content Problem Solving
Benchmarks:

1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
K – Can count, order, write, and identify numbers 1-10

1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations
K – Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)

Standard 5 - Probability Statistics
Benchmarks:

5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.
K – Read simple real object and picture graphs [N]

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 12	Can count, order, write, and identify numbers 1-10	On going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG, GS
1.2	Topic 12	Understand the combination and separation of objects in sets of up to ten items (e.g., simple addition and subtraction with pictures or drawings)	On going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG, GS
5.2	Topic 12	Read simple real object and picture graphs [N]	On going – in class observation & portfolio Periodic – assessment tasks & performance tasks	HOTS, MCGF, LS, CS, SPECIAL, AR, TECH, TAG, GS

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

☐	Not evaluated at this time
☒	Progress being made
☒	Skill accomplished

Quarter Name _____

1	2	3	4	
				Can sort according to one attribute (1.2)
				Uses manipulatives or drawings to solve addition problems (1.2) (2.3)
				Uses manipulatives or drawings to solve subtraction problems (1.2) (2.3)
				Can count to 10 (1.1)
				Can count to 20
				Can write numbers to 10 (1.1)
				Can write numbers to 20
				Can order numbers to 10 (1.1)
				Can order numbers to 20
				Can identify numbers to 10 in random order (1.1)
				Can identify numbers to 20 in random order
				Can create a simple pattern (2.4)
				Can name basic geometric figures __circle, __ square, __ triangle, __ rectangle (3.1)
				Can name __ penny, __ nickel, __ dime, __ quarter (4.3)
				Can tell time to the hour (4.2)
				Reads simple graphs (5.2)

Mathematics
Standards and Benchmarks
Grade level indicators
1st Grade

* To provide for more continuity, these additions will be introduced but not tested.

1. CONTENT PROBLEM SOLVING

1.1. COUNT, READ, WRITE, REPRESENT, COMPARE AND ORDER NUMBERS IN REGULAR, EXPANDED AND EXPONENTIAL FORMAT

1 - CAN COUNT, ORDER, WRITE, AND IDENTIFY NUMBERS 1-100.

1.2. DESCRIBE AND APPLY PROPERTIES OF WHOLE NUMBERS AND FRACTIONS IN PHYSICAL, VERBAL AND SYMBOLIC REPRESENTATIONS.

1 - KNOW BASIC ADDITION AND SUBTRACTION FACTS TO 10
*1 - Understands the concept of one-half
*1 - Uses positional language terms (left, right, ordinal #'s)
*1 - Understand basic addition & subtraction facts to 18.

1.3. CLASSIFY NUMBERS BY DIVISIBILITY (MULTIPLY, DIVIDE & CLASSIFY WHOLE NUMBERS WITH & WITHOUT REMAINDERS) ORDER OF MAGNITUDE.

1 - UNDERSTAND THE CONCEPT OF PLACE VALUE THROUGH THE TENS PLACE

1.4. CHECK REASONABILITY OF ANSWERS BY PERFORMING OPERATIONS & ROUNDING.

1 - UNDERSTAND BASIC ROUNDING TECHNIQUES (E.G., ROUNDING TO THE NEAREST TEN IN CONTEXTUAL SITUATIONS)
1 - RESTATE PROBLEMS IN OWN WORDS TO DEMONSTRATE UNDERSTANDING

2. ALGEBRA

2.1. USE AND INTERPRET OPERATIONS AND RELATIONAL SYMBOLS (EQUAL, GREATER THAN, LESS THAN)

1 - USE ORAL, SYMBOLIC, AND PICTORIAL FORMS TO REPRESENT PROBLEM SITUATIONS (E.G., TRANSLATE FROM PICTURES OF OBJECTS TO NUMERICAL EXPRESSIONS)

2.3. USE EXPRESSIONS TO MODEL SITUATIONS SOLVING SIMPLE OPEN SENTENCES.

1 - SOLVE SINGLE-STEP PROBLEMS INVOLVING ADDITION AND SUBTRACTION

2.4. UNDERSTAND AND EXPLORE NUMERICAL PATTERNS

1 - UNDERSTAND SIMPLE REPEATING PATTERNS (E.G., SKIP COUNTING PATTERNS; REPEATING PATTERNS IN DESIGNS)
*1 - Extend simple repeating patterns

3. GEOMETRY

3.1. IDENTIFY, CLASSIFY, AND COMPARE GEOMETRIC FIGURES KNOWING BASIC GEOMETRIC LANGUAGE FOR SHAPES.

*1 - Names solid geometric figures (3-D)
*1 - Mastery of circle, square, triangle, and rectangle (2-D)

4. MEASUREMENT

4.1. IDENTIFY AND USE APPROPRIATE UNITS OF MEASUREMENT (METRIC, US)

1 - KNOW THE DAYS OF THE WEEK IN ORDER AND UNDERSTANDS THE RELATIONSHIP BETWEEN (days) AND WEEKS

4.2. MEASURE LENGTH/DISTANCE, TIME, TEMPERATURE, WEIGHT, MASS AND VOLUME.

1 - TELL TO THE HOUR AND HALF HOUR
*1 - Understand the process of measuring length & weight.

4.3. ESTIMATE MEASUREMENTS WITH APPROPRIATE PRECISION (SOLVING PROBLEMS INVOLVING MONEY)

1 - CAN NAME AND UNDERSTAND THE VALUE OF PENNY, NICKEL, DIME AND QUARTER

*1 - Understand the process of counting pennies, nickels, dimes, and quarters.

5. PROBABILITY STATISTICS

5.2. READ AND INTERPRET SIMPLE TABLES & GRAPHS TO DEMONSTRATE UNDERSTANDING AND APPLICATION OF MEASURES OF CENTRAL TENDENCY AND VARIABILITY.

1 - READ BASIC DISPLAYS OF DATA ON GRAPHS

Course Outline-Grade 1

(Numbers in outline indicate chapter numbers)

Topic 1: Reviewing Number Concepts

Topic 2: Understanding Addition & Subtraction

Topic 3: Working with Time, Length, & Money

Topic 4: Numbers to 20 & Number Patterns

Topic 5: Building Addition & Subtraction

Topic 6: Place Value: Numbers to 100

Topic 7: Measurement & Geometry

Topic 8: Working with Numbers & Operations

Topic 9: More Measurement & Geometry

Topic 10: Extending Work with Number & Operations

Topic 11: Equal Parts, Fair Shares, & Fractions

Topic 12: Working with Two-Digit Numbers

1st Grade Planning Details – Topic 1

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
1.1	• Count with understanding to 10 or more. • Compare and order numbers	A, A1			1.1	Pocket Chart and Craft Sticks; Write-On Chart; Number Train (engine and blank car)
1.2	• Recognize "how many" in sets of objects. • Count with understanding to at least 20.	A2	2-3	1-2		Linking cubes Links
1.3	• Recognize "how many" in sets of objects. • Collect, represent, and analyze data.	A3			1.2-1.5 PCh	Jumbo Pocket Cubes and cards; counters; linking cubes; labels for *Same* and *Different* Colored paper shapes; large sheets of paper
1.4	• Read and write numerals to 10 and connect them to the quantities they represent. • Begin to read number words to ten.	A4	2-3	3-4	1.6-1.8 H	Number Frieze (1-10); whiteboards; labeled cubes; Jumbo Cubes and cards
1.5	• Read and write numerals to 10 and connect them to the quantities they represent.	A5		5-6	1.9-1.14 HPch	Jumbo Cubes, cards; Target mat 1; Beanbags; Number Frieze (1-10, 0); whiteboards Cards from previous BLMs
1.6	• Relate the number five to nearby numbers. • Count on from five.	B, B1	4	7-8	1.15 HPCh	Jumbo Cubes and cards; whiteboards Cards from previous BLMs
1.7	• Sort and classify objects according to their attributes. • Represent and analyze data in a tally chart.	B2		9-10		Helping Sally Tally; small stick-on notes; whiteboards Labeled cubes
1.8	• Compare two numbers and say which is greater.	B3	5	11-12	1.9-1.12, 1.13	Linking cubes; counters Cards from previous BLMs
1.9	• Identify the greatest and least number and arrange three numbers in order.	B4	5	13-14	1.9-1.12, 1.13	Stick –on notes; whiteboards; linking cubes Number-grid "jigsaw" puzzles
1.10	• Describe, copy, and extend repeating patterns.	B5		15-16		*The Pitterpats;* tiles; counters; links; linking cubes; Pattern Sponge Stamps; paint; long strips of paper; pattern blocks
1.11	• Copy, extend, and create repeating patterns. • Analyze a repeating pattern and identify the part that repeats.	C,C1		17-18		*The Pitterpats;* wax sticks or removeable adhesive; pattern blocks and rubber stamps; stamp pads; straws; Jumbo Cube and cards
1.12	• Begin to read on-the-hour times.	C2		19-20	1.16H, 1.17P	Classroom, Demonstration, and Student Clocks; Jumbo Cubes and cards; whiteboards Labeled cubes, roundhead fasteners
1.13	• Decompose numbers by "breaking" them into two parts.	C3	6-7	21-22		Linking cubes; Jumbo Cube cards A picture of fields; two-color counters

1.14	• Decompose the number ten by "breaking" it into two parts.	C4	8-9	23-24		Ten-mats; linking cubes; dominoes (to 9/9)
1.15	• Decompose numbers into two parts. • Solve a problem by making an ordered list. • Represent data in a simple graph.	C5		25-26	1.18	Cookie jar or tub; linking cubes; two-color magnets and counters; paper or plastic cups; red and yellow markers or crayons
Assessment Suggestions		***Assessment Book*** Forms 1.1 to 1.5 and D.1				

*Blackline Masters have been coded for: Extra Help (H), Practice (PP, and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

1st Grade Planning Details – Topic 2

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
2.1	• Use, and begin to read and write, language related to addition	D, D1	10-11	27-28	1.9-1.12	Linking cubes
2.2	• Use and interpret the + sign.	D2	10-11	29-30	2.1P, 2.2HP	Whiteboards; clothespins Links
2.3	• Model and solve addition problems (using concrete objects).	D3	10-11	31-32	2.1H, 2.2HCh, 2.3HCh	Par-part-total mats (and OHT 3); linking cubes or counters
2.4	• Use and interpret the = sign.	D4		33-34	2.4HP	Part-part-total mats; linking cubes; counters; labeled cubes Dominoes (to 6/6)
2.5	• Relate the number ten to nearby numbers.	D5		35-36		Ten-mats; cups or bags of pattern blocks; Jumbo Cubes and cards Blank cards
2.6	• Analyze, display, and organize data in a tally chart.	E, E1	12	37-38		Pattern blocks
2.7	• Count on 1, 2, or 3 (using objects).	E2	13	39-40	2.5	Stick-on notes; piggy bank or cup; pennies; Target Mat 1; Beanbags Linking cubes; dominoes (to 9/9(; egg timer
2.8	• Count on 1, 2, or 3 (using pictures). • Begin to learn and apply count-on 1, 2, 3 addition facts.	E3		41-42	1.9-1.12, 2.6	Count-On Cards; Jumbo Cubes and cards Labeled cubes; counters
2.9	• Model and solve addition problems. • Recognize and describe number patterns.	E4		43-44	2.7	Cookie jar or container; linking cubes Dominoes (to 6/6)
2.10	• Model and solve subtraction problems (using pictures).	E5		45-46	2.8	The Icky Sticky Trap; counters (optional); labeled cubes Fish-shaped crackers; labeled cubes; pennies
2.11	• Model and solve subtraction problems (using pictures).	F, F1		47-48	2.9	The Icky Sticky Trap; stick-on notes Egg cartons; counters; labeled cubes
2.12	• Use, and begin to read and write, language related to subtraction.	F2	14-15	49-50		Linking cubes Large sheets of paper

2.13	• Model and solve subtraction problems (using objects).	F3	14-15	51-52		Two-color magnets; two-color counters
2.14	• Model and solve subtraction problems (using objects and pictures).	F4	14-15	53-54		Number mats (and OHTs 1 and 2); linking cubes Bowling pins or paper cups; a ball
2.15	• Begin to understand the relationship between addition and subtraction	F5	16-17	55-56		Linking cubes Children's artwork and number stories from Lessons 2.11, 2.12, or 2.13
Assessment Suggestions	***Assessment Book*** Forms 2.1 to 2.5 and D.2					

*Blackline Masters have been coded for: Extra Help (H), Practice (PP, and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

1st Grade Planning Details – Topic 3

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
3.1	• Read and show on-the-hour times on an analog clock. • Give the time one hour before or after an on-the-hour time.	G, G1	18	57-58	1.17H, 3.1P, 3.2P	Stick-on notes; demonstration clock; student clocks; cards made from a copy of *Student Book* page 57 Paper fasteners; paper circles
3.2	• Read and show on-the-hour times on an analog clock. • Give the time one hour before or after an on-the –hour time	G2		59-60		*Clarence the Clock;* geared demonstration clock; student clocks; Jumbo Pocket Cube and cards Coin cards (BLMs 3.1, 3.2)
3.3	• Trade 5 pennies for a nickel, and vice versa, and show amounts to 10¢ in different ways.	G3		61-62	3.3, 3.4, 3.5Ch	Pennies and nickels (real, plastic, and overhead transparency); Jumbo Cube and cards
3.4	• Trade 10 pennies for a dime, and vice versa, and show amounts to 20¢ in different ways.	G4	19	63-64	3.6, 3.7 PCh, 3.8P	Pennies, nickels, and dimes (real, plastic and overhead transparency); counters; labeled cubes Coin cards (BLMs 3.3, 3.4); coin stamps
3.5	• Count on from 5 or 10 to determine an amount shown with coins. • Add two amounts, each less than 10¢	G%	19	65-66	3.9 HPCh	Coins (plastic, overhead transparency); Jumbo Cubes with coin cards Cards (BLMs 3.3-3.5); counters
3.6	• Analyze and interpret data in a graph, and solve related problems. • Gather data and represent it in a graph	H, H1	20	67-68	2.5H	Classroom store items tagged with prices to 10¢ or cards from BLM 3.3 or 3.4 Jumbo Cubes and cards; pennies
3.7	• Solve problems involving money.	H2		69-70	3.10Ch	Plastic coins; toys tagged 2¢, 3¢, 4¢, 5¢ (optional); items for a classroom store (with price tags); resealable plastic bags of coins

3.8	• Analyze and interpret data in a graph, and solve related problems. • Measure length with multiple copies of the same nonstandard unit laid end to end.	H3	21	71-72	3.11H	Toy snake or other long, thin object; tiles; linking cubes Centimeter cubes (base-ten ones); art paper
3.9	• Measure length with multiple copies of the same nonstandard unit laid end to end. • Use tools to measure length	H4		73-74	3.12	*The Crocodile's Coat;* base-ten rods (optional); tape; chalk Stick-on notes; Graphing Chart
3.10	• Measure length with multiple copies of the same nonstandard unit laid end to end. • Analyze and interpret data in a tally chart.	H5	22	75-76		Tiles; paper clips; centimeter cubes (base-ten ones); linking cubes; links
Assessment Suggestions		***Assessment Book*** Forms 2.1 to 2.5 and D.2				

*Blackline Masters have been coded for: Extra Help (H), Practice (PP, and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

1st Grade Planning Details – Topic 4

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
4.1	• Represent a teen number as a group of ten and "leftover" ones. • Read and write numerals to 20.	I,I1	23	77-78	4.2P, 4.4P, 4.5P	Place-value cards; linking cubes Counters
4.2	• Read and write numerals to 20 and begin to read words to twenty.	12		79-80	4.6,4.7	Numeral expander, OHT 4; Number Friezes (0-10, 11-20); linking cubes; whiteboards Clothes hangers; clothespins; cups; labeled cubes
4.3	• Compare two numbers (up to 20) and say which is greater.	13	24	81-82	4.1-4.4 H	Jumbo Pocket Cubes and cards; linking cubes; cards (BLMs 4.2-4.4); counters; labeled cubes; blank cubes
4.4	• Identify the least/greatest number. • Arrange three numbers (up to 20) in increasing order.	14	24	83-84		Stick-on notes; place-value cards; linking cubes Cards (BLMs 4.1-4.4)
4.5	• Analyze a repeating pattern and identify the part that repeats. • Recognize, describe, and extend patterns that repeat.	15	25	85-86	2.5P	Attribute blocks; links counters
4.6	• Analyze repeating patterns. • Translate patterns from one representation to another.	J, J1		87-88		*The Pitterpats;* linking cubes; links; tiles; counters; Pattern sponge stamps; pattern block rubber stamps; Jumbo Cubes and cards; plastic pennies, nickels, and dimes; coin stamps

4.7	• Analyze repeating pattern and identify the part that repeats. • Recognize, describe, extend, and create patterns that repeat	J2		89-90	4.8H, 4.9, 4.10Ch	Overhead pattern blocks; pattern blocks; counters; tiles; linking cubes; links; toothpicks or drinking straws; paper cups
4.8	• Recognize, describe, extend, and create patterns that repeat. • Use numbers to describe a pattern that reapeats.	J3	26	91-92		Tiles; stick-on notes Pattern blocks
4.9	• Recognize, describe, extend, and create patterns that grow. • Use numbers to describe a pattern that grows.	J4	26-27	93-94		Tiles; stick-on notes Pattern blocks
4.10	• Classify numbers as even or odd • Count by twos, starting from 2 or 1.	J5	27	95-96	4.1H	Number mats; linking cubes; Jumbo Cubes and cards Cards (BLMs 4.1-4.4); labeled cubes; counters
4.11	• Count by twos, starting form any number less than 10.	K, K1	28-29	99-100		Frog pointer (from BLM 4.12): counters Labeled cubes; two-color counters
4.12	• Count back by ones or twos, starting from any number to 20.	K2	28-29	101-102	4.5H, 4.11P, 4.13Ch	Frog pointer; Jumbo Cubes and cards Labeled cubes; counters
4.14	• Identify patterns in a sequence of number sentences. • Use number patterns to help add.	K4	30	103-104		Linking cubes Number mats; labeled cubes
4.15	• Double numbers from 1 to 10, and write related addition sentences.	K5	31	105-106	4.14, 4.15HPCh	Art paper; paint Clothes hangers, clothespins; items for a display of doubles
Assessment Suggestions			***Assessment Book*** Forms 2.1 to 2.5 and D.2			

*Blackline Masters have been coded for: Extra Help (H), Practice (PP, and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

1st Grade Planning Details – Topic 5

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
5.1	• Write number sentences to model situations that involve addition	L, L1	31-33	107-108	5.6 HCh	Linking cubes
5.2	• Use the "turnaround" idea (commutative property) to figure out related addition facts.	L2	34	109-110		Clothespins and hangers; number mats; whiteboards; Jumbo Pocket Cubes and cards; labeled cubes; linking cubes
5.3	• Count on 1, 2, or 3 to add (using objects; totals less than 20) • Use the "turnaround" idea to figure out related addition facts.	L3		111-112	2.6H, 4.6, 4.5P	OHT 4; counters; whiteboards; linking cubes; Count-On Cards; labeled cubes

5.4	• Decompose a number by "breaking" it into two parts • Write number sentences to model situations that involve addition	L4	35	113-114		Target Mat 1; Beanbags; number mats and OHTs 1 and 2; linking cubes; counters
5.5	• Add three or more numbers. • Use the "turnaround" idea to figure out related addition facts.	L5		115-116	2.2H	Links or linking cubes; whiteboards Linking cubes; labeled cubes, large sheets of paper
5.6	• Use and interpret vertical recording of addition	M, M1	32-33	117-118		Part-part-total mats and OHT 3; double-six dominoes; linking cubes Count-On Cards; place-value cards
5.7	• Create, model, and solve subtraction problems. • Write number sentences to model situations that involve subtraction.	M2	36	119-120	5.7H, 5.8P	Number mats and OHTs 1 and 2; counters; linking cubes Labeled cubes, pennies
5.8	• Use and interpret the –sign • Write number sentences to model situations that involve subtraction	M2		121-122	5.8P	*The Icky Sticky Trap;* linking cubes; number mats; whiteboards Labeled cubes
5.9	• Use and interpret the – sign. • Write number sentences to model situations that involve subtraction.	M4	37	123-124	5.8H	Linking cubes; number mats Labeled cubes
5.10	• Creat, model, and solve addition problems. • Write number sentences to model situations that involve addition.	M5	38	125-126	3.4HP	Linking cubes
5.11	• Write number sentences to model situations that involve subtraction. Understand the relationship between addition and subtraction.	N, N1	38-39	127-128	5.9HPCh, 5.10H, 5.11P	Linking cubes; children's work from Lesson 5.10 Tiles or one-inch square cards
5.12	• Write related subtraction facts to model situations that show two parts.	N2		129-130	5.12HPCh, 5.9, 5.11, 5.13P	*Ten Friendly Frogs;* counters or linking cubes; two-color magnets Double-nine dominoes
5.13	• Understand the relationship between addition and subtraction. • Write a "family" of facts to model situations that show two parts.	N3		131-132	5.14	*Ten Friendly Frogs;* linking cubes; Jumbo Cubes and cards; Labeled cubes; cups; two-color counters; number mats; counters
5.14	• Create, model, and solve addition and subtraction problems. • Understand the relationship between addition and subtraction.	N4	40-41	133-134		Linking cubes

5.15	• Analyze, interpret, and compare data in a tally chart and a bar graph.	N5	42	135-136	5.15	Paper clips or bobby pins; paper fasteners or pencils; tiles
Assessment Suggestions		***Assessment Book*** Forms 5.1 to 5.5 and D.4				

*Blackline Masters have been coded for: Extra Help (H), Practice (P), and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

1st Grade Planning Details – Topic 6

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
6.1	• Read and interpret ordinal numbers (to twelfth/12th). • Use numerals to write ordinal numbers (to 12th).	O,O1		137-138	6.6P., 6.7Ch	Jumbo Pocket Cubes and cards; whiteboards; 12 carpet squares; links Tiles; two-color counters; sentence strips; a tub
6.2	• Count by tens. • A multiple of 10 as groups of 10. • Read and write number words and numerals for multiples of 10 (to 90)	O2		139-140	6.8P, 6.9P, 6.10P	Linking cubes; Number Friezes (0-10, multiples of 10); two-digit numeral expander; small cards; envelopes; Jumbo Cubes and cards; place-value cards; whiteboards
6.3	• Count by tens. • Join and separate multiples of 10. • Read and write number words and numerals for multiples of 10 (to 90)	O3	43	141-142	6.11P. 6.12P. 6.9, 6.10P (Optional)	Linking cubes; 2 tubs (optional)
6.4	• Represent a two-digit number as tens and ones (concrete/pictorial models). • Interpret number words as tens and ones, and vice versa.	O4		143-144	6.13, 6.14 HPCh	Linking cubes; Number Friezes (0-10, multiples of 10); whiteboards; Jumbo Cubes and cards
6.5	• Represent a two-digit number as tens and ones (concrete/pictorial models). • Read and write two-digit numerals.	O5		145-146	4.7, 6.13	Linking cubes; two-digit numeral expander; base-ten blocks; Jumbo Cubes and cards Counters
6.6	• Represent a two-digit number as tens and ones (concrete/pictorial models). • Read and write two-digit numerals.	P, P1		147-148	4.7, 6.15H, 6.16P	Linking cubes; base-ten blocks; craft sticks; coins (plastic and overhead transparency); two-digit numeral expander; whiteboards Resealable bags; labeled cubes
6.7	• Represent a two-digit number as tens and ones (concrete/pictorial models). • Interpret number words or numerals as tens and ones, and vice versa.	P2	44-45	149-150	6.17HP, 6.18	Two-digit numeral expander; place-value cards; whiteboards; Number Frieze (11-20)

6.8	• Match two-digit number words (oral/written) and numerals. • Read a number word and write the numeral.	P3		151-152	6.19HP	Jumbo Cubes and cards; Days in School Hundred Chart; place-value cards; counters or pattern blocks
6.9	• Interpret number words as tens and ones, and vice versa. • Read a number word and write the numeral.	P4	46-47	153-154		Place-value cards; base-ten blocks; Number Friezes (0-10, multiples of 10); two-digit numeral expander; wax sticks (optional); plastic coins; linking cubes
6.10	• Model and write the number that is 1 or 10 more or less than a given two-digit number.	P5	48	155-156	6.13H, 6.19Ch, 6.20HP	Base-ten blocks; hundred chart; prediction window Labeled cubes; counters
Assessment Suggestions		***Assessment Book*** Forms 5.1 to 5.5 and D.4				

*Blackline Masters have been coded for: Extra Help (H), Practice (P), and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

1st Grade Planning Details – Topic 7

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
7.1	• Recognize and name 2-D shapes. • Describe attributes and parts of 2-D shapes.	Q, Q1	49	157-158	7.6, 7.7H	Geoboards and rubber bands Attribute block; pattern blocks
7.2	• Recognize and name 3-D shapes.	Q2		159-160		3-D wooden shapes; packaging and craft materials; Jumbo Cubes and cards; bags; magazines
7.3	• Recognize and name 3-D shapes. • Recognize and name 2-D faces of 3-D shapes.	Q3	50	161-162	7.8, 7.9, 7.10H	3-D wooden shapes; paint and a piece of scrap lumber (optional); small stickers or stick-on notes; removable adhesive or glue; Jumbo Cubes and cards
7.4	• Describe attributes and parts of 3-D shapes.	Q4	51	163-164	7.11H	Jumbo Cubes and cards; 3-D wooden shapes Blank cards
7.5	• Compare and order containers according to their capacity. • Use nonstandard units to measure capacity.	Q5		165-166	2.5, 7.12P	Containers and labels; rice or water; a lid or small scoop; a funnel (if necessary) Another lid or scoop
7.6	• Use a standard measuring cup to measure capacity. • Solve problems involving capacity.	R, R1		167-168		Measuring cups; recipe book (optional); containers; rice or colored water; linking cubes; bowls; a large pan; rice; ingredients for fruit punch
7.7	• Investigate the relationship between the size of a unit of capacity and the number of units required. • Solve problems involving capacity.	R2	52	169-170		Assorted bottles and cups; a funnel; colored water; wax sticks
7.8	• Compare and order objects according to their weight. • Use a pan balance to measure weight in nonstandard units.	R3		171-172		Pan blance; objects from the classroom; linking cubes; assorted containers; rice

7.9	• Use a pan balance to measure weight in nonstandard units. • Collect, record, interpret, and analyze data.	R4		173-174	7.13	Pan balance; linking cubes; socks or paper fish from BLM 7.13; pattern blocks An erasable sentence strip; objects from the classroom
7.10	• Interpret and analyze data in a bar graph. • Create and solve problems involving weight.	R5	53	175-176		Blank cards; sentence strips
Assessment Suggestions		***Assessment Book*** Forms 7.1 to 7.5 and D.7				

*Blackline Masters have been coded for: Extra Help (H), Practice (P), and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

Subject Area: Math – Topic 1 **Length of Unit:** 15 lessons

Instructor: Grade 1 Teacher

Standards
1. Content Problem Solving
2. Algebra
5. Probability Statistics

Benchmarks
1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
2.4 Read basic displays of data on graphs
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 1	Can count, order, write, and identify numbers 1-100	On-going = in- class observation & portfolio pieces -Periodic = check-up test, performance tasks, & practice tests	HOTS, MCGF, LS, SPECIAL, AR, TAG. TECH
2.4	Topic 1	Understand simple repeating patterns (e.g., skip counting patterns; repeating patterns in designs)	On-going = in- class observation & portfolio pieces -Periodic = check-up test, performance tasks, & practice tests	HOTS, MCGF, LS, SPECIAL, AR, TAG. TECH
5.2	Topic 1	Read basic displays of data on graphs	On-going = in- class observation & portfolio pieces -Periodic = check-up test, performance tasks, & practice tests	HOTS, MCGF, LS, SPECIAL, AR, TAG. TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math - Topic 2 **Length of Unit:** 15 lessons

Instructor: Grade 1 Teacher

Standards
1. Content Problem Solving
2. Algebra

Benchmarks
1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations.
2.1 Use and interpret operations and relational symbols (equal, greater than, less than).
2.3 Use expressions to model situations solving simple open sentences.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 2	Know Basic addition and subtraction facts to 10 *1- understands the concept of one-half	On-going = in- class observation & portfolio pieces -Periodic = check-up test, performance tasks, & practice tests	HOTS, MCGF, LS, SPECIAL, AR, TAG. TECH
2.1	Topic 2	Use oral, symbolic, and pictorial forms to represent problem situations (e.g., translate from pictures of objects to numerical expressions)	On-going = in- class observation & portfolio pieces -Periodic = check-up test, performance tasks, & practice tests	HOTS, MCGF, LS, SPECIAL, AR, TAG. TECH
2.3	Topic 2	Solve single-step problems involving addition and subtraction	On-going = in- class observation & portfolio pieces -Periodic = check-up test, performance tasks, & practice tests	HOTS, MCGF, LS, SPECIAL, AR, TAG. TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math – Topic 3

Length of Unit: 10 lessons

Instructor: Grade 1 Teacher

Standards 4. Measurement

Benchmarks 4.2 Measure length/distance, time, temperature, weight, mass and volume.
4.3 Estimate measurements with appropriate precision (solving problems involving money).

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
4.2	Topic 3	Tell time to the hour and half-hour	On-going = in- class observation & portfolio pieces -Periodic = check-up test, performance tasks, & practice tests	HOTS, MCGF, LS, SPECIAL, AR, TAG. TECH
4.3	Topic 3	Can name and understand the value of penny, nickel, dime, quarter	On-going = in- class observation & portfolio pieces -Periodic = check-up test, performance tasks, & practice tests	HOTS, MCGF, LS, SPECIAL, AR, TAG. TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math – Topic 4 **Length of Unit:** 15 lessons

Instructor: Grade 1 Teacher

Standards
1. Content Problem Solving
2. Algebra

Benchmarks
1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format.
2.4 Read basic displays of data on graphs.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 4	Can count, order, write, and identify numbers 1-100	On-going = in- class observation & portfolio pieces -Periodic = check-up test, performance tasks, & practice tests	HOTS, MCGF, LS, SPECIAL, AR, TAG. TECH
2.4	Topic 4	Understand simple repeating patterns (e.g., skip counting patterns; repeating patterns in designs)	On-going = in- class observation & portfolio pieces -Periodic = check-up test, performance tasks, & practice tests	HOTS, MCGF, LS, SPECIAL, AR, TAG. TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math - Topic 5 **Length of Unit:** 15 lessons

Instructor: Grade 1 Teacher

Standards
1. Content Problem Solving
2. Algebra

Benchmarks
1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations.
2.2 Use and interpret operations and relational symbols (equal, greater than, less than).
2.3 Use expressions to model situations solving simple open sentences.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 2	Know Basic addition and subtraction facts to 10 *1- understands the concept of one-half	On-going = in- class observation & portfolio pieces -Periodic = check-up test, performance tasks, & practice tests	HOTS, MCGF, LS, SPECIAL, AR, TAG. TECH
2.1	Topic 2	Use oral, symbolic, and pictorial forms to represent problem situations (e.g., translate from pictures of objects to numerical expressions)	On-going = in- class observation & portfolio pieces -Periodic = check-up test, performance tasks, & practice tests	HOTS, MCGF, LS, SPECIAL, AR, TAG. TECH
2.3	Topic 2	Solve single-step problems involving addition and subtraction	On-going = in- class observation & portfolio pieces -Periodic = check-up test, performance tasks, & practice tests	HOTS, MCGF, LS, SPECIAL, AR, TAG. TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math – Topic 6 **Length of Unit:** 10 lessons

Instructor: Grade 1 Teacher

Standards 1. Content Problem Solving

Benchmarks 1.3. Classify numbers by divisibility (multiply, divide & classify whole numbers with & without remainders) order of magnitude.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.3	Topic 6	Understand the concept of place value through the tens place	On-going = in- class observation & portfolio pieces -Periodic = check-up test, performance tasks, & practice tests	HOTS, MCGF, LS, SPECIAL, AR, TAG. TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math – Topic 7 **Length of Unit:** 10 lessons

Instructor: Grade 1 Teacher

Standards 3. Geometry
4. Measurement

Benchmarks 4.1 Identify and use appropriate units of measurement (metric, US).
3.1 Identify, classify, and compare geometric figures knowing basic geometric language for shapes.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
4.1	Topic 7	Know the days of the week in order and understand the relationship between days and weeks	Ongoing = In class observation, portfolio pieces -Periodic = check- up test, performance task, practice test	HOTS, MCGF, LS, SPECIAL, AR, TAG, TECH
3.1	Topic 7	Names solid and geometric figures Mastery of circle, square, triangle, and rectangle	Ongoing = In class observation, portfolio pieces -Periodic = check- up test, performance task, practice test	HOTS, MCGF, LS, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math – Topic 8 **Length of Unit:** 15 lessons

Instructor: Grade 1 Teacher

Standards 1. Content Problem Solving
4. Measurement

Benchmarks 1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations
4.3 Estimate measurements with appropriate precision (solving problems involving money)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 8	Know basic addition and subtraction facts to 10 Understands the concept of one-half	Ongoing = In class observation, portfolio pieces -Periodic = check- up test, performance task, practice test	HOTS, MCGF, LS, SPECIAL, AR, TAG, TECH
4.3	Topic 8	Can name and understand the value of penny, nickel, dime, and quarter	Ongoing = In class observation, portfolio pieces -Periodic = check- up test, performance task, practice test	HOTS, MCGF, LS, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math - Topic 10 **Length of Unit:** 15 lessons

Instructor: Grade 1 Teacher

Standards
1. Content Problem Solving
2. Measurement

Benchmarks
1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations.
4.3 Measurements with appropriate precision (solving problems involving money).
1.4 Check reasonability of answers by performing operations & rounding.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 10	Knows basic addition and subtraction facts to 10 Understands the concept of one-half	Ongoing = In class observation, portfolio pieces -Periodic = check- up test, performance task, practice test	HOTS, MCGF, LS, SPECIAL, AR, TAG, TECH
4.3	Topic 10	Can name and understand the value of penny, nickel, dime, and quarter	Ongoing = In class observation, portfolio pieces -Periodic = check- up test, performance task, practice test	HOTS, MCGF, LS, SPECIAL, AR, TAG, TECH
1.4	Topic 10	Understand basic rounding techniques (e.g., rounding to the nearest ten in contextual situations) 1- Restate problems in own words to demonstrate understanding [N]	Ongoing = In class observation, portfolio pieces Periodic = check- up test, performance task, practice test	HOTS, MCGF, LS, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math – Topic 9 **Length of Unit:** 10 lessons

Instructor: Grade 1Teacher

Standards 4. Measurement
3. Geometry

Benchmarks 4.1 Identify and use appropriate units of measurement (METRIC, US).
3.1 Identify, classify, and compare geometric figures knowing basic geometric language for shapes.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
4.1	Topic 9	Know the days of the week in order and understand the relationship between days and weeks	Ongoing = In class observation, portfolio pieces -Periodic = check- up test, performance task, practice test	HOTS, MCGF, LS, SPECIAL, AR, TAG, TECH
3.1	Topic 9	Names solid geometric figures (3D) Mastery of circle, square, triangle, and rectangle (2D)	Ongoing = In class observation, portfolio pieces -Periodic = check- up test, performance task, practice test	HOTS, MCGF, LS, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math – Topic 11 **Length of Unit:** 15 lessons

Instructor: Grade 1Teacher

Standards 1. Content Problem Solving
4. Measurement

Benchmarks 1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations.
4.2 Measure length/distance, time, temperature, weight, mass and volume.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 11	Know basic addition and subtraction facts to 10 Understands the concept of one-half	Ongoing = In class observation, portfolio pieces -Periodic = check- up test, performance task, practice test	HOTS, MCGF, LS, SPECIAL, AR, TAG, TECH
4.2	Topic 11	Tell time to the hour and half hour	Ongoing = In class observation, portfolio pieces Periodic = check- up test, performance task, practice test	HOTS, MCGF, LS, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: Math – Topic 12 **Length of Unit:** 15 lessons

Instructor: Grade 1 Teacher

Standards
1. Content Problem Solving
4. Measurement

Benchmarks
1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations.
4.3 Estimate measurements with appropriate precision (solving problems involving money)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 12	Know basic addition and subtraction facts to 10 Understands the concept of one half	Ongoing = In class observation, portfolio pieces -Periodic = check- up test, performance task, practice test	HOTS, MCGF, LS, SPECIAL, AR, TAG, TECH
4.3	Topic 12	Can name and understand the value of penny, nickel, dime, and quarter	Ongoing = In class observation, portfolio pieces -Periodic = check- up test, performance task, practice test	HOTS, MCGF, LS, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Quarter

Name_____

☐	Not evaluated at this time
☒	Progress being made
☒	Skill accomplished

1	2	3	4	First Grade Math
				Creates a pattern (2.4)
				Extends a pattern (2.4)
				Can Count to 100 independently (1.1)
				Can write numbers to 100 _____ (1.1)
				Can order numbers to 100 _____ (1.1)
				Can identify numbers to 100 _____ (1.1)
				Uses manipulatives and drawing to solve addition problems (2.1)
				Uses manipulatives and drawing to solve subtraction problems (2.1)
				Know basic addiction facts to 10 (1.2) (2.3)
				Know basic subtraction facts to 10 (1.2) (2.3)
				Can name ____penny ____nickel ____dime ____quarter (4.3)
				Can tell the value of ____penny ____nickel ____dime ____quarter (4.3)
				Can tell time to the ____hour ____half hour (4.2)
				Understand the concept of place value through the tens place (1.3)
				Names basic geometric figures ____circle, ____square, ____triangle, ____rectangle (3.1)
				Knows the days of week in order (4.1)
				Understands relationship between days and weeks (4.1)
				Understand basic rounding techniques (1.4)
				Is able to restate problems by speaking or writing to demonstrate understanding of addition (1.4)
				Is able to restate problems by speaking or writing to demonstrate understanding of subtraction (1.4)
				Reads simple graphs (5.2)

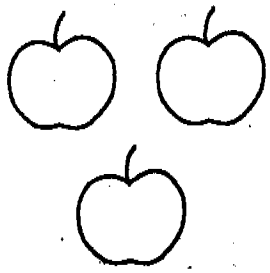
Name _____ Date _____

2.3. Use expressions to model situations solving simple open sentences.

1 - Solve single-step problems involving addition and subtraction

1. Draw more apples.

   Write an addition sentence to match.

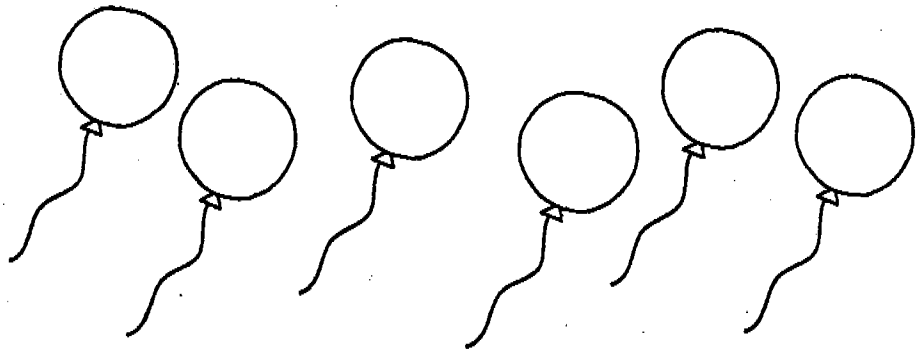


_____

_____

2. Cross out some balloons.

   Write a subtraction sentence to match.



_____

_____

3. Add. Write the numbers.

_____ + _____ + _____ = _____

4. Write the fact family.

_____ + _____ = _____

_____ + _____ = _____

_____ - _____ = _____

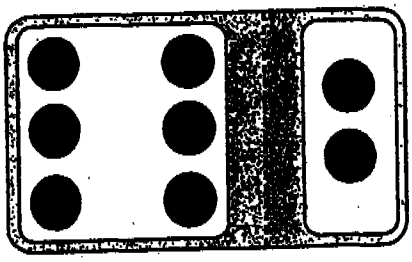
_____ - _____ = _____

2. Algebra

2.1 Use and interpret operations and relational symbols (equal, greater than, less than)

1 - Use oral, symbolic, and pictorial forms to represent problem situations (e.g., translate from pictures of objects to numerical expressions)

5. Which number goes in the ☐ ?



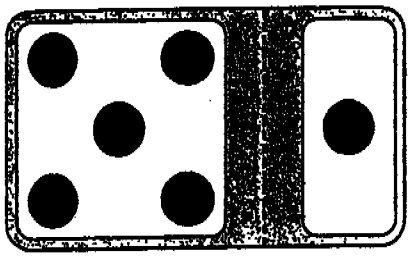
6 + ☐ = 8

2

6

14

6. Which number goes in the ☐ ?



5 + 1 = ☐

5

6

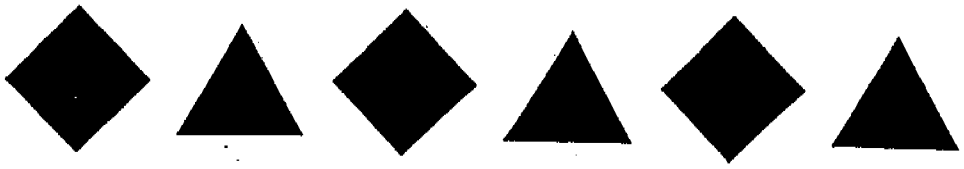
7

2.4. Understand and explore numerical patterns

1 - Understand simple repeating patterns (e.g., skip counting patterns: repeating patterns in designs

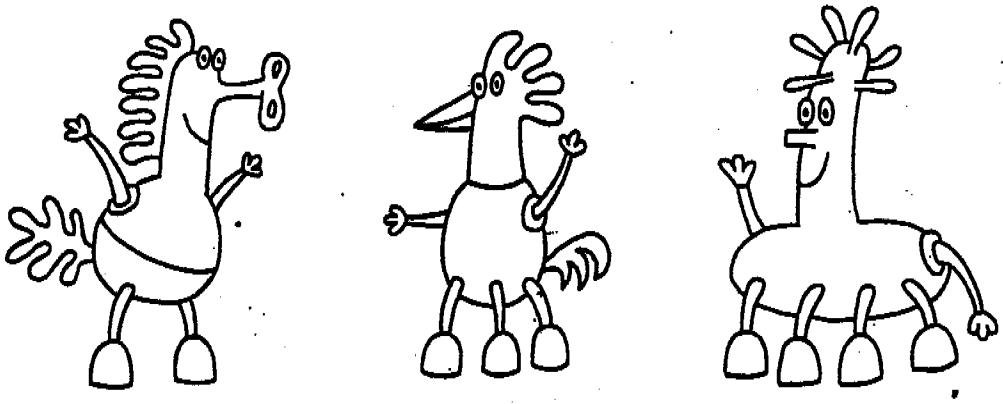
*1 - Extend simple repeating patterns

7. Which shape comes next?



8. Which shape comes next?

9. Which Pitterpat made this pattern?



A B C

A

B

C

1.2. Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations.

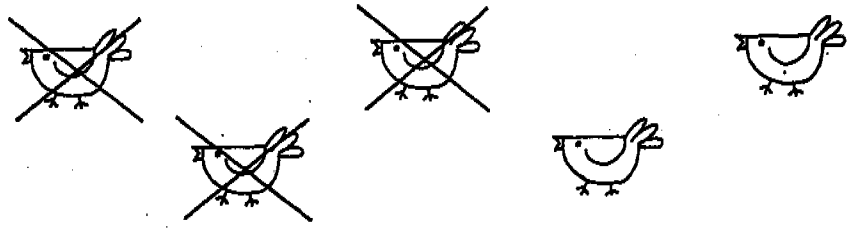
1 - Know basic addition and subtraction facts to 10

*1 - Understands the concept of one-half

*1 - Uses positional language terms (left, right, ordain #s)

*1 - Understand basic addition & subtraction facts to 18.

10.



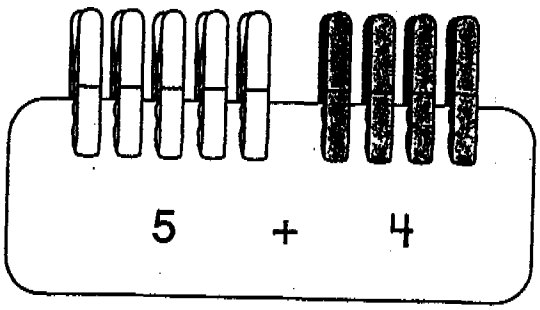
8

3

2

5 birds. ☐ Fly away. 2 are left.

11. Which number is the total?

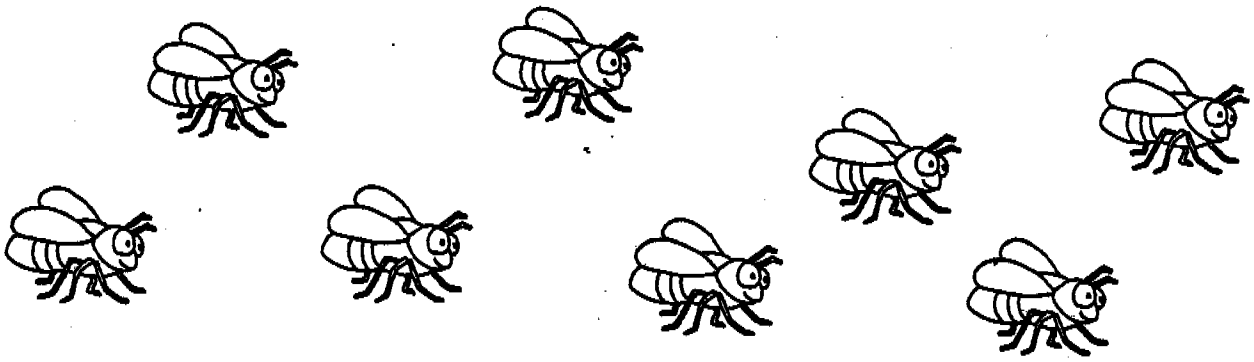


9

5

4

12. Cross out bees to show the story. Write the number.



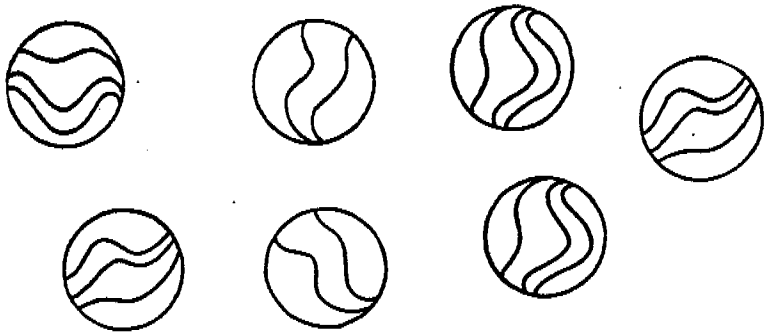
8 bees. 3 bees fly away. ____ Bees are left.

1. Content problem solving

1.1. Count, read, write, represent, compare and order numbers in regular, expanded and exponential format.

1 - Can count, order, write, and identify numbers 1-100.

13. How many?



six

seven

eight

14. Which number comes next?

10	11	12	13	

12

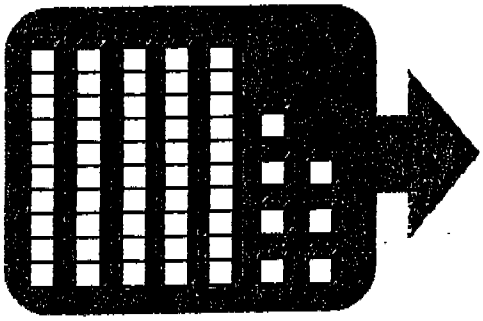
14

15

1.3. Classify numbers by divisibility (multiply, divide and classify whole numbers with a without remainders) order of magnitude.

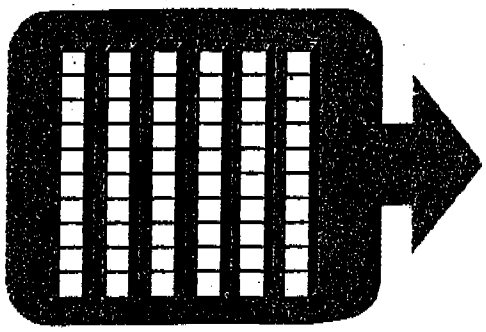
1 - Understand the concept of place value through the tens place

15. Write the numbers.



_____

16.



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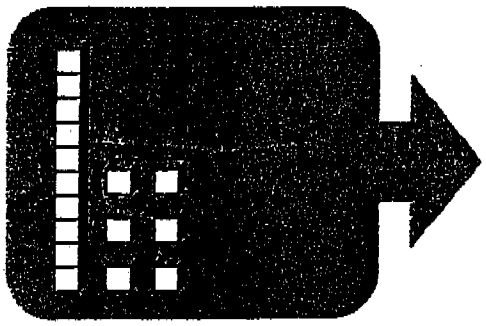
17.



_____

2.3. Use expressions to model situations solving simple open sentences.
1 - Solve single-step problems involving addition and subtraction

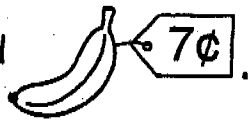
18. Sue had 10 cents.

She bought 

How much did she have left?

_____¢

19. Ben bought 

and 

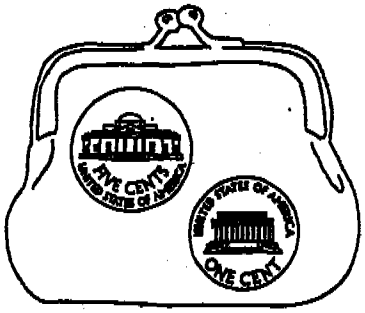
.

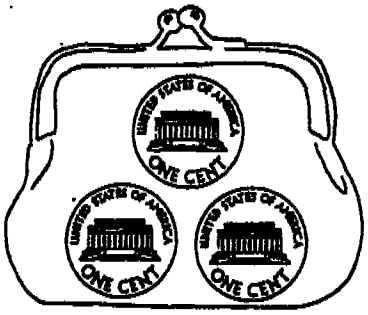
How much did he spend?

_____¢

4.3. Estimate measurements with appropriate precision (solving problems involving money)
1 - Can name and understand the value of penny, nickel, dime and quarter
*1 - Understand the process of counting pennies, nickels, dimes, and quarters.

20. Write the amounts. Add. Write the total.

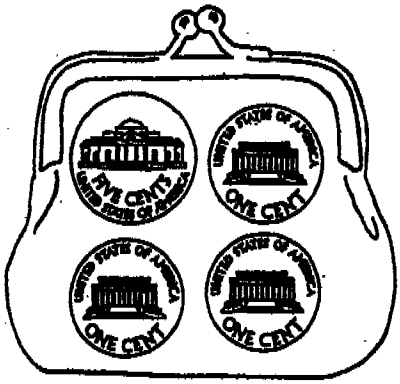




Total _____¢

_____¢ _____¢

21. How much is in the purse?

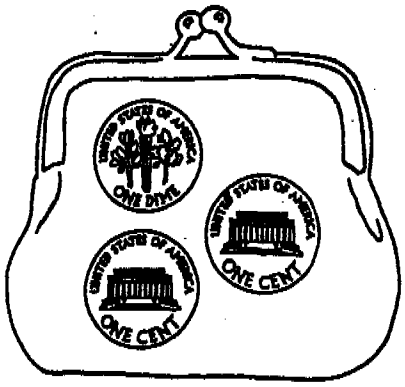


4¢

8¢

12¢

22. How much is in the purse?



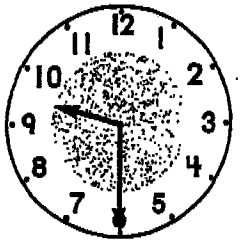
8¢

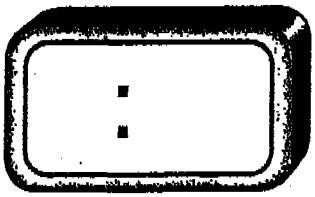
11¢

12¢

4.2. Measure length/distance, time, temperature, weight, mass and volume.
1 - Tell to the hour and half hour
*1 - Understand the process of measuring length & weight.

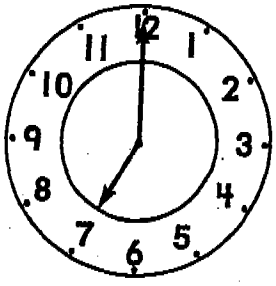
23. Show the time on the digital clock. Write the time





_____ o'clock

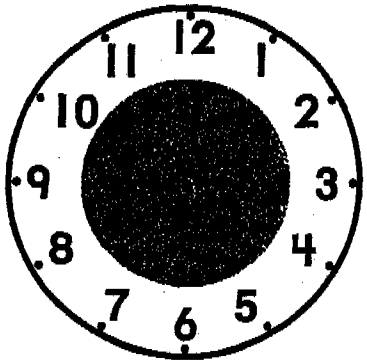
24. Tell the time



_____ o'clock

25. Draw the hands.

5 o'clock.



4. Identify and use appropriate units of measurement (metric, us)
1 - Know the days of the week in order and understands the relationship between (days) and weeks.

26. How many days are in a week? 3
6
7

27. What day comes before Tuesday? Monday
Sunday
Saturday

28. What day comes after Friday?

Monday
Saturday
Wednesday

5. Probability statistics

5.2. Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.

1 - Read basic displays of data on graphs

29. Use the chart to answer the questions below.

Number of of Rice	
A	𝍸 ||||
B	𝍸 𝍸 𝍸
C	𝍸 |||

Which holds the most?

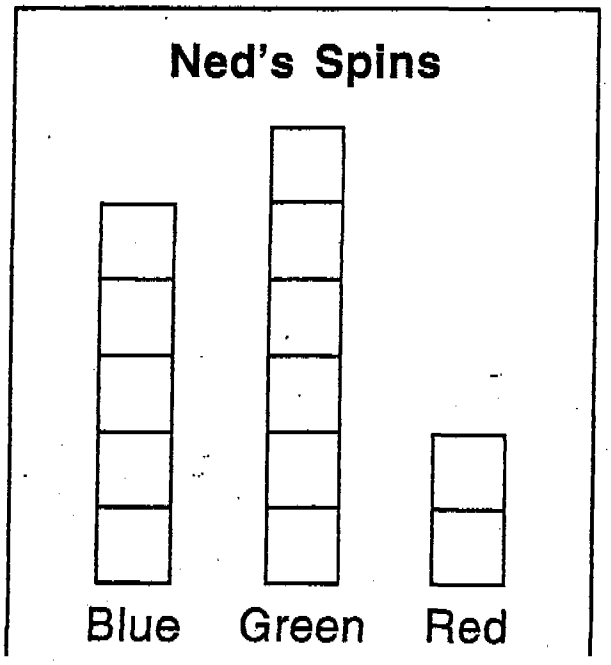
A B C

30. Use the graph to answer the questions below.

Weight (in)	

Which is the lightest?

31. Use the bar chart to answer the question



Which color Did Ned spin Most often?

Blue

Green

Red

1.4. Check reasonability of answers by performing operations & rounding.
1 - Understand basic rounding techniques (e.g., rounding to the nearest ten in contextual situations)
1 - Restate problems in own words to demonstrate understanding

32. Sam has 11 cookies. Which number of cookies is Sam closest to?
0
10
20

33. When there are 17 cupcakes in a box, there are almost ____ cupcakes.
20
40
80

34. Jill has 9 candles on her birthday cake. She is closest to _____ years old.
30
10
20

MATH
STANDARDS & BENCHMARKS
GRADE LEVEL INDICATORS- GRADE 2
***To provide for more continuity, these additions will be introduced but not tested.**

1. CONTENT PROBLEM SOLVING

1.1. COUNT, READ, WRITE, REPRESENT, COMPARE AND ORDER NUMBERS IN REGULAR, EXPANDED AND EXPONENTIAL FORMAT

2 – CAN COUNT, ORDER, WRITE, IDENTIFY 1-1000

1.2. DESCRIBE AND APPLY PROPERTIES OF WHOLE NUMBERS AND FRACTIONS IN PHYSICAL, VERBAL AND SYMBOLIC REPRESENTATIONS.

2 – MASTERY OF ADDITION AND SUBTRACTION FACTS TO 10
2 – KNOW ADDITION AND SUBTRACTION TO 18
2 – CAN SOLVE ADDITION AND SUBTRACTION OF TWO-DIGIT NUMBERS WITH AND WITHOUT REGROUPING
*2 – Knows fractions of ½, 1/3, and ¼

1.3. CLASSIFY NUMBERS BY DIVISIBILITY (MULTIPLY, DIVIDE & CLASSIFY WHOLE NUMBERS WITH & WITHOUT REMAINDERS) ORDER OF MAGNITUDE.

2 – UNDERSTAND THE CONCEPT OF PLACE VALUE FOR WHOLE NUMBERS THROUGH THE HUNDREDS PLACE (I.E., ONES, TENS, and HUNDREDS)
*2 – Can use repeated addition to describe equal groups.

1.4. CHECK REASONABILITY OF ANSWERS BY PERFORMING OPERATIONS & ROUNDING.

2 – KNOW THE DIFFERENCE BETWEEN PERTINENT AND EXTRANEOUS INFORMATION WHEN SOLVING PROBLEMS
2 – ESTIMATE REASONABLE SOLUTIONS TO PROBLEMS [N]
2 – USE A VARIETY OF PROBLEM-SOLVING STRATEGIES

2. ALGEBRA

2.2. SOLVE EQUATIONS AND INEQUALITIES

2 – EXTEND AND UNDERSTAND THE RULE OF A WIDE VARIETY OF PATTERNS (LINEAR AND NON-LINEAR)
*2 – Describe, interpret, and apply ideas about direction and distance in navigating space (coordinates).

2.3. USE EXPRESSIONS TO MODEL SITUATIONS SOLVING SIMPLE OPEN SENTENCES.

2 – SOLVE SIMPLE OPEN NUMBER SENTENCES

2.4. UNDERSTAND AND EXPLORE NUMERICAL PATTERNS

*2 – Can count by 2's, 3's, 5's, 10's and odd and even numbers.

3. GEOMETRY

3.1. IDENTIFY, CLASSIFY, AND COMPARE GEOMETRIC FIGURES KNOWING BASIC GEOMETRIC LANGUAGE FOR SHAPES.

*2 – Mastery of solid geometric figures (3-D)

3.2. DESCRIBE GEOMETRIC PROPERTIES, PATTERNS AND RELATIONSHIPS (TRAPEZOIDS, PARALLELOGRAMS, CUBE, SPHERE, AND POLYGON)

2 – KNOW BASIC CHARACTERISTICS AND PROPERTIES OF BASIC PLANE FIGURES (E.G., A SQUARE HAS FOUR EQUALS SIDES; CLOSED VERSUS OPEN FIGURES)
*2 – Recognize and create shapes that have symmetry and can identify lines of symmetry.

3.3. APPLY CONCEPTS OF PERIMETER, AREA, AND VOLUME

*2 – Can identify parallel lines, horizontal and vertical lines, and square corners.
*2 – Can measure area using non-standard units.

4. MEASUREMENT

4.1. IDENTIFY AND USE APPROPRIATE UNITS OF MEASUREMENT (METRIC, US)

2 – CAN COUNT SETS OF COINS UP TO ONE DOLLAR

4.2. MEASURE LENGTH/DISTANCE, TIME, TEMPERATURE, WEIGHT, MASS AND VOLUME.

2 – CAN MEASURE USING CENTIMETERS, INCHES, KILOGRAMS, POUNDS, LITERS, AND CUPS

4.3. ESTIMATE MEASUREMENTS WITH APPROPRIATE PRECISION (SOLVING PROBLEMS INVOLVING MONEY)

2 – TELL TIME TO THE 15 MINUTES – DIGITAL AND ANALOG

5. PROBABILITY STATISTICS

5.1. APPLY PROBABILITY CONCEPTS AND COUNTING RULES TO DETERMINE PROBABILITY OF SIMPLE EVENTS.

2 – UNDERSTAND THAT SOME EVENTS ARE CERTAIN AND OTHERS ARE IMPOSSIBLE [N]

5.2. READ AND INTERPRET SIMPLE TABLES & GRAPHS TO DEMONSTRATE UNDERSTANDING AND APPLICATION OF MEASURES OF CENTRAL TENDENCY AND VARIABILITY.

2 – USE PICTOGRAPHS, TALLIES, TABLES, AND BAR GRAPHS TO DISPLAY INFORMATION [N]

2nd Grade Math Additions
Lori Cochran and Ann Skaggs

*These are all additions to State benchmarks so that they align with the assessment pieces for 2nd grade provided by Growing With Math

1.2. Can solve addition and subtraction of three digit numbers with and without regrouping
1.2. Knows fractions of ½, 1/3 and ¼

1.3. Can use repeated addition to describe equal groups

2.2. Describe, interpret, and apply ideas about direction and distance in navigating space (coordinates)

2.4. Can count by 2's, 3's, 5's and 10's and odd and even numbers

3.1. Mastery of solid geometric figures (3-D)

3.2. Recognize and create shapes that have symmetry and can identify lines of symmetry

3.3. Can identify parallel lines, horizontal and vertical lines, and square corners
3.3. Can measure area using non-standard units

Class Outline 2nd Grade

Topic 1: Reviewing Number and Time Concepts

Topic 2: Addition and Subtraction Strategies

Topic 3: Measurement and Geometry

Topic 4: Numbers to 1,000 and Number Patterns

Topic 5: Adding and Subtracting 2- Digit Numbers

Topic 6: Working with Money, Time, and Data

Topic 7: More Measurement and Geometry

Topic 8: Place Value: Numbers to 1,000

Topic 9: More Addition and Subtraction of 2-Digit Numbers

Topic 10: Fractions, Probability, and Time

Topic 11: Multiplication and Division Concepts

Topic 12: Working with Numbers to 1,000

2nd Grade Planning Details – Topic 1

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
1.1	• Count with understanding to 100. • Write numerals to 99 and connect them to the quantities they represent.	A, A1	2-3	1-2	1.2 H 1.3 PCh	"Write On" 200 Chart; Pocket Chart and Craft Sticks; Number Track (black section); linking cubes; two digit numeral expander; blank cards
1.2	• Read and write numerals to 99. • Represent two-digit numbers as groups of ten and "leftover" ones.	A2	2-3	3-4	1.2 HP 1.3 P 1.4 P	Base-ten blocks; linking cubes; two-digit numeral expander; place-value cards; Jumbo Pocket Cubes and cards
1.3	• Read and write numerals to 99. • Develop understanding of the relative position and magnitude of whole numbers.	A3	2-3	5-6	1.5 H 1.6 PCh	Place-value cards; tape (optional); counters
1.4	• Compare two numbers (up to 99) and say which is greater. • Read and write numerals to 99.	A4		7-8	1.4 Ch	*Counting Cousins*; place-value cards; Jumbo cubes and cards; 100 Chart; labeled cubes; base-ten blocks
1.5	• Use coins to show 2-digit amounts. • Compare two amounts and say which is greater	A5	4	9-10	1.7 1.8 H	Coins; OHT coins; play money coins; stick-on notes; Coin stamps; Jumbo Cubes and cards
1.6	• Count by twos, fives, or tens. • Identify numbers that are multiples of 2, 5, or 10.	B, B1	5	11-12	1.9 H 1.6 Ch	OHT 3; counters; 100 Charts; Two-color magnets; linking cubes; place-value cards; labeled cubes
1.7	• Classify numbers as even or odd. • Sort numbers using two attributes.	B2	6	13-14	1.9 H 1.10	Linker cubes; stick-on notes; labeled cubes; counters; Jumbo Cubes and cards
1.8	• Read and show on-the-hour and half-hour times on an analog or digital clock.	B3	7	15-16	1.11 H 1.12 1.13 H	Geared demonstration clock; student clocks; Jumbo Cube cards
1.9	• Read and show on-the-hour and half-hour times on analog clock. • Find differences in time and solve problems that involve elapsed time.	B4	7	17-18	1.13 P	Geared demonstration clock; student clocks; Jumbo Cube cards
1.10	• Say the names of the months in order. • Represent data in a pie graph. • Sort the months according to the number of days.	B5		19-20	1.14 1.15 HP	Months and Seasons Chart; stick-on notes; 4 piece of rope; Graphing chart
Assessment Suggestions		***Assessment Book*** Forms 1.1 to 1.5 and D.1				

*Blackline Masters have been coded for: Extra Help (H), Practice (PP, and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

2nd Grade Planning Details – Topic 2

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
2.1	• Create number stories that involve addition. • Write addition number sentences.	C, C1	8-9	21-22	2.4 P	Two-color magnets; linking cubes; two-color counters; whiteboards; labeled cubes; cups; Jumbo Pocket Cubes and cards; counters
2.2	• Solve problems that involve addition. • Write addition number sentences.	C2	8-9	23-24	2.5 H	Two-color magnets; two-color counters; Linking cubes; labeled cubes
2.3	• Use the count-on strategy to add 1, 2, or 3.	C3	10	25-26	2.6 P	Linking cubes; three-way count-on cards; labeled cubes; Jumbo Cubes and cards
2.4	• Use a known double to add numbers that differ by 1 or 2.	C4	11	27-28	2.6	Jumbo Cubes and cards; two-color magnets; Number Track sections; linking cubes; Double-nine dominoes; labeled cubes
2.5	• Create, model, and solve subtraction problems. • Write related number sentences.	C5	12	29-30		Linking cubes; two-color magnets; number mats
2.6	• Use the count-back strategy to subtract 1, 2, or 3.	D, D1	13	31-32	2.6 P 1.4 PCh	Stick-on notes; Number track sections; Jumbo Cubes and cards; whiteboards; addition and subtraction Fact Wheels; counters; labeled cubes
2.7	• Understand the relationship between addition and subtraction. • Write a "family" of related addition and subtraction facts.	D2		33-34	2.7 P	Folder Fact Cards and stick-on dots; Double-nine dominoes; Addition and Subtraction Fact Wheels
2.8	• Understand the relationship between addition and subtraction. • Write a "family" of related addition and subtraction facts.	D3	11	35-36	2.7 P 2.8 P	Folder Fact Cards and Stick-on dots; Double-nine dominoes; whiteboards; Two-color counters; cups; labeled cubes
2.9	• Solve subtraction problems that involve finding a missing addend.	D4		37-38	2.9 H 2.10 H	Folder Fact cards and stick-on dots; Plastic coins
2.10	• Solve subtraction problems that involve finding a difference.	D5		39-40		*Diffo the Dynamo;* two-color counters; two-color magnets; linking cubes; Number mats; whiteboards; labeled cubes
2.11	• Solve subtraction problems that involve finding a difference.	E, E1		41-42	1.8 H 2.11 P	Overhead transparency coins; plastic coins; coin stamps; whiteboards; Jumbo Cubes and cards
2.12	• Choose the appropriate operation and use it to solve a story problem. • Understand the relationship between addition and subtraction.	E2	14-15	43-44	2.12 PCh	Two-color magnets; linking cubes; whiteboards; labeled cubes
2.13	• Create, model, and solve addition and subtraction problems. • Understand the relationship between addition and subtraction.	E3	14-15	45-46		Linking cubes; plastic coins

2.14	• Create number stories with a given answer and complete the related number facts. • Understand the relationship between addition and subtraction.	E4		47-48		Two-color magnets; two color counters; linking cubes
2.15	• Interpret, analyze, and represent data in a graph.	E5	16	55-56	2.13 P	Stick-on notes; Graphing Charts
Assessment Suggestions		***Assessment Book*** Forms 2.1 to 2.5 and D.2				

*Blackline Masters have been coded for: Extra Help (H), Practice (PP, and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

2nd Grade Planning Details – Topic 3

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
3.1	• Recognize the attributes of length, capacity, and weight.	F, F1	17	51-52		Ruler; pan balance; measuring cup; funnel; paintbrush; bottle; water or rice; apple; linking cubes; containers; items for weighing; magazines and/or catalogs
3.2	• Measure length with multiple copies of nonstandard units of the same size, placed end to end. • Use repetition of s single unit to measure length.	F2		53-54		*The Jumping Contest* Big Book; base-ten block; ribbon; Newspaper; counters; linking cubes; links
3.3	• Measure length using standard units (inches). • Compare lengths. • Describe quantitative change.	F3	18	55-56	2.13 H 3.4-3.6 MP	Tag-board arrows; tiles; rulers; index cards; stick-on notes; Adding machine tape or a ribbon
3.4	• Make connections among units of length. • Use repetition of a single unit to measure length. • Use tools to measure length.	F4	18		3.4-3.6 M 2.13 M	Tag-board arrows; rulers; tape; a yardstick; labeled cubes; stickers (optional)
3.5	• Make connections among units of length. • Use tools to measure length. • Solve problems that involve length.	F5	19	57-58	2.13 M 3.4-3.6 M	Cereal or cracker boxes; tag-board arrows; tiles; rulers; Labeled cubes
3.6	• Develop common referents for measures. • Use repetition of a single unit to measure length. • Compare lengths.	G, G1		59-60		Links; metersticks; a trundle wheel (optional)
3.7	• Measure with multiple copies of standard units of the same size, placed end to end. • Develop common referents for measures.	G2	20	61-62		Base-ten blocks; centimeter connecting cubes; stick-on notes; Newspaper (optional)

3.8	• Use tools to measure lengths.	G3	20	63-64	3.7 MPCh 3.8 M	Centimeter connecting cubes; rulers; cereal and cracker boxes
3.9	• Make connections among units of length. • Develop common referents for measures to make comparisons.	G4	21	65-66		Container; 100 centimeter connecting cubes; metersticks; Base-ten clocks; labeled cubes; Jumbo Pocket Cubes and cards
3.10	• Recognize, name, and describe 2-D shapes.	G5	22	67-68	3.9 3.10 Ch	Geo-boards and rubber bands; Labeled cubes; Jumbo Cubes and cards
3.11	• Identify parallel lines. • Identify horizontal and vertical lines.	H, H1	22	69-70	3.10 Ch 3.11-3.13 P	Plumb lines; a bottle; colored water; pointer; metersticks; Geo-boards and rubber bands
3.12	• Recognize name, describe, and compare 2-D shapes.	H2	23	71-72	3.11 M 3.14 M	Paper fasteners; Jumbo Cubes and cards; geo-boards and rubber bands; counters; labeled cubes
3.13	• Recognize name, describe, and compare 2-D shapes. • Sort 2-D shapes.	H3		73-74	3.11-3.13 MPCh	Venn diagram; Jumbo Cubes and cards
3.14	• Recognize and name 3-D shapes. • Recognize and name 2-D faces of 3-D shapes.	H4	24	75-76	3.15 MP 3.16 P	3-D wooden shapes; Jumbo Cubes and cards
3.15	• Recognize and name faces, edges, and vertices of 3-D shapes.	H5	25	77-78	3.17 Ch	3-D wooden shapes; stick-on notes; Jumbo Cubes and cards; blank cards
Assessment Suggestions		***Assessment Book*** Forms 3.1 to 3.5 and D.3				

*Blackline Masters have been coded for: Extra Help (H), Practice (PP, and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

2nd Grade Planning Details – Topic 4

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
4.1	• Count by fives, starting from any number less than 100. • Recognize and describe number patterns.	I,I1		79-80	1.9 H	100 Chart and two-color magnets (or OHT 3 and transparent counters); Jumbo Pocket Cubes and cards; whiteboard; counters; labeled cubes; place-value cards
4.2	• Recognize, describe extend, and create patterns that grow. • Identify patterns in a sequence of number sentences.	12	26	81-82	4.9 MP 3.9 HCh	Two-color magnets; two-color counters; counter; tiles
4.3	• Develop understanding of the relative position and magnitude of whole numbers.	13		83-84	4.10 MHP	Number line; stick-on notes; place-value cards; Jumbo Cubes and cards
4.4	• Represent a number as different combinations of tens and ones. • Trade 1 ten for 10 ones.	14	27	85-86	4.11 MHPCh	Linking cubes; Jumbo Cubes and cards; Base-ten blocks; labeled cubes

4.5	• Represent a number as different combinations of tens and ones. • Trade 1o ones for 1 ten.	15	27	87-88	4.11 MHPCh	Linking cubes; Jumbo Cubes and cards; Base-ten blocks; labeled cubes
4.6	• Develop a sense of the number one hundred. • Read and write the numeral 100.	J, J1	28-29	89-90	4.11 H	Base-ten blocks; 3 digit numeral expander; Jumbo Cubes and cards; labeled cubes; linking cubes; Target Mat 1 and Beanbags; plastic coins
4.7	• Connect words and numerals for multiples of 100 to the quantities they represent. • Count by hundreds. • Add multiples of 100.	J2		91-92	2.4 H	"Bug" frieze; base-ten blocks 3-digit numeral expander; place-value cards; Jumbo Cubes and cards; Labeled cubes
4.8	• Group a quantity of objects and record the hundreds, tens, and ones. • Identify a number represented as hundreds, tens, and ones.	J3	30-31			Linking Cubes; base-ten blocks; kidney beans; craft sticks or tongue depressors; glue; drinking straws; rubber bands; resealable plastic bags; Jumbo Cubes and cards
4.9	• Identify a number represented as hundreds, tens, and ones.	J4	30-31	93-94	4.12 MPCh 4.13 H	3-digit numeral expander; base-ten blocks; Jumbo Cubes and cards; Labeled cubes; base-ten stamps; blank cards
4.10	• Read and write three-digit numbers (no "teens").	J5	30-31	95-96	4.14 H 4.13 P	"Bug" frieze; 3-digit numeral expander; place-value cards; base-ten blocks; Jumbo Cubes and cards
4.11	• Read and write three-digit numbers.	K, K1	30-31	97-98	4.13 M 4.15 P	"Bug" frieze; 3-digit numeral expander; place-value cards; base-ten blocks; Jumbo Cubes and cards; base-ten rubber stamps
4.12	• Read and write three-digit numbers. • Compare two numbers (up to 999) and identify which is greater.	K2	32-33	99-100	4.15 H	Place-value cards; base-ten blocks; stick-on notes (optional) Base-ten rubber stamps; labeled cubes; cards from Extra Practice in previous lesions, counters
4.13	• Read and write three-digit numbers. • Write three numbers (up to 999) in order, from least to greatest.	K3	32-33	101-102	4.16 MHPCh	Stick-on notes; labeled cubes; place value cards; 3-digit numeral expander; base-ten blocks; cards from Extra help and Extra practice in pervious lessons; counters
4.14	• Write the number that is 1, 10 or 100 more or less than a given three-digit number.	K4	32-33	103-104	4.17 MPCh	200 Chart; prediction window 1; tape; base-ten blocks; overhead projector; prediction Windows 2, 3, and 4; labeled cubes
4.15	• Develop understanding of the relative position and magnitude of whole numbers.	K5		105-106	4.18 PCh	Number Line; place-value cards; Jumbo Cubes and cards; Labeled cubes; counters
Assessment Suggestions		***Assessment Book*** Forms 4.1 to 4.5 and D.4				

*Blackline Masters have been coded for: Extra Help (H), Practice (PP, and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

2nd Grade Planning Details – Topic 5

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
5.1	• Use the "make ten" or "use ten" strategy to add	L, L1	34	107-108	2.1 M 5.4 H	OHT Coins; plastic coins; OHT 6; whiteboards; labeled cubes
5.2	• Understand the relationship between addition and subtraction.	L2	35	109-110	1.9 M 2.4 P 5.5 MHCh	100 Chart; counters; Labeled cubes
5.3	• Write a family of related addition and subtraction sentences. • Use the "think addition" strategy to subtract.	L3		111-112	2.1 H 2.4 P	Folder Fact Cards and Stick-on Dots; paper clips; counters; Jumbo Pocket Cubes and cards; labeled cubes
5.4	• Use a variety of methods and tools to add.	L4	36	113-114	1.9 MPCh 4.10MPCh	100 Chart; base-ten blocks; plastic coins; Place-value cards; labeled cubes
5.5	• Recognize, describe, and extend number patters. • Adjust an addition sentence to help add related numbers.	L5		115-116	1.9 MP 4.11 H	100 Chart; Prediction Window 3; two-color magnets; counters; base-ten blocks; whiteboards; labeled cubes; Jumbo Cubes and cards; Prediction Windows 4
5.6	• Add two-digit multiples of 5. • Decompose ("break apart") numbers into multiples of 5.	M, M1	37	117-118	5.6 PCh	Target Mat 2; Beanbags; 200 Chart; Number line; linking cubes; Target Mat 1; counters; labeled cubes; Jumbo Cubes and cards
5.7	• Add a two-digit multiple of ten and another two-digit number.	M2		119-120	1.9 MP 5.7 M	100 Chart; OHT 7; base-ten clocks; OHT coins; Place-value cards; counters; labeled cubes; Jumbo Cubes and bards; 200 Chart
5.8	• Add two-digit numbers, regrouping if necessary.	M2		121-122	1.9 M 4.11 H	*The Counting Cousins*; Base-ten blocks; 100 Chart; two-color magnets; Number line; labeled Cubes; Jumbo Cubes and cards; Place-value cards
5.9	• Adjust an addition sentence to help add related numbers.	M4	38	123-124	2.1 H	Number Line; Base-ten blocks; plastic coins; linking cubes; Counters; labeled cubes; Jumbo Cubes and cards; place-value cards
5.10	• Subtract a multiple of 10 from a two-digit number.	M5		125-126	1.9 H 2.9 HPCh 2.10 HP	Jumbo Cubes and cads; 100 Chart; Number Line; Base-ten Blocks; plastic coins; Whiteboard; Labeled cubes
5.11	• Use a variety of methods and tools to subtract.	N, N1	39	127-128	1.9 MH 2.9 HP 2.10 P 4.10 MH	100 Chart; Number Line; Base-ten blocks; plastic coins; labeled cubes; Jumbo Cubes and cards
5.12	• Recognize, describe, and extend number patterns. • Adjust a subtraction sentence to help subtract related numbers.	N2		129-130	1.9 P	100 Chart; Prediction Window 3; Number Line; Whiteboards; Labeled cubes; Jumbo Cubes and cards; counters; Prediction Window 4

5.13	• Create, model, and solve subtraction problems that involve differences.	N3	40	131-132	1.9 M 2.13 H 4.10 M	Metersticks; 100 Chart; Number line; Base ten Blocks; Place-value cards
5.14	• Subtraction a two-digit number from another two-digit number, regrouping if necessary.	N4	41	133-134	1.9 P	OHT coins; plastic coins; 100 Chart; base-ten blocks; Labeled cubes; Jumbo Cubes and cards; place-value cards
5.15	• Choose the appropriate operation (addition or subtraction) use it to solve a story problem.	N5	42	135-136		OHT coins; plastic coins; 100 Chart; base-ten blocks; Number line; OHT 7: Labeled Cubes; Jumbo Cubes and cards
Assessment Suggestions		***Assessment Book*** Forms 5.1 to 5.5 and D.5				

*Blackline Masters have been coded for: Extra Help (H), Practice (P), and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

2nd Grade Planning Details – Topic 6

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
6.1	• Use quarters, dimes, nickels, and pennies to show amounts to 99 cents (using as many quarters as possible).	O,O1		137-138	1.9 H	OHT coins Jumbo Pocket Cubes and cards; plastic coins; place-value cards; stick -on notes.
6.2	• Use coins to show amounts equivalent to one dollar. • Compare amounts to one dollar.	O2	43	139-140	1.8 P	$1 bill, stick on notes; plastic coins; bills; Jumbo Pocket Cubes and cards; coin stamps; labeled cubes
6.3	• Create, model, and solve problems that involve "making change".	O3		141-142	6.4 H	OHT coins; items with price tags (optional); plastic coins; Coin stamps; labeled cubes
6.4	• Solve simple problems that involve rates.	O4	44	143-144	6.5 HP 6.6 HP	Linking cubes; plastic coins; base-ten blocks; Rulers; links
6.5	• Select an appropriate unit for the attribute being measured. • Develop common reference for measure to make comparisons and estimates.	O5	45	145-146	1.11 H 1.13 H	A clock or watch with second hand; demonstration clock; links; linking cubes
6.6	• Read and show on0the0hour and half-hour times in an analog clock. • Solve problems that involve elapsed time.	P, P1	46	147-148	1.11 HPCh 1.12 M	Demonstration clock; student clocks
6.7	• Read and show times past the hour (five minute intervals on an analog clock.	P2		149-150	1.11 MHPCh	*Five Minutes More;* demonstration clock; student clocks;
6.8	• Read and show times past the hour (five-minute intervals) on an analog or digital clock.	P3		151-152	1.11 HCh 6.7 M 6.8 P	*Five Minutes More;* demonstration clock; student clocks; Jumbo cubes and cards

6.9	• Interpret, analyze, and compare data in a pictograph and tally chary. • Collect, organize, and represent data in a graph.	P4	47	153-154	1.9 M 6.9 CH	Base-ten blocks; 100 chart; graphing chart
6.10	• Interpret, analyze, and compare data in a chart or graph. • Collect, organize, and represent data on a line plot.	P5	48	155-156	6.10 MHPCh	A calendar; Labeled cubes
Assessment Suggestions		***Assessment Book*** Forms 6.1 to 6.5 and D.6				

*Blackline Masters have been coded for: Extra Help (H), Practice (P), and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

2nd Grade Planning Details – Topic 7

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
7.1	• Recognize and create shapes that have symmetry. • Identify lines of symmetry.	Q, Q1	49	157-158	7.3 M	A pointer or wax stick; stick-on notes; pattern blocks; rulers; Jumbo Pocket Cubes and cards; trays or whiteboards
7.2	• Recognize and create shapes that have symmetry. • Identify lines of symmetry.	Q2		159-160	3.9 MH	OHT geo-boards; rubber bands; rulers; Whiteboards
7.3	• Investigate and predict the result of putting together and taking apart 2-D shapes.	Q3		161-162	2.13 P 3.9 M 7.4 M 7.5 Ch	Pattern Blocks; OHT pattern blocks; tape; Jumbo Pocket Cubes and cards; tiles; pattern block rubber stamps
7.4	• Investigate and predict the result of putting together and taking apart 2-D shapes. • Identify parallel lines and right angles.	Q4	50		7.6 M 7.7 P 7.8-7.9 Ch	Large sheets of paper; glue; Small paper rectangles
7.5	• Investigate and predict the result of putting together 2-D shapes. • Use shapes to cover s surface without leaving any gaps.	Q5		163-164	2.13 Ch	Pattern blocks; index cards; die-cuts of pattern block shapes; tape; large sheets of paper
7.6	• Understand how to measure area using nonstandard units. • Measure area with multiple copies of units of the same size.	R, R1		165-166	2.13 HPCh 7.10M 7.11 M	A toy grazing animal; OHT pattern blocks; Pattern blocks; tiles; rulers
7.7	• Understand how to measure area using nonstandard units. • Measure area with multiple copies of units of the same size.	R2		167-168	2.13 HPCh	*Baby Bear's Quilt;* tiles; trays or whiteboards; rulers; Labeled cubes

7.8	• Recognize and apply slides, flips, and turns.	R3	51	169-170	7.12 MPCh 7.13 P	Card-stock shapes
7.9	• Recognize, describe, and draw shapes from different perspectives.	R4	52	171-172		Red ribbons; large objects; a pointer or tag-board arrow
7.10	• Describe interpret, and apply ideas about direction and distance in navigating space.	R5	53	173-174	2.13 PCh	Red ribbon; a small doll; a pointer; labeled cubes; counters; tiles
7.11	• Develop common referents for measures. • Measure, compare, and order objects according to weight.	S, S1	54	175-176		Pan balance; a pound-weight; rice; macaroni; containers or bottles; a funnel; measuring cups; a one-liter bottle of water
7.12	• Interpret and analyze data in a pictograph and bar graph. • Compare and order objects according to weight.	S2	55	177-178	7.14 MHP	A large sheet of paper of poster board
7.13	• Measure, compare, and order objects according to weight. • Represent and analyze data in a bar graph.	S3		179-180	2.13 P 7.14 P	One-ounce weights; items for weighing; grocery packaging materials; pan balance; stick-on notes; Graphing Chart
7.14	• Develop common referents for measures. • Measure, compare, and order objects according to capacity.	S4	56	181-182		Empty containers or bottles; stick-on notes; a funnel; a measuring cup
7.15	• Solve problems involving capacity and money.	S5	57	183-184		Plastic coins
Assessment Suggestions		***Assessment Book*** Forms 7.1 to 7.5 and D.7				

*Blackline Masters have been coded for: Extra Help (H), Practice (P), and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

2nd Grade Planning Details – Topic 8

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
8.1	• Count by 100s, 50s, 25s, and 20s (starting from 100, 50, 25, and 20 respectively). • Count back by 50s.	T, T1		185-186	8.13 HCh	200 Chart; a pointer; "Bug" frieze; stick-on notes; Number Line; two-color magnets; labeled cubes; Venn diagram; (graphing Chart)
8.2	• Read and write three-digit numbers.	T2	58	187-188	8.14 M	3-digit numeral expander; place value cards; base-ten blocks; Jumbo Pocket Cubes and cards; whiteboards; labeled cubes

8.3	• Read and write three-digit numbers.	T3		189-190	8.14 M 8.15 MH 8.16 M	Jumbo Cubes and cards; place-value cards; 3-digit numeral expander; Labeled cubes
8.4	• Read and write three-digit numbers. • Develop understanding of place value and the base-ten number system.	T4	58	191-192		Counters; place-value cards; Jumbo Cubes and cards; Labeled cubes
8.5	• Read and write three-digit numbers. • Develop understanding of place value and the base-ten number system.	T5	59	193-194		An opaque container with a lid; base-ten blocks; stick-on notes; place-value cards; Venn diagram (graphing Chart)
8.6	• Read and write three-digit numbers. • Compare two numbers (up to 999) and say which is greater.	U, U1	60	195-196	4.15 H	3 digit numeral expander; base-ten blocks; place-value cards, Whiteboards; base-ten rubber stamps; stamp pad; labeled cubes
8.7	• Read and write three-digit numbers. • Write three numbers (up to 999) in order, from least to greatest.	U2	60	197-198		Stick-on notes; base-ten blocks; small pieces of paper; cards from previous lesson; counters; place-value cards; labeled cubes
8.8	• Read and write three-digit numbers. • Write the number that is 1, 10, or 100 more or less than a given three-digit number.	U3	61	199-200	8.17 M 4.17 M	A paper clip or bobby pin; base-ten blocks; place value cards (teacher's set); 3 digit numeral expander; labeled cubes
8.9	• Count by tens from any three-digit number. • Count back by tens from three-digit multiple of 10.	U4	62-63	201-202	4.18 MPCh	Number line; a pointer; Base-ten blocks; labeled cubes
8.10	• Develop an understanding of the relative position of numbers. • Round numbers to the nearest multiple of 10 or 100.	U5	62-63	203-204	4.18 HP	Number line; a pointer; Jumbo Cubes and cards; place-value cards
Assessment Suggestions		***Assessment Book*** Forms 8.1 to 8.5 and D.8				

*Blackline Masters have been coded for: Extra Help (H), Practice (P), and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

2nd Grade Planning Details – Topic 9

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
9.1	• Add three or more two-digit numbers (totals up to 100). • Solve story problems involving money.	V, V1	64	205-206	1.9 MPCh 4.10 MHPCh 9.1 M	100 Chart or 200 Chart; Number Line; plastic coins; Erasable markers; labeled cubes; Jumbo Packet Cubes and cards.
9.2	• Add three or more numbers (total greater than 100). • Find the perimeter of a rectangle. • Use tools to measure.	V2		207-208	2.13 H 3.8 M	*The New Fence;* links; ruler; labeled cubes
9.3	• Add three or more multiples of ten (totals greater than 100).	V3		209-210	9.2 HP 9.3 Ch	*The Pentathlon;* Target Mat 1 and beanbags; base-ten blocks; place-value cards; Jumbo Cubes and cards; labeled cubes
9.4	• Use mental strategies and other methods to add two digit numbers (with and without regrouping).	V4	65	211-212	1.9 M 9.4 MP	Base-ten blocks; plastic coins; 100 Chart; paper clips
9.5	• Use base-ten blocks to model addition of two-digit numbers (with regrouping).	V5	66	213-214	9.5 P	A blank OHT (or magazine base-ten blocks on a magnetic board); base ten blocks; Paper clips; labeled cubes; place-value cards; children's work from lesson 9.4
9.6	• Use a written algorithm to add two-digit numbers (with regrouping).	W, W1	66-67	215-216	9.5 P	A blank OHT (or magnetized base-ten blocks on a magnetic board); base ten blocks; paper clips; labeled cubes; place-value cards; whiteboards
9.7	• Use a written algorithm to add two-digit numbers.	W2	65	217-218	9.6 H	Base-ten blocks; children's work from lesson 9.4; place value cards; labeled cubes; whiteboards; Jumbo Cubes and cards
9.8	• Estimate the sum of 2 two-digit numbers. • Add two-digit numbers (with and without regrouping).	W3		219-220	2.9 MPCh 2.10 M 4.10 H 9.7 HPCh	Erasable sentence strips; labeled cubes; counters
9.9	• Use mental strategies and other methods to subtract two-digit numbers (with and without regrouping).	W4		221-222	1.9 M 2.9 MHP 2.10 MHP	100 Chart; plastic coins; base-ten block

9.10	• Use base-ten blocks to model subtraction of two-digit numbers (with regrouping).	W5	68	223-224	2.9 P 2.10 P	A blank OHT (or magnetized base-ten blocks on a magnetic board); base-ten blocks; Children's work from lesson 9.4
9.11	• Use a written algorithm to subtract two-digit numbers (with regrouping).	X, X1	68-69	225-226		Base-ten blocks; Labeled cubes; place value cards
9.12	• Compare objects according to length. • Use a written algorithm to subtract two-digit numbers.	X2	40	227-228		Base-ten blocks; counters; Place-value cards
9.13	• Compare objects according to length. • Use a written algorithm to subtract a two-digit number from a multiple of ten.	X3	40	229-230	5.5 Ch	Base-ten Blocks; Place-value cards; *Discussion Book* page 35 (for reference); labeled cubes
9.14	• Solve problems that involve addition or subtraction of two-digit numbers.	X4	70	231-232	1.9 m 5.5 Ch 9.8 H	100 Chart; base-ten blocks; plastic coins; overhead transparency coins; Place-value cards; labeled cubes
9.15	• Identify the appropriate numbers and operation (addition or subtraction) and use them to solve a story problem.	X5	71	233-234	1.9 M	Base-ten Blocks; 100 Chart; plastic coins
Assessment Suggestions		***Assessment Book*** Forms 9.1 to 9.5 and D.9				

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Additional items for Extra Help, Practice, Challenge

2nd Grade Planning Details – Topic 10

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
10.1	• Describe, model, and identify the fractions one-half and one-fourth.	Y, Y1	72	235-236	10.2 M 10.3 Ch	Paper squares and rectangles; stick-on notes
10.2	• Describe, model, and identify fractions (halves, thirds, fourths, sixths, eights). • Read fraction names.	Y2		237-238	10.4 M 10.5 P 10.6 P	Fraction Wall Chart; Jumbo Pocket Cubes and cards
10.3	• Read, write, and interpret the symbols that represent fractions.	Y3	73	239-240	10.5 Ch 10.6 Ch	Fraction Wall Chart; Jumbo Cubes and cards; whiteboards
10.4	• Read, write, and interpret the symbols that represent fractions.	Y4		241-242	10.5 MP 10.6 P 10.7-10.8 MP	Fraction Wall Chart; Jumbo Cubes and cards; two-color magnets or counters

10.5	• Read, write, and interpret the symbols that represent fractions.	Y5	74	243-244	7.5 MP 7.7 M 10.5 H 10.6 H	Venn diagram; labeled cubes; small stick-on notes; Jumbo Cubes and cards
10.6	• Find one-half or one-fourth of a group.	Z, Z1	75	245-246	10.9 M	Stick-on notes; Jumbo Cubes and cards; labeled cubes; counters; linking cubes
10.7	• Model two fractions and say which is greater.	Z2	76	247-248	7.5 HP 10.5 Ch	Pattern blocks; OHT pattern blocks; laminated sentences strips
10.8	• Identify fractions that are equivalent.	Z3	76	249-250	10.7 PCh 10.8 PCh	Rulers; Fraction Wall Chart
10.9	• Solve problems that involve fractions.	Z4	77	251-252	9.5 H 10.10 PCh	Jumbo Cubes and cards, labeled cubes
10.10	• Use tools to measure lengths. • Measure length to the nearest half inch.	Z5		253-254	10.11 M 10.12 M 10.13 HPCh	Rulers; Jumbo Cubes and cards; counters
10.11	• Discuss whether events are likely or unlikely. • Make predictions and collect data.	AA, AA1	78	255-256	9.5 P	Stick-on Notes; paper clips or bobby pins
10.12	• Represent data in a pie graph. • Discuss whether events are likely or unlikely. • Make predictions and collect data.	AA2	78	257-258	9.5 PCh 10.14 M	Paper clips or bobby pins; Labeled cubes
10.13	• Read and show quarter-hour times on analog and digital clocks.	AA3		259-260	6.8 H 10.2 M 10.15 PCh	*Five Minutes More;* demonstration clock; student clocks; OHT coins; colored paper circles; Jumbo Cubes and cards
10.14	• Read and show quarter-hour times on analog and digital clocks. • Relate quarter-hour times to minutes past the hour.	AA4	79	261-262	10.15 Ch 10.16 MHP	Demonstration clock; student clocks
10.15	• Read and show quarter-hour times on an analog clocks. • Find the difference between two times.	AA5	80	263-264	10.15 HPCh 10.17 H	Demonstration clocks; small stick-on notes; Jumbo Cubes and cards; labeled cubes
Assessment Suggestions		***Assessment Book*** Forms 10.1 to 10.5 and D.10				

*Blackline Masters have been coded for: Extra Help (H), Practice (P), and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

2nd Grade Planning Details – Topic 11

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
11.1	• Create, model, and solve problems that involve equal groups.	BB, BB1		265-266	11.5 P 11.6-11.9 P	*Eight Gangling Arms;* two-color magnets; OHTs 8-10; Joining and Sharing Mats; linking cubes; centimeter connecting cubes; labeled cubes; Jumbo Pocket Cubes and cards
11.2	• Create, model, and solve problems that involve equal groups. • Use repeated addition to describe equal groups.	BB2	81	267-268	11.10 HP	OHTs 8-11; linking cubes; Joining and Sharing mats; Labeled cubes; small index cards
11.3	• Describe the rows in an array.	BB3	82	269-270	11.11 HP 3.10Ch	Labeled cubes
11.4	• Describe the rows in an array. • Use and interpret the X sign.	BB4	82-83	271-272	11.12 HPCh	Children's work from Lesson 11.3; labeled cubes; Jumbo Cubes and cards
11.5	• Use and interpret the X sign. • Write two multiplication facts to describe an array.	BB5	84	273-274	10.9 MH 11.12 P 11.13 Ch	Two-color magnets; magnetic whiteboard; labeled cubes; Jumbo Cubes and cards
11.6	• Use and interpret the X sign. • Relate multiplication to the area of a rectangle.	CC, CC1		275-276	1.6 MP 2.13 M 11.12Ch	*Baby Bear's Quilt;* tiles; tag-board rectangles
11.7	• Solve problems that involve equal groups.	CC2		277-278		*Polly the Packer;* Linking cubes; base-ten blocks; children's work from lesson 11.2
11.8	• Develop and use strategies for multiplication. • Multiply by 2.	CC3	85	279-280	11.14 MP 11.15 HP 11.16 Ch	Stick-on notes; two-color magnets; magnetic whiteboard; labeled cubes; number mats; Jumbo Cubes and cards
11.9	• Develop and use strategies for multiplication. • Multiply by 5.	CC4	86	281-282	2.4 HPCh 11.17 MHP 11.18 P 11.19 Ch	Stick-on Notes; 100 Chart; linking cubes; counters; labeled cubes
11.10	• Solve problems that involve joining or separating to make equal groups. • Explore the relationship between multiplication and division.	CC5	87	283-284	11.20 P	100 Chart; two-color magnets; linking cubes; base-ten blocks; centimeter connecting cubes; labeled cubes
11.11	• Create, model, and solve division	DD,D	88	285-286	11.6	Joining and Sharing Mats; OHT 8;

	problems that involve sharing (no remainders). • Use and interpret the ÷ sign.	D1			MP	plastic coins; OHT coins; stick-on notes; labeled cubes; linking cubes; place-value cards; base-ten blocks; Jumbo Cubes and cards
11.12	• Create, model, and solve problems that involve division (no remainders).	DD2	89	287-288	1.9 Ch 10.9 M 11.6- 11.8 M	OHTs 8-10; two-color magnets; joining and sharing Mats; centimeter connecting cubes; stick-on notes; pointers or wax sticks; labeled cubes; linking cubes; Target Mat 1 and Beanbags
11.13	• Create, model, and solve division problems that involve sharing (with and without remainders).	DD3	90	289-290	11.6- 11.9 P 11.21 MP	Linking cubes; joining and Sharing Mats; Two-color magnets; OHTs 8-11; centimeter connecting cubes; base-ten blocks; counters; labeled cubes; place-value cards
11.14	• Create, model, and solve division problems that involve sharing (with and without remainders). • Begin to understand the relationship between multiplication and division.	DD4			11.22 MP	*Miss Gobbledegook;* two-color magnets; centimeter connecting cubes; base-ten blocks
11.15	• Begin to understand the relationship between multiplication and division.	DD5		291-292	5.5 MCh 11.6- 11.9 M	*Miss Gobbledegook;* OHTs 8-11; two-color magnets; Joining and Sharing Mats; centimeter connecting cubes; base-ten blocks; *Discussion Book* page 35
Assessment Suggestions		***Assessment Book*** Forms 11.1 to 11.5 and D.11				

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Additional items for Extra Help, Practice, Challenge

2nd Grade Planning Details – Topic 12

Lesson	Learning Expectations	*Math* Chat pages	Discussion Book Pages	Student Book Pages	Blackline Masters	Manipulatives and Other Materials**
12.1	• Solve problems that involve addition of two-digit numbers. • Use a written algorithm to add two-digit numbers (with and without regrouping).	EE, EE1	91	293-294	4.11 H	100 Chart; Plastic coins; base-ten blocks; Place-value cards; Jumbo Pocket Cubes and cards; Whiteboards
12.2	• Solve problems that involve subtraction of two-digit numbers. • Use a written algorithm to subtract two-digit numbers (with and without regrouping).	EE2	91	295-296	1.9 M	100 Chart; Base-ten Blocks; plastic coins; Place-value cards
12.3	• Choose the appropriate operation (addition or subtraction) and use it to solve a story problem.	EE3	92	297-298	1.8 M	Catalog showing sports items; index cards
12.4	• Add two-digit numbers with and without regrouping (totals greater than 100).	EE4		299-300	12.3 M	Place-value cards; 200 Chart; base-ten blocks; three-digit expander; target Mat 1 and beanbags; sports items cards from lesson 12.3

12.5	• Add three-digit numbers (without regrouping).	EE5	93	301-302	12.4 Ch	Base-ten blocks with magnetic strips attached; large place-value charts (drawn on paper); Labeled cubes; Jumbo Pocket cubes and cards
12.6	• Add a three-digit number and two-digit multiple of ten (with and without regrouping).	FF, FF1	94	303-304	12.3 H 12.5 H 12.6 H 12.7 PCh	Base-ten blocks with magnetic strips attached; 200 Chart; place-value cards; labeled cubes
12.7	• Add a three-digit number and two-digit number (with and without regrouping).	FF2	94	305-306	12.7 Ch 12.8 P	Small stick-on notes; base-ten blocks with magnetic strips attached; Labeled cubes
12.8	• Subtract three-digit numbers (with and without regrouping).	FF3		307-308		Base-ten blocks with magnetic strips attached; Jumbo Cubes and cards; Place-value cards; labeled cubes
12.9	• Subtract a two-digit multiple of 10 from a three-digit number (with and without regrouping).	FF4	95	309-310	5.5 Ch 12.3 H 12.5 H 12.6 H 12.7 P	Base-ten blocks with magnetic strips attached; Place-value cards; labeled cubes
12.10	• Subtract a two-digit number from a three-digit number (with and without regrouping).	FF5	95	311-312	12.9 P 12.7 Ch	Small stick-on notes; base-ten blocks with magnetic strips attached; Labeled Cubes
Assessment Suggestions		***Assessment Book*** Forms 12.1 to 12.5 and D.12				

*Blackline Masters have been coded for: Extra Help (H), Practice (P), and Challenge (Ch). ** Items required for main part of lesson
Additional items for Extra Help, Practice, Challenge

Curriculum Guide by Standards

Subject Area: 2nd Grade Math **Length of Unit:** 15 days

Instructor: 2nd Grade Teacher

*To provide for more continuity, these additions will be introduced but not tested. Added by Van Buren teachers.

Standards: 1 Content Problem Solving

Benchmarks: 1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations.
*1.2. Can solve addition and subtraction of 3-digit numbers with and without regrouping
*1.2. Knows fractions of ½, 1/3 and 1/4
1.3 Classify numbers by divisibility (multiply, divide & Classify whole numbers with & without remainders) order of magnitude
*1.3. Can use repeated addition to describe equal groups
1.4 Check reasonability of answers by performing operations & rounding

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 1 1.1	Can count, order, write and identify numbers 1-1000	Chapter test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
1.2	Topic 2 - 2.1; 2.2; 2.8; 2.10	Mastery of addition and subtraction facts to 10	Chapter test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
1.2	Topic 2 - 2.1; 2.2; 2.8; 2.10	Know addition and subtraction to 18	Chapter test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
1.2	Topic 4 - 4.4; 4.5; Topic 5 - 5.8; 5.11; 5.14 Topic 9 - 9.5; 9.10 Topic 12 - 12.1; 12.2; 12.6; 12.7; 12.9; 12.10	Can solve addition and subtraction of two-digit numbers with and without regrouping	Chapter test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
*1.2	Topic 12 - 12.5	Can solve addition and subtraction of 3-digit numbers with and without regrouping	Chapter test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
*1.2	Topic 10 - 10.1; 10.2	Knows fractions of ½, 1/3 and 1/4	Chapter test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
*1.3	Topic 11 - 11.2	Can use repeated addition to describe equal groups	Chapter test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
1.3	Topic 4 - 4.1; 4.8; 4.11; 4.14;4.15 Topic 8 - 8.4	Understand the concept of place value for whole numbers through the hundreds place (ones, tens, hundreds)	Chapter test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
1.4	Topic 5 - 5.9	Estimate reasonable solutions to problems	Chapter test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
1.4	Topic 2 - 2.1-2.15	Use a variety of problem-solving strategies	Chapter test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
1.4	Topic 2 - 2.12; 2.13	Know the difference between pertinent and extraneous information when solving problems	Chapter test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: 2nd Grade Math **Length of Unit:** 15 days

Instructor: 2nd Grade Teacher

*To provide for more continuity, these additions will be introduced but not tested. Added by Van Buren teachers.

Standards: 2 Algebra

Benchmarks: 2.2. Solve equations and inequalities
*2.2. Describe, interpret and apply ideas about direction and distance in navigating space (coordinates)
2.4. Understand and explore numerical patterns
*2.4. Can count by 2's, 3's, 5's and 10's and recognize odd and even number

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
2.2	Topic 1 - 1.6; Topic 3 - 3.13; 3:14 Topic 4 - 4.1	Extend and understand the rule of a wide variety of patterns (linear and non-linear)	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
*2.2	Topic 7 - 7.10	Describe, interpret and apply ideas about direction and distance in navigating space (coordinates)	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
*2.4	Topic	Can count by 2's, 3's, 5's and 10's and recognize odd and even number	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: 2nd Grade Math **Length of Unit:** 15 days

Instructor: 2nd Grade Teacher

*To provide for more continuity, these additions will be introduced but not tested. Added by Van Buren teachers.

Standards: 3. Geometry

Benchmarks: *3.1. Mastery of solid geometric figures (3-D)
3.2. Describe geometric properties, patterns and relationships (Trapezoids, parallelograms, cube, sphere, and polygon)
*3.2. Recognize and create shapes that have symmetry and identify lines of symmetry
*3.3. Can identify parallel lines, horizontal and vertical lines, and square corners

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
*3.1		Mastery of solid geometric figures (3-D)	Chapter tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
3.2	Topic 3 - 3.1-3.15	Know basic characteristics and properties of basic plane figures (a square has four equal sides; closed versus open figures)	Chapter tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
*3.2	Topic 7 - 7.1; 7.2	Recognize and create shapes that have symmetry and identify lines of symmetry	Chapter tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
*3.3	Topic 3 - 3.11	Can identify parallel lines, horizontal and vertical lines, and square corners	Chapter tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE) At-Risk (AR)

Subject Area: 2nd Grade Math

Length of Unit: 15 days

Instructor: 2nd Grade Teacher

Standards: 4. Measurement

Benchmark: 4.1 Identify and use appropriate units of measurement (metric, US)
4.2 Measure length/distance, time, temperature, weight, mass and volume
4.3 Estimate measurements with appropriate precision (solving problems involving money)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
4.1	Topic 1 - 1.5; Topic 6 - 6.1; 6.2	Can count sets of coins up to one dollar	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
4.2	Topic 3 - 3.2; 3.3; 3.8 Topic 7 - 7.11; 7.14;	Can measure using centimeters, inches, kilograms, pounds, liters and cups	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
4.3	Topic 6 - 6.7; 6.8	Tell time to the 15 minutes using digital and analog clocks	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: 2nd grade Math **Length of Unit:** 15 Days

Instructor: 2nd Grade Teacher

Standards: 5. Probability Statistics

Benchmarks: 5.1 Apply probability concepts and counting rules to determine probability of simple events
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
5.1	Topic 10 - 10.11; 10.12	Understand that some events are certain and others are impossible	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGGD, CE, SPECIAL, AR
5.2	Topic 2 - 2.15; Topic 6 - 6.9	Use pictographs, tallies, tables, and bar graphs to display information	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGGD, CE, SPECIAL, AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Curriculum Guide by Topic -

Subject Area: 2nd Grade Math - Topic 1 **Length of Unit:** 15 days

Instructor: 2nd Grade Teacher

Standards:
1. Content Problem Solving
2. Algebra
4. Measurement

Benchmarks:
1.1. Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
2.2. Solve equations and inequalities
4.1. Identify and use appropriate measurement (metric and US)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 1	Can count, order and write numbers 1-1000 Can identify numbers as odd and even	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
2.2	Topic 1	Extend and understand the rule of a wide variety of patterns (linear and non-linear)	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
4.1	Topic 1	Can count sets of coins up to $1.00	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: 2nd Grade Math **Length of Unit:** 15 Days

Instructor: 2nd Grade Teacher

Standards:
1. Content Problem Solving
2. Algebra
5. Probability and Statistics

Benchmarks:
1.2. Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations
1.4. Check reasonability of answers by performing operations and rounding
2.4. Understand and explore numerical patterns
5.2. Read and interpret simple tables & graphs to demonstrate understanding and application of measurers of central tendency and variability

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 2	Mastery of addition and subtraction facts to 10 Know addition and subtraction facts to 18	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
1.4	Topic 2	Use a variety of problem solving strategies Know the difference between pertinent and extraneous information when solving problems	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
2.4	Topic 2	Can count by 2's, 3's, 5's, 10's and odd and even numbers	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
5.2	Topic 2	Use pictographs, tallies, tables, and bar graphs to display information	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: 2nd Grade Math – Topic 3 **Length of Unit:** 15 Days

Instructor: 2nd Grade Teacher

Standards 2. Algebra
3. Geometry
4. Measurement

Benchmarks 2.2. Solve equations and inequalities
3.2. Describe geometric properties, patterns and relationships (trapezoids, parallelograms, cube, sphere, and polygon)
3.3. Apply concepts of perimeter, area and volume
4.2. Measure length/distance, time, temperature, weight, mass and volume

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
2.2	Topic 3	Extend and understand the rule of a wide variety of patterns (linear and non-linear)	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
3.2	Topic 3	Know basic characteristics and properties of basic plane figures (a square has four equal sides; closed versus open figures)	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
3.3	Topic 3	Can identify parallel lines, horizontal and vertical lines, and square corners	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
4.2	Topic 3	Can measure using centimeters, inches, kilograms, pounds, liters and cups	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: 2nd Grade Math

Length of Unit: 15 Days

Instructor: 2nd Grade Teacher

Standards: 1. Content Problem Solving
2. Algebra

Benchmarks: 1.2 Describe and apply properties of whole numbers and fraction sin physical, verbal and symbolic representation
1.3 Classify numbers by divisibility (multiply, divide & classify whole numbers with & without remainders) order magnitude.
2.2 Solve equations and inequalities

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 4	Can solve addition and subtraction of two digit numbers with and without regrouping	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
1.3	Topic 4	Understand the concept of place value for whole numbers through the hundreds place (ones, tens, hundreds)	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
2.2	Topic 4	Extend and understand the rule of a wide variety of patterns (linear and non-linear)	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: 2nd Grade Math - Topic 5 **Length of Unit:** 15 Days

Instructor: 2nd Grade Teacher

Standards 1. Content Problem Solving

Benchmarks 1.2. Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations
1.4. Check reasonability of answers by performing operation s & rounding

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 5	Can solve addition and subtraction of two digit numbers with and without regrouping	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
1.4	Topic 5	Estimate reasonable solutions to problems	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: 2nd Grade Math **Length of Unit:** 15 Days

Instructor: 2nd Grade Teacher

Standards 4. Measurement
5. Probability Statistics

Benchmarks 4.1. Identify and use appropriate units of measurement (metric, US)
4.3. Estimate measurements with appropriate precisions (solving problems involving money)
5.2. Read in interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
4.1	Topic 6	Can count sets of coins up to $1.00	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL
4.3	Topic 6	Can tell time to the 15 minutes using digital and analog clocks	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL
5.2	Topic 6	Uses pictographs, tallies, tables and bar graphs to display information	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: 2nd Grade Math **Length of Unit:** 15 Days

Instructor: 2nd Grade Teacher

Standards
2. Algebra
3. Geometry
4. Measurement

Benchmarks
2.2. Solve equations and inequalities
3.2. Describe geometric properties, patterns and relationships (trapezoids, parallelograms, cubes, sphere, polygon)
4.2. Measure length/distance, time, temperature, weight, mass and volume

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
2.2	Topic 7	Describe, interpret and apply ideas about direction and distance in navigating space (coordinates)	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
3.2	Topic 7	Recognize and create shapes that have symmetry and identify lines of symmetry	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
4.2	Topic 7	Can measure using centimeters, inches, kilograms, pounds, liters and cups	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: 2nd Grade Math **Length of Unit:** _____

Instructor: 2nd Grade Teacher

Standards 1. Content Problem Solving

Benchmarks 1.3. Classify numbers by divisibility (multiply, divide and classify whole numbers with and without remainders) order of magnitude

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.3	Topic 8	Understand the concept of place value for whole numbers through the hundreds place (ones, tens, hundreds)	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: 2nd Grade Math **Length of Unit:** 15 Days

Instructor: 2nd Grade Teacher

Standards: 1. Content Problem Solving

Benchmarks: 1.3. Classify numbers by divisibility (multiply, divide and classify whole numbers with and without remainders) order of magnitude

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.3	Topic 8	Understand the concept of place value for whole numbers through the hundreds place (ones, tens, hundreds)	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: 2nd Grade Math **Length of Unit:** 15 Days

Instructor: 2nd Grade Teacher

Standards 1. Content Problem Solving
5. Probability Statistics

Benchmarks 1.2. Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations
5.1. Apply probability concepts and counting rules to determine probability of simple events

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 10	Knows fractions of ½, 1/3 and 1/4	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR
5.1	Topic 10	Understand that some events are certain and others are impossible	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: 2nd Grade Math **Length of Unit:** 15 Days

Instructor: 2nd Grade Teacher

Standards: 1. Content Problem Solving

Benchmarks: 1.3 Classify numbers by divisibility (multiply, divide & classify whole numbers with & without remainders) order of magnitude

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.3	Topic 11	Can use repeated addition to describe equal groups	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Subject Area: 2nd Grade Math - Topic 12

Length of Unit: 15 Days

Instructor: 2nd Grade Teacher

Standards: 1. Content Problem Solving

Benchmarks 1.2. Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 12	Can solve addition and subtraction of three digit numbers with and without regrouping	Chapter Tests Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE); At-Risk (AR)

Second Grade Math

Name _____

	Student Average	Class Average	Class Range
1st Quarter			
2nd Quarter			
3rd Quarter			
4th Quarter			

Quarter

- [X] Skill accomplished
- [/] Progress being made
- [ ] Not evaluated at this time

1	2	3	4	
				Can count, order, write, and identify numbers 1-1000 (1.1)
				Mastery of addition and subtraction facts to 10 (1.2A)
				Knows addition and subtraction facts to 18 (1.2 B)
				Can add and subtract two digit numbers with and without regrouping (1.2 C)
				Understands place value for whole numbers through the hundreds place (1.3)
				Knows needed and extra information when solving problems (1.4 A)
				Estimates reasonable solutions to problems (14 C)
				Uses a variety of problem-solving strategies (1.4 C)
				Extends and understands the rule of a wide variety of patterns (2.2)
				Solves simple open number sentences (2.3)
				Knows basic characteristics and properties of basic plane figures (3.2)
				Can count sets of coins up to one dollar (4.1)
				Can measure using centimeters, inches, kilograms, pounds, liters, and cups (4.2)
				Can tell time to the 15 minutes (4.3)
				Understands that some events are certain and others are impossible (5.1)
				Uses pictographs, tallies, tables, and bar graphs to display information (5.2)

2nd Grade Curriculum Based Measurement

1. Content Problem Solving
1.1. Count read, write, represent, compare and order numbers in regular, expanded and exponential format
2 – Can count, order, write, identify 1-1000

Write the words in number form.

Seven hundred forty _____

Write the numbers in words.

829 _____

Write the numbers in order from **least** to **greatest**.

260	**216**	**229**
____	____	____

Write the number.

- 10 more than 395 _____

1.2. Describe and apply prosperities of whole numbers and fractions in physical, verbal and symbolic representations.
2 – Can solve addition and subtraction of two-digit numbers with and without regrouping

Add. Show your work.

37	45
+32	+58

Subtract. Show your work.

82	75
- 34	-21

2 – Know addition and subtraction 18

5	4	8	6
+3	+6	-2	-5

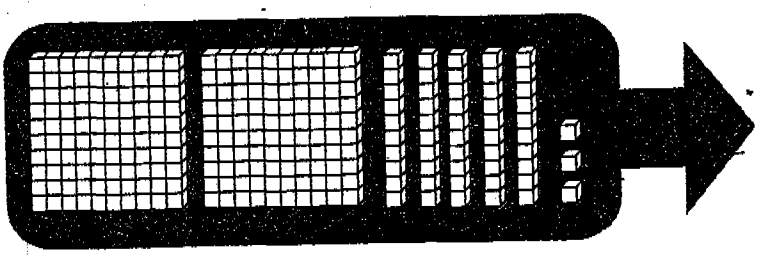
2 – Know addition and subtraction to 18

7	5	11	16
+8	+9	-3	- 8

1.3. Classify numbers by divisibility (multiply, divide & classify whole numbers with & without remainders) order of magnitude.

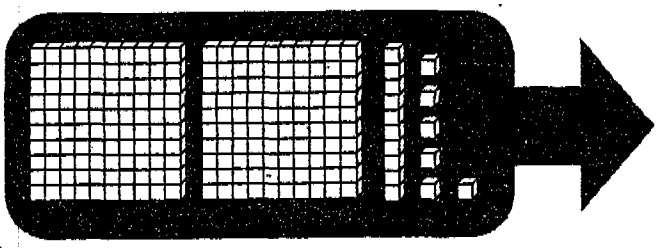
2- Understand the concept of place value for whole numbers through the hundreds place (i.e., ones, tens, hundreds)

Write how many.



_____

Write how many in word form.



_____

_____

452 What digit is in the tens place? _____

398 What is the value of the 3? _____

1.4. Check reasonability of answers by performing operations & rounding.

2 – Know the difference between pertinent and extraneous information when solving problems

2 – Use a variety of problem-solving strategies

Cross out any information you do not need to know to answer the question. Then write a number sentence and solve it to answer the question.

John had 5 dogs, 3 cats, and 2 toy cars. How many pets did he have? _____

Mary had 9 candy bars and 3 cans of pop. She ate 2 candy bars. How many candy bars does she still have? _____

On Monday we collected 15 cans, on Tuesday 2 cans, on Wednesday 32 cans, and on Thursday 12 cans. How many more cans did she collect on Monday than on Thursday? _____

My frog jumped 6 inches and then jumped 5 more inches. My brother's frog jumped 5 inches and stopped. How far did my frog jump in all? _____

2 – Estimate reasonable solutions to problems [N]

Choose a reasonable estimate.

Joe carried some books, and so did I. How many books did we carry together?
A. 0
B. 15
C. 50
D. 100

Maria was a 2nd grader. She grew and is now a 3rd grader. How much does she weigh now?
A. 8 ounces
B. 80 pounds
C. 800 pounds
D. 8000 pounds

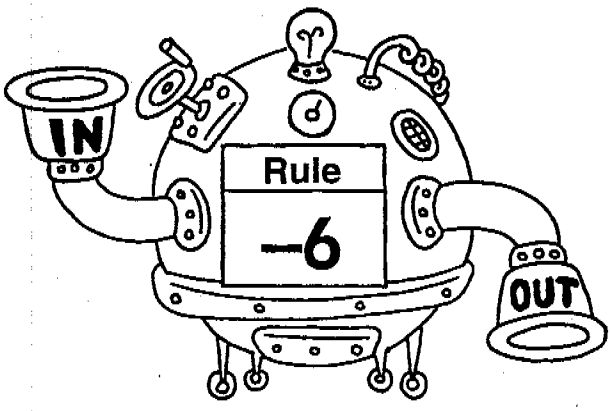
About how much is 48 – 12?
A. 50
B. 20
C. 30
D. 40

About how much is 303 + 586?
A. 800
B. 900
C. 9
D. 90

2.2. Solve equations and inequalities

2 – Extend and understand the rule of a wide variety of patterns

Write the numbers.

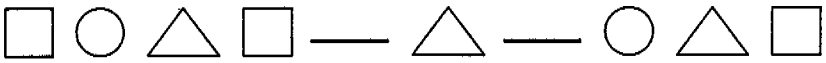


IN	**15**	**20**		
OUT			**8**	**12**

2.2. Solve equations and inequalities

2 – Extend and understand the rule of a wide variety of patterns

Complete this pattern.



Write the missing numbers.

12, 14, _____, _____, 20, _____, _____

1, 2, 4, 7, _____, 16, 22, _____

2.3. Use expressions to model situations solving simple open sentences.

2 – Solve simple open number sentences

Find the missing addend.

2 + _____ = 5

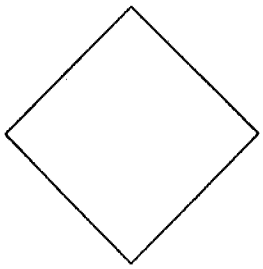
_____ + 6 = 8

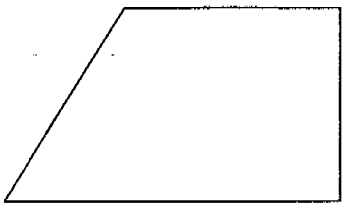
17 _____ 9 = 8

_____ - 3 = 5

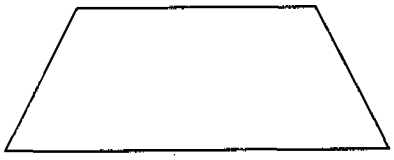
3.2. Describe geometric properties, patterns and relationships (trapezoids, parallelograms, cube, sphere, and polygon)

Write how many corners each object has.

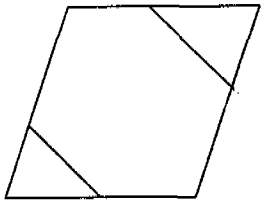




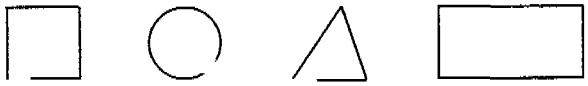
Trace the parallel lines in this figure.



Use a ruler to draw each line of symmetry.



Which of these is a closed figure?



4.1 Identify and use appropriate units of measurement (metric, US)

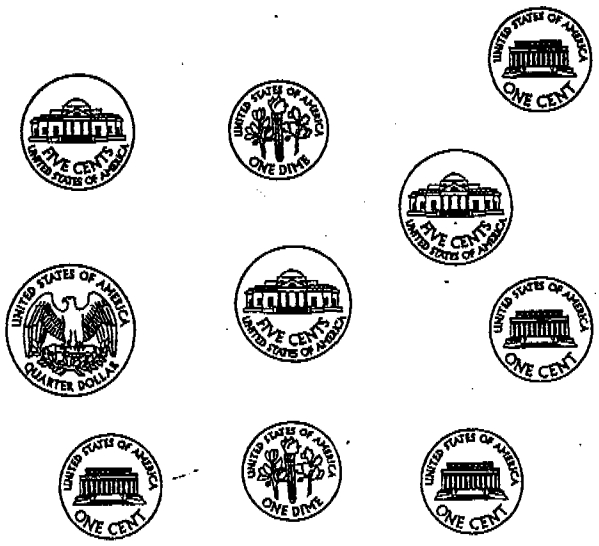
2 – Can count sets of coins up to one dollar

Write the amount.

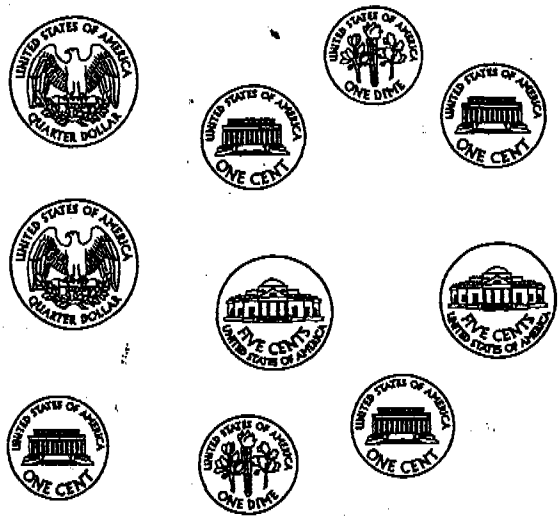
_____¢

Write the amount.

__________¢



__________¢



__________¢

4.2. Measure length/distance, time, temperature, weight, mass and volume.

2 – Can measure using centimeters, inches, kilograms, pounds, liters, and cups

What would you use to measure how much liquid a pop bottle holds?

a) centimeters b) hours c) liters d) degrees

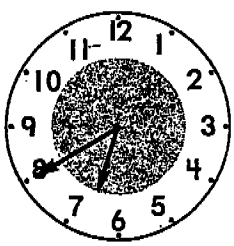
What would you use to measure how much a second grade weights?

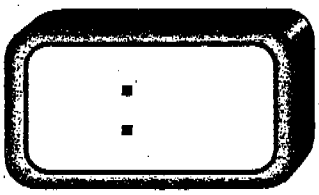
a) inches b) degrees c) cups d) pounds

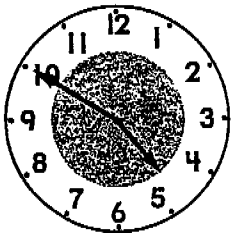
4.3. Estimate measurements with appropriate precision (solving problems involving money)

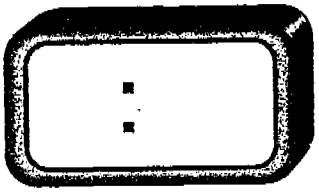
2- Tell time to the 15 minutes – digital and analog

Write each time on the digital clock

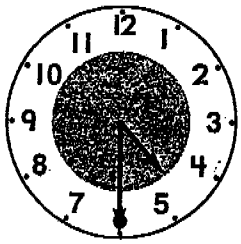




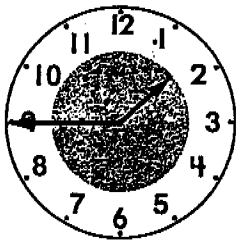




Write the times.



_____



_____

5. Probability Statistics

5.1. Apply probability concepts and counting rules to determine probability of simple events

2- Understand that some events are certain and others are impossible [N]

You have these coins in your pocket.

Could you pull out 2 nickels?

A. Certain

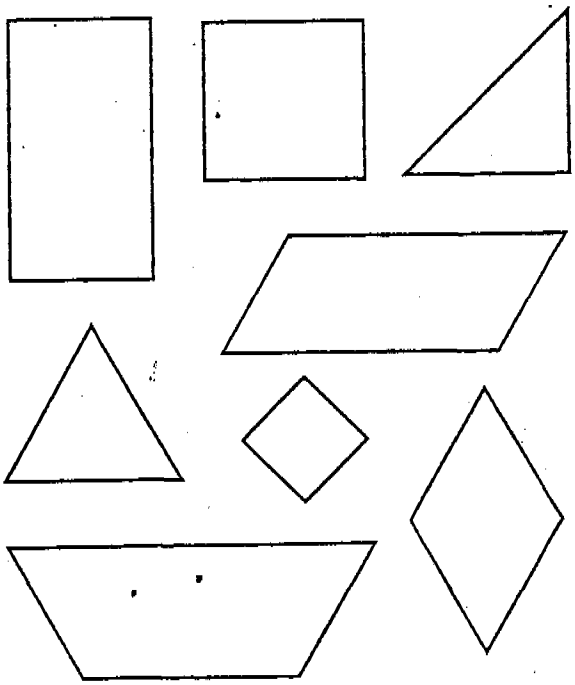
B. Impossible

You pull out 2 coins. Will you have at least 2 cents?

A. Certain

B. Impossible

These shapes are in a bag. You pull out 1 shape.



Will it be a polygon?

A. Certain

B. Impossible

Will it have 8 sides and corners?

A. Certain

B. Impossible

5.2. Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.

2 – Use pictographs, tallies, tables, and bar graphs to display information [N]

Analyzing a Picture Graph

I. Write the numbers on the graph below.

Visitors to our School = 5 people

Day	Visitors	Number
Monday		_____
Tuesday		_____
Wednesday		_____
Thursday		_____
Friday		_____

2. Write the correct days below.

a. The day with the most visitors was _____.

b. The day with the fewest visitors was _____.

c. There were 13 visitors on _____.

d. Tuesday had more visitors than _____.

e. There were 3 more visitors on Friday than on _____.

3rd
Math Standards & Benchmarks
Grade Level Indicators

1. Content Problem Solving

1.1. Count, read, write, represent, compare and order numbers in regular, expanded and exponential format

3 – Mastery of addition and subtraction facts to 18
3 – Know multiplication and division facts to 9

1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations.

3 – Add and subtract whole numbers, each 9,999 or less, with or without regrouping
3 – Add and subtract decimals through the hundredths in situations involving money

1.3. Classify numbers by divisibility (multiply, divide & classify whole numbers with & without remainders) order of magnitude.

1.4. Check reasonability of answers by performing operations & rounding.

3 – Use a variety of problem-solving strategies

2. Algebra

2.1. Use and interpret operations and relational symbols (equal, greater than, less than)

2.2. Solve equations and inequalities

3 – Understand the concept of an equation with addition and subtraction (i.e., a number sentence that show two quantities that are equal) [N]

2.3. Use expressions to model situations solving simple open sentences.

2.4. Understand and explore numerical patterns

3. Geometry

3.1. Identify, classify, and compare geometric figures knowing basic geometric language for shapes.

3 – Understand properties of and similarities and differences among basic solid figures (e.g., spheres, cubes, rectangular prisms, cylinders, pyramids, cones) and basic geometric terms (e.g., faces, edges, comers) associated with these figures.

3.2. Describe geometric properties, patterns and relationships (trapezoids, parallelograms, cube, sphere, and polygon)

3.3. Apply concepts of perimeter, area, and volume

4. Measurement

4.1. Identify and use appropriate units of measurement (metric, US)

3 – Know approximate size of basic standard units (U.S. customary)

4.2. Measure length/distance, time, temperature, weight, mass and volume.

3 – Tell time to the 5 minutes using digital and analog clocks [N]

4.3. Estimate measurements with appropriate precision (solving problems involving money)

3 – Solve problems involving money (count sets of bills and coins)

5. Probability Statistics

5.1. Apply probability concepts and counting rules to determine probability of simple events.

3 – Understand the basic concepts of likely and unlikely outcomes

5.2. Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.

3 – Read and make simple inferences from data displayed in diagrams, charts, bar graphs, and tables (e.g., generalize of draw simple conclusions)

Class Outline: 3rd Grade

Topic 1: Exploring Mathematics

Topic 2: Working with Addition and Subtraction

Topic 3: Investigating Numbers to 1,000

Topic 4: Investigating Length

Topic 5: Adding 2- and 3- digit Numbers

Topic 6: Analyzing Shapes

Topic 7: Understanding Fractions

Topic 8: Developing Multiplication concepts

Topic 9: Developing the Concepts of Division

Topic 10: Collecting and Analyzing Data

Topic 11: Investigating 4 – digit Numbers

Topic 12: Subtracting 2- and 3- digit Numbers

Topic 13: Analyzing 3-D Shapes

Topic 14: Developing Multiplication and Division Facts

Topic 15: Working with Length and Exploring Perimeter

Topic 16: Using Data and Making Predictions

Topic 17: Exploring Fraction Relationships

Topic 18: Working with Time

Topic 19: Working with Money, Capacity, and Weight

Topic 20: More Multiplication and Division Facts

Topic 21: Investigating Area and Volume

Topic 22: Investigating Decimals

Topic 23: Multiplying 2- and 3- digit Numbers

Topic 24: Dividing 2- Numbers

Chapter 1

Investigation	Learning Expectations	Core Activities	Discussion Book pages	Student Book	Blackline Masters	Manipulative and Other Materials
1.1 Discussing the Need for Mathematics	♦Identify 2- and 3-dimensional shapes. ♦Understand different attributes and select the appropriate types of unit for measuring each attribute. ♦Become familiar with standard units in the customary and metric systems.	♠Mathematics at Work ♠Garden Geometry ♠More About Measurement	Page 4 How We Use Mathematics	Page 1: Maintaining Concepts and Skills Page 2: Practice Counting On and Counting Back	BLM 1.1 Investigating Length	•String •Scissors •Rulers *Discussion Book* page 4
1.2 Exploring the Origins of Mathematics	♦Read and interpret a time line. ♦Compute fluency and make reasonable estimates.	♠Mathematics in Ancient Egypt ♠Social Studies Follow Up		Page 3: Maintaining Concepts and Skills Page 4: Practice Counting On and Counting Back		•*Egyptian Genius* page 2-5 and poster pages 2-3 •Teachers' Notes pages 4-7 •World map •*Nature's Mathematical Marvels* page 8-9 *Egyptian Genius*, Teachers' Notes pages 4-5
1.3 Growing Patterns	♦Describe, extend, and make generalizations about geometric and numeric growing patterns. ♦Represent and analyze patterns and functions, using words, tables, and graphs.	♠Discovering Patterns ♠Building a Growing Pattern ♠Making a Table for a Growing Pattern ♠Dot Patterns	Page 6 Using Numbers with Patterns	Page 7: Practice Extending a Pattern Page 8: Maintaining Concepts and Skills Page 9: Homework Sequencing Numbers	BLM 1.1 Centimeter Grid Paper BLM 2.6 Dot Paper BLM 1.4 Toothpick Patterns	•Toothpicks •Calculators •Colored tiles •Crayons Toothpicks, colored tiles

1.4 Using Patterns to Explore Number Relationships	♦Describe, extend, and make generalizations about geometric and numeric patterns. ♦Make a table to describe numeric relationships.	♠Number Relationships in Pattern Blocks ♠Analyzing Growing Patterns ♠Tables of Everyday Number Relationships		Page 10: Maintaining Concepts and Skills	BLM 1.3 Finding Number Relationships BLM 1.2 Growing Patterns	•Pattern Blocks •Small Paper Plates •Counters
1.5 Comparing Data in Graphs	♦Compare different representations of the same data. ♦Represent data using tally tables and graphs such as picture graphs and bar graphs	♠Reading Graphs ♠Representing Data in Different Ways ♠Making Chains	Page 7 Finding Information from Graphs	Page 11: Practice Birthday Tally Table Page 12: Practice Birthday Bar Graph Page 13: Homework Making a Picture Graph		•Overhead transparencies of *Student Book* pages 11 and 12 •Learning Links Discussion Book page 7; newspaper; scissors; paper; paper

Chapter 2

Investigation	Learning Expectations	Core Activities	Discussion Book pages	Student Book	Blackline Masters	Manipulative and Other Materials
2.1 Relating Addition and Subtraction	♦Develop fluency in adding and subtracting whole numbers. ♦Identify and use relationships between the operations of addition and subtraction.	♠Using Part-Part-Total Models ♠Making Fact Families	Page 8 Relating Addition and Subtraction	Page 14: Practice Exploring Part-Part-Total Page 15: Maintaining Concepts and Skills Page 16: Practice Making Fact Families	BLM 2.1 Folder Card BLM 2.2 Number Fact Spinner BLM 2.3 Making Fact Families	•Erasable Marker Tag-board; hole punch; paper fasteners; wooden cubes
2.2 Exploring Double Patterns	♦Develop fluency in adding and subtracting whole numbers. ♦Apply and adapt computation strategies to new problems.	♠Modeling Doubles and Near Doubles ♠Using Near-Doubles Facts	Page 9 Using Doubles with Addition and Subtraction	Page 17: Practice Exploring Doubling Patterns Page 18: Maintaining Concepts and Skills Page 19: Homework Using "Near Doubles" Facts	BLM 2.4 Addition Turn Up BLM 2.5 Subtraction Turn Up	•Blank paper Scissors

2.3 Creating and Analyzing Problems	♦Identify and understand uses of addition and subtraction. ♦Select the appropriate operation for a given situation.	♠Creating Addition and Subtraction Problems ♠Missing-Part Stories ♠Writing Story Problems	Page 10 Creating Addition and Subtraction Problems	Page 20: Practice Writing Story Problems Page 21: Homework Writing Story Problems	BLM 2.7 Cards for Story Problems	Scissors
2.4 Investigating 2-step Problems	♦Select the appropriate operations for solving problems that require more than one step. ♦Develop and carry out a plan to write and solve problems.	♠Solving 2-step Problems ♠Writing 2-step Story Problems	Page 10 Creating Addition and Subtraction Problems Page 11 Creating 2-step Problems	Page 22: Practice Writing 2-step Story Problems Page 23: Maintaining Concepts and Skills	BLM 2.8 Investigating 2-step Problems	Scissors, paste, blank paper
2.5 Exploring Coin Combinations	♦Develop fluency with addition whole numbers in consumer situations. ♦Recognize equivalent representations for the same number.	♠Reviewing Coin Values ♠The Toy Store ♠"Money Toss" Game		Page 24: Practice Working with Coin Values Page 25: Practice Working with Coin Combinations Page 26: Maintaining Concepts and Skills	BLM 2.9 Money Toss Game BLM 2.10 Price Tags for Price Match Up BLM 2.11 Coin Cards for Price Match Up BLM 2.12 Coin Cards for Price Match Up	•6-8 small toys •Teacher-made price tags for each toy •Play Money •Wooden cubes Scissors, wooden cubes

Chapter 3						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
3.1 Reading and Writing 3-digit Numbers	♦Understand the place-value structure of 3-digit numbers. ♦Recognize equivalent representations for the same number.	♠Counting a Collection ♠Showing Easy 3-digit Numbers ♠Showing Other 3-digit Numbers		Page 27: Practice Using a Number Expander Page 28: Homework Using a Number Expander Page 29: Maintaining Concepts and Skills	BLM 3.1 Number – Match Cards BLM 3.2 Base Ten Blocks	•Containers •Counters •Base Ten Blocks •3-Digit Number Expander •Erasable pen Scissors; paste; construction paper
3.2 Comparing and Ordering 3-Digit Numbers	♦Understand the place-value structure of 3-digit numbers. ♦Compare and order 3-digit numbers. ♦Solve logical reasoning problems	♠Comparing Amounts ♠Using Logical Reasoning with Base Ten Blocks	Page 12 Logical Thinking – Using Base Ten Blocks	Page 30: Practice Attendance at the Circus Page 31: Maintaining Concepts and Skills		•Containers •Base Ten Blocks Containers; phase cards; Base Ten Blocks; 3 cards
3.3 Sequencing and Counting with 3-digit Numbers	♦Add or subtract 1, 10, 100 to or from a 3-digit number. ♦Develop fluency in adding/subtracting 1, 10, 100 to or from a 3-digit number.	♠Patterns in More and Less ♠Moving the Counter	Page 13 Sequencing 3-digit Numbers	Page 32: Practice Finding More and Less Page 33: Practice Finding Numbers on a 300s Chart Page 34: Homework Finding More and Less	BLM 3.3 200s Board Number Puzzle BLM 3.4 300s Board BLM 3.5 Number Card Draw BLM 3.6 Spinner Activity Recording Sheet	•Base Ten Blocks •Scissors •Paste Base Ten Blocks; paper clips; pencils

3.4 Regrouping 3-digit Numbers	♦Recognize equivalent representation for the same number. ♦Generate equivalent representations for a number by decomposing and composing (regrouping) numbers.	♠Regrouping All the hundreds ♠Addition Toss-and-Regroup Game ♠Subtraction Toss-and-Regroup Game		Page 35: Practice Trading Hundreds for Tens Page 36: Maintaining Concepts and Skills Page 37: Homework Trading Hundreds for Tens	BLM 3.2 Base Ten Blocks	•Base Ten Blocks •3-digit Number Expanders •Wooden cubes •Place-value mats Scissors; 3X5 cards
3.5 Moving to Examples of 1,000	♦Develop strategies for estimating quantities of 1,000. ♦Recognize equivalent representations for 1,000.	♠How Much is 1,000? ♠Modeling 1,000 ♠The Answer is 1,000	Page 14 Finding One Thousand	Page 38: Practice Numbers That Add to 1,000 Page 39: Maintaining Concepts and Skills Page 40: Homework Writing and Comparing Numbers	BLM 3.7 Making Change	•Calculators •Catalogs or newspaper inserts from a music store or household appliance store •Manila folders •Scissors •Paste •Base Ten Blocks •4-digit Number Expander Play Money

Chapter 4

Investigation	Learning Expectations	Core Activities	Discussion Book pages	Student Book	Blackline Masters	Manipulative and Other Materials
4.1 Relating Centimeters and Meters	♦Measure in meters and centimeters. ♦Develop strategies for estimating lengths. ♦Carry out simple unit conversions.	♠Explore Centimeters and Meters ♠Meter Hunt ♠Measuring with Meters and Centimeters ♠Centimeter Cube Pattern	Page 15 Measuring with Meters and Centimeters	Page 41: Practice Centimeter Cube Pattern Page 42: Homework Measuring with Meters Page 43: Maintaining Concepts and Skills Page 44: Practice Measuring Giant Steps	BLM 4.1 Measuring with Meters BLM 4.2 Making Meter Strip	•Metric measuring tapes •Basic Ten Blocks •Overhead transparency of BLM 4.1 •String •Meter sticks •Centimeter •Connecting Cubes •Calculators •Metric rulers Scissors; paste; measuring tapes

4.2 Analyzing the Results of an Experiment	♦Collect data from an experiment, make comparisons, and justify conclusions. ♦Measure with metric units.	♠Measuring Distance ♠Ordering Distance ♠Writing Comparison Questions	Page 16 Experiments with Length	Page 45: Maintaining Concepts and Skills Page 46: Homework Finding Measures		•Metric measuring tapes •Golf balls •Tennis balls •Table tennis balls •Baseballs •Books of the same thickness •Stiff card
					BLM 4.3 Using Centimeters	Blue and red crayons or colored pencils; balls of different types; measuring tapes
4.3 Exploring the Distance Around (Perimeter)	♦Develop the concept of perimeter (distance around). ♦Make figures with a given perimeter.	♠Measuring the Distance Around Body Parts ♠Investigating Perimeter ♠Comparing Measurements ♠Triangle Tease	Page 17 Investigating Perimeter	Page 47: Practice Triangle Tease Page 48: Maintaining Concepts and Skills	BLM 4.4 Comparing Measurements BLM 4.5 Comparing Measurements	•Learning Links •Measuring tapes
					BLM 4.6 Triangle Tease Game	Learning Links or paper clips
4.4 Developing a Concept of One Mile	♦Recognize and use connections between distance and time. ♦Know and use standard units of measurement. ♦Make reasonable predictions based on collected data.	♠Walking a Mile ♠Estimating Distances ♠What is a Mile		Page 49: Practice How Long Will It Take? Page 50: Homework Walking Estimates		•Clock or stopwatch •Calculators •*Mathematics for Many Cultures* page 4-5
4.5 Solving Problems About Length	♦Select appropriate reasoning strategies and use them to solve problems. ♦Construct various shapes with a given perimeter.	♠Solving Distance Problems ♠Which Rider Is This? ♠Constructing Shapes with the Same Perimeter	Page 18 Problem Solving with Length	Page 51: Maintaining Concepts and Skills Page 52: Practice Finding the Perimeter of Shapes	BLM 4.7 Representation of Geo-board	•Geo-boards •Rubber bands •Dot Paper
					BLM 4.8 Centimeter Dot Paper	Geo-boards

Chapter 5						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
5.1 Reviewing Addition and Subtraction Strategies	♦Develop fluency in adding and subtracting whole numbers. ♦Develop methods and strategies for mental computation with 1-and 2-digit numbers.	♠Developing Strategies ♠Finding Patterns in Addition and Subtraction	Page 19 Using the Tens Strategy to Add and Subtract	Page 53: Practice Using a Strategy to Add Page 54: Practice Writing Addition Facts Page 55: Practice Practice Addition and Subtraction Facts Page 56: Homework Practice Addition and Subtraction	BLM 5.1 Subtraction Strategies Game	2 ten-frames drawn on an overhead transparency Centimeter Connecting Cubes Overhead transparency of *Student Book* page 53 Paste, card stock, scissors
5.2 Creating Different Addition and Subtraction Problems for the Same Situation	♦Write addition and subtraction problems for given situations. ♦Use mental strategies to add and subtract 1- and 2-digit numbers.	♠Related Addition and Subtraction Problems ♠Compatible Numbers ♠Making a Store Catalog	Page 20 Problem Solving—Asking All the Questions	Page 57: Practice Adding 2-digit Numbers Page 58: Homework Adding 2-digit Numbers Page 59: Maintaining Concepts and Skills		•Overheard transparency of *Student Book* page 57 •Paste •Scissors •Manila folders •Newspapers, magazines, and catalogs Copies of student-generated problem from *Discussion Book* page 20 Task 5
5.3 Finding the Most Appropriate Method for Adding	♦Know when to find an estimate or an exact answer. ♦Develop strategies to estimate the sums of 3-digit numbers. ♦Use Base Ten Blocks to add 3-digit numbers.	♠Using Estimation ♠Checking Receipts ♠The Animal Triathlon ♠Finding Totals	Page 21 Adding 3-digit Numbers	Page 60: Practice Estimating and Adding Page 61: Maintaining Concepts and Skills	BLM 5.2 The Animal Triathlon	•Base Ten Blocks •Receipts from stores or restaurants •Calculators •Overhead transparency of BLM 5.2 Base Ten Blocks

5.4 Using Different Methods to Add 3-digit Numbers	♦Model and solve addition problems that require regrouping. ♦Use estimation, mental math, and modeling to solve addition problems with 3-digit numbers.	♠Adding Numbers with Regrouping ♠Regrouping 3-digit Numbers ♠The Hundreds Game ♠Addition Puzzles		Page 62: Practice Adding 3-digit Numbers Page 63: Practice Adding 3-digit Numbers Page 64: Maintaining Concepts and Skills	BLM 5.3 Addition Puzzles BLM 5.4 Adding Mentally	•Base Ten Blocks •Wooden Cubes •Place-value mats •Overhead transparency of BLM 5.3
5.5 Modeling and Recording the Addition Algorithm	♦Use Base Ten Block to model the addition algorithm. ♦Develop fluency in adding whole numbers with regrouping.	♠Regrouping with Addition ♠Practicing Addition with Regrouping ♠Recording Regrouping ♠Finding Totals	Page 21 Adding 3-digit Numbers	Page 65: Practice Finding Totals Page 66: Homework Adding Amounts from Football Games Page 67: Maintaining Concepts and Skills	BLM 5.5 Regrouping to Add	•Base Ten Blocks "Store catalogs" from Investigation 5.2, Base Ten Blocks
Chapter 6						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
6.1 Describing Solid and Plane Shapes	♦Identify and describe 2- and 3-dimensional shapes in the environment. ♦Compare and contrast the attributes of 2- and 3-dimensional shapes.	♠Identify Shapes in the Environment ♠Relating 2- and 3-D Shapes ♠Observing and Sorting Shapes	Page 22 Finding Geometric Shapes	Page 68: Practice 2-D and 3-D Shapes Page 69: Maintaining Concepts and Skills Page 70: Practice Sort the Shapes		•Everyday objects such as tissue boxes, shoeboxes, and food cans Magazines or catalogs, scissors, markers

6.2 Exploring Polygons and Angles	♦Sort polygons by a variety of attributes. ♦Use a square corner (right angle) as a benchmark for determining angles of various sizes.	♠Sorting Plane Shapes and Polygons ♠Making a Right-Angle Tester ♠Making Angles		Page 71: Practice Using a Right-Angle Tester Page 72: Maintaining Concepts and Skills	BLM 6.1 Set of Flat Shapes	•Scissors •Overhead Transparency of BLM 6.1 •Paper •Geo-strips or strips of tag-board •Paper fasteners •Copies of a clock face showing the numbers 1-12 (no hands) Clock face with moyable hands; blank paper; origami instruction book (optional); rulers
6.3 Sorting Polygons by Sides and Angles	♦Describe and classify 2-dimentional shapes according to their attributes. ♦Draw shapes based on attributes.	♠Comparing and Creating Shapes ♠What Shapes Am I? ♠Where Do I Belong	Page 23 Comparing and Creating Shapes	Page 73: Practice Describing Shapes Page 74: Maintaining Concepts and Skills Page 75: Homework Identify Shapes	BLM 4.7 Representation of Geo-board BLM 6.1 Set of Flat Shapes BLM 6.2 Sorting Plane Shapes	•Geo-boards •Rubber bands •Scissors •Overhead transparency of BLM 6.2 Geo-boards; rubber bands; dot paper; list of geometry vocabulary words; *Mathematics from Many Cultures*, pages 2-3

6.4 Identifying Shapes with Lines of Symmetry	♦Identify and create 2-dimensional shapes that have line symmetry. ♦Draw lines of symmetry in 2-dimensional shapes.	♠Making Symmetrical Shapes ♠Symmetry in Pattern-Block Designs ♠Flips and Turns	Page 24 Investigation Symmetry	Page 76: Practice Exploring Symmetry Page 77: Practice Symmetry in Our Classroom Page 78: Maintaining Concepts and Skills	BLM 6.3 Exploring Symmetry	•Scissors •Crayons •Un-ruled paper •Pattern Blocks •Overhead Pattern Blocks •Overhead transparency of BLM 6.3 •Overhead color pens •Rulers
					BLM 6.3 Exploring Symmetry BLM 6.4 Finding Lines of Symmetry BLM 4.7 Representation of Geo board	Scissors; Geo-boards; rubber bands
6.5 Using "Slides" to Move Shapes	♦Predict and describe the results of sliding 2-dimentional shapes on a grid. ♦Use transformations (slides, flips, turns) to move or repeat a shape.	♠Moving Shapes with Slides ♠Using Slides and Turns to Create Designs ♠Following Directions on a Map	Page 25 Moving Shapes		BLM 1.1 Centimeter Grid Paper BLM 6.6 Flips, Slides, and Turns BLM 6.7 Following Directions on a Map	•Centimeter Connecting Cubes •*Mathematics from Many Cultures* pages 8-9 •Overhead transparency of BLM 6.7
						Mathematics from Many Cultures pages 8-9; state maps

Chapter 7						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
7.1 Using Fair Shares to Review Fractions	♦Recognize that a fraction represents a part of a unit whole that has been divided. ♦Divide models into equal parts.	♠Making Fair Shares ♠Sharing Cookies	Page 26 Exploring Fraction Ideas	Page 79: Practice Fair Shares Page 80: Practice My Creative Half Design Page 81: Maintaining Concepts and Skills	BLM 7.1 Fair Shares BLM 7.2 How to Share Cookies BLM 7.1 Fair Shares	•Brown paper •Scissors •Paste •Overhead transparency of BLM 7.1 •Matching paper rectangles Paper squares, crayons, or colored pencils
7.2 Finding Equivalent Fractions	♦Compare fractional parts of an area model using concrete materials. ♦Recognize fractions equivalent to one whole.	♠Folding to Show Equal Parts ♠Making Equal Parts of Circles		Page 82: Practice Shading Fractions Page 83: Maintaining Concepts and Skills	BLM 7.3 Dividing Shapes	•2-inch by 9-inch strips cut from white, pink, yellow, and green construction paper •Toothpicks •Rulers •Paper circles •Crayons Fraction strips from previous activities
7.3 Developing Language to Compare Fractions	♦Read and write fractions using mathematical notation. ♦Use concrete materials to understand and compare fractions.	♠Understanding Fractional Notation ♠Comparing Fractions	Page 27 Comparing Fractions	Page 84: Practice Comparing Fractions Page 85: Writing Fractions Page 86: Homework Writing Fractions	BLM 7.4 Working with Fractions BLM 7.5 Naming Fractions	•Fraction strips from Investigation 7.2 Stickers, fraction strips from Investigation 7.2; crayons

7.4 Using Pattern Blocks as Fractions	♦Recognize and generate equivalent fractions. ♦Understand that different t models can show one whole.	♠Using Pattern Blocks to Show Fractions ♠Recognizing Different Wholes ♠Game: A Different Whole	Page 28 Exploring Fractions	Page 87: Practice A Different Whole Page 88: Maintaining Concepts and Skills	BLM 7.6 Mix-and-Match Fraction Cards	•Pattern Blocks •Wooden cubes •Copies of *Student Book* pages 89 Scissors; tag-board (optional); wooden cubes; counters; fraction strips from investigation 7.2
7.5 Visualizing Halves and Fourths	♦Construct different regions to demonstrate ½ or ¼ of a whole. ♦Construct the whole unit when given a region representing ½ or ¼.	♠Showing Halves and Fourths ♠Showing More Halves ♠Finding Ways to Show a Whole	Page 29 Exploring with ½	Page 89: Practice Mrs. Sewso's Quilt Halves Page 90: Maintaining Concepts and Skills	BLM 7.7 Shading Half of a Square BLM 7.7 Shading Half of a Square	•Geo-boards •Rubber bands •Overhead transparency of BLM 7.7 Geo-boards; rubber bands
Chapter 8						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
8.1 Reviewing the Concept of Multiplication	♦Model and solve multiplication problems (forming equal groups with concrete materials). ♦Use and interpret the symbol for multiplication.	♠Investigating Grouping ♠Modeling and Creating Multiplication Stories ♠Using the Multiplication Symbol	Page 30 Reviewing Multiplication	Page 91: Practice Using the Multiplication Symbol Page 92: Maintaining Concepts and Skills	BLM 8.1 Expression Cards BLM 8.2 Multiplication Fact Cards BLM 8.3 Multiplication Concentration	•Joining and Sharing Mats •Counters •Linker Cubes •Scissors Drinking straws; clay

8.2 Finding "Turnaround Facts"	♦Model and solve multiplication problems (using array pictures). ♦Use and interpret the commutative property.	♠Building Arrays ♠Matching Pictures, Words, and Symbols		Page 93: Practice Writing "Turnaround" Facts Page 94: Homework Writing "Turnaround" Facts	BLM 8.7 Multiplication/Division Frame BLM 8.4 Pair-up Rectangles BLM 8.5 Twos and Fives Facts Game BLM 8.5 Twos and Fives Facts Match	•Overhead transparency of BLM 8.7 •One-inch square tiles •Arrays made from BLM 8.4 •Blank 3X5 cards •Paste Wooden cubes, crayons or colored pencils, scissors
8.3 Exploring Factors	♦Create arrays to find factors. ♦Identify factors for a known total.	♠Constructing Arrays to Introduce Factors ♠Finding Factors	Page 31 Finding Factors	Page 95: Practice Constructing Arrays Page 96: Homework Constructing Arrays Page 97: Practice Finding Factors Page 98: Maintaining Concepts and Skills	BLM 8.7 Multiplication/Division Frame BLM 8.4 Pair-up Rectangles	•One-inch square tiles •Overhead transparency of BLM 8.7 •Paper Containers, scissors, one-inch square tiles
8.4 Exploring One as a Factor	♦Create groups or arrays to model multiplication when one is a factor. ♦Multiply by one.	♠Building One Row ♠Multiplying by One ♠Math Journal	Page 32 Multiplication Facts with One	Page 99: Practice Investigating Multiplication Patterns Page 100: Homework Investigating Multiplication Patterns Page 101: Practice Multiplying by One Page 102: Maintaining Concepts and Skills	BLM 8.7 Multiplication/Division Frame BLM 1.1 or BLM 2.6 Centimeter Grid Paper – Dot Paper BLM 8.8 Garage Sale	•Overhead transparency of BLM 8.7 •Centimeter Connecting Cubes or one-inch square tiles Pegs and pegboard

8.5 Exploring Zero as a Factor	♦Construct multiplication patterns involving zero (empty groups). ♦Multiply by zero. ♦Create multiplication problems.	♠Extending Multiplication to zero ♠Introducing the Multiplication Table ♠Creating and Solving Multiplication Problems	Page 33 Multiplication Facts with Zero	Page 103: Practice Writing Multiplication Facts Page 104: Practice Solving Multiplication Problems Page 105: Maintaining Concepts and Skills	BLM 8.9 Multiplication Facts	•Paper plates •Counters •Wooden cubes, rulers, paper
Chapter 9						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
9.1 Exploring Division	♦Use division to find either the number of groups or the size of the groups in a set. ♦Understand the relationship between multiplication and division.	♣Writing Division Problems ♣Exploring Ways to Divide ♣using Geometry to Visualize Division	Page 34 Creating Division Problems	Page 106: Practice Ways to Express Division Page 107: Maintaining Concepts and Skills		•Index cards •Linker Cubes •Learning Links •Linker Cubes
9.2 Modeling Division Problems	♦Understand that division means finding the size of a group (Share) or finding the number of groups. ♦Understand and use the symbol ÷ for division.	♣Modeling Division Problems ♣Writing the Division Symbol ♣Repeated Subtraction as Division ♣Modeling Equal Shares	Page 35 Acting Out Division Problems	Page 108: Practice Modeling Division Page 109: Maintaining Concepts and Skills	BLM 9.1 Modeling Division BLM 9.2 Modeling Division	•Joining and Sharing Mats for 3, 4, 5, 6 •Linker Cubes •Overhead transparency of BLM 9.1 •Overhead transparency of *Student Book* page 108 Linker Cubes; overhead transparency of BLM 9.2
9.3 Relating Multiplication and Division	♦Understand and use the relationship between multiplication and division. ♦Begin to develop fluency in dividing whole numbers.	♣Relating Multiplication and Division ♣Connecting Multiplication and Division Facts ♣Flag Facts	Page 36 Writing Multiplication and Division Facts	Page 110: Practice Fact Families Page 111: Homework Fact Families Page 112: Practice Fact Families Page 113: Maintaining Concepts and Skills	BLM 9.3 Fact Family Puzzle	•Counters •Joining and Sharing Mats for 3 and 6 •Index cards Card stock, scissors

9.4 Using Arrays for Multiplication and Division	♦Identify and use the relationship between multiplication and division. ♦Use arrays to model multiplication and division.	♣Making Arrays ♣Using Arrays to Show Fact Families	Page 37 Multiplication and Division Fact Families	Page 114: Practice Making Arrays Page 115: Homework Writing Related Division Facts	BLM 9.4 Factor Puzzle	•Linker Cubes •Grid paper •Scissors Colored card stock; scissors; Linker Cubes
9.5 Looking for Patterns in Division	♦Understand that division means finding the size of group (Share) or finding the number of groups. ♦Explore division with remainders.	♣Finding Patterns in Division ♣Using a Division Mat	Page 38 Investigating Division	Page 116: Practice Writing Related Division Facts Page 117: Practice Fact Families Arrays for 24 Page 118: Maintaining Concepts and Skills	BLM 9.5 Division Mat	•Counters •Overhead transparency of BLM 9.5 •Centimeter Connecting Cubes Calculators
Chapter 10						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
10.1 Reading Bar Graphs	♦Read a bar graph and analyze data. ♦Use a graph to compare data. ♦Make predictions based on data.	♣Reading bar Graphs ♣Analyze the Data ♣Collecting Temperature Data (ongoing)	Page 39 Finding Information from Bar Graphs	Page 119: Practice Reading Bar Graphs Page 120: Maintaining Concepts and Skills		•Meter stick •Map of the U.S.A. •Thermometer Ruler; source for weather records (internet or almanac)
10.2 Comparing Two Related Graphs	♦Compare different representations of the same or related data. ♦Analyze data to make inferences. ♦Collect data using a survey; record results in a bar graph.	♣Comparing Data in Graphs ♣Two Ways to Show Data ♣Making a Graph to Show Results	Page 39 Finding Information from Bar Graphs	Page 121: Practice Reading Bar Graphs Page 122: Maintaining Concepts and Skills	BLM 10.1 Making a Stamp Graph	•Scissors •Paste •Grid paper •Plain paper •Crayons or markers Poster board

10.3 Interpreting Picture Graphs	♦Use a key to determine the number of units represented in a picture graph. ♦Understand that when there is a large range of data it can be organized into intervals. ♦Read and interpret information from picture graphs.	♣Picture Perfect ♣Finding Information from Picture Graphs ♣Making a Class "Jumps" Graph ♣Extension of Reading and Interpreting Picture Graphs	Page 39 Finding Information from Bar Graphs Page 40 Finding Information from Picture Graphs	Page 123: Practice Turning Pictures into Bars Page 124: Maintaining Concepts and Skills	BLM 10.2 Reading Graphs	•Overhead transparency of BLM 10.2 •Stick-on notes •Yardstick or measuring tape •*Longest, Tallest, Heaviest*
10.4 Extracting Information from Graphs and Charts	♦Extract information from graphs and charts. ♦use logical reasoning to analyze information from graphs and charts. ♦Understand that a graph may show overlapping information.	♣Using Tables and Charts ♣Using a Tally Table to Make a Chart ♣Reviewing the Temperature Experiment	Page 41 Using Tables and Charts	Page 125: Homework Creating a Bar Graph Page 126: Maintaining Concepts and Skills	BLM 10.3 Graphing Favorite Pets BLM 10.4 Graphing Favorite Pets	•3X5 cards •Overhead transparencies of BLMs 10.3 and 10.4 •Scissors •Paste Table and chart from flash; slips of paper; poster board
10.5 Combining Money and Displaying Data	♦Develop fluency in combining money amounts (decimals and whole numbers). ♦Organize and represent data using tables, charts, and graphs.	♣Making and Displaying Coin Combinations ♣Changing Coins and Bills ♣Concluding the Temperature Experiment	Page 42 Charging Coins and Bills	Page 127: Practice Making Purchases Page 128: Homework Reading Picture Graphs	BLM 10.5 Working with Money	•Play Money •Tag-board Stick-on notes; Play Money

Chapter 11						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
11.1 Exploring 4-digit Numbers	♦Understand the place-value structure of numbers in the thousands. ♦Understand "0" as a place holder.	♣Finding Thousands ♣Showing and Writing 4-digit Numbers	Page 43 Finding Thousands	Page 129: Practice Writing 4-digit Numbers Page 130: Practice Identifying Numbers Page 131: Maintaining Concepts and Skills	BLM 1.1 Centimeter Grid Paper	•Base Ten Blocks •4-digit Number Expanders •Erasable pens Play Money pennies, Learning Links, beans, or Centimeter Connecting Cubes *Mathematics from Many Cultures* page 6-7
11.2 Modeling 4- and 5-digit Numbers	♦Read and write 4- and 5-digit numbers. ♦Understand the place-value structure of 4- and 5-digit numbers.	♣Showing and Writing 4-digit Numbers ♣Regrouping and Renaming ♣Exploring 5-digit Numbers ♣Comparing Number Systems		Page 132: Practice Writing 4-digit Numbers Page 133: Practice Exploring 4-digit Numbers Page 134: Maintaining Concepts and Skills	BLM 11.1 Base Ten Blocks BLM 11.2 Making a Number Expander BLM 11.1 Base Ten Blocks BLM 11.3 Writing and Modeling 4-digit Numbers	•Base Ten Blocks •4-digit Number Expanders •Erasable pens •Tag-board •Scissors •Glue •*Mathematics from Many Cultures* page 6 •Cards made from BLM 1.1 Scissors
11.3 Comparing 4-digit Numbers	♦Understand the place-value structure of 4-digit numbers. ♦Read, write, compare, and order 4-digit numbers.	♣Sequencing 4-digit Numbers ♣Building the Greatest Number ♣Reading and Ordering Dates	Page 44 Sequencing 4-digit Numbers	Page 135: Practice Reading and Writing Numbers Page 136: Practice Comparing Scores from the Olympics Page 137: Homework Reading and Writing Numbers	BLM 11.4 Digit Cards BLM 11.5 Digit Grid BLM 11.6 Comparing Dates BLM 11.7 Increasing and Decreasing 4-digit Numbers	•Index cards •Base Ten Blocks •Scissors •Overhead transparency of BLM 11.6 Social studies books; Base Ten Blocks

11.4 Reading Thousands in Other Ways	♦Compare 4-digit numbers. ♦Convert kilometers to meters.	♣Introducing the Kilometer ♣Mountain Heights ♣Reading Thousands in Other Ways	Page 45 Working with Meters and Kilometers	Page 138: Practice Reading Thousands in Other Ways Page 139: Practice Writing Numbers in Order Page 140: Maintaining Concepts and Skills		•Meter stick •Calculators •Base Ten Blocks (hundreds flats only) •4-digit Number Expander Newspapers or magazines; *Discussion Book* page 45; calculators
11.5 Solving Problems with 4-digit Numbers	♦Solve problems involving 4-digit numbers. ♦Read and write 4-digit numbers.	♣Distances on a Map ♣Events in American History ♣Comparing Yards and Miles ♣Solving Problems About Time	Page 46 Problem Solving—Using a Map	Page 141: Practice Calculating Differences Page 142: Practice Increasing and Decreasing 4-digit Numbers Page 143: Maintaining Concepts and Skills		•Calculators •Overhead transparency of *Student Book* page 141 •Stopwatches •Social studies books Internet access or an atlas; *Discussion Book* page 46; poster board; encyclopedias or travel brochures; calculators; Teachers' Notes for *Mathematics from Many Cultures*
Chapter 12						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
12.1 Solving Problems with All Operations	♦Develop fluency with addition, subtraction, multiplication, and division. ♦Solve 1-and 2-step problems.	♣Solving Problems at the Paint Store ♣Can I Subtract? ♣Number Puzzles	Page 47 Using All Four Operations	Page 144: Practice Number Puzzles Page 145: Maintaining Concepts and Skills		•Overhead transparency of *Student Book* page 144 Cards; squares of paper; *Alexander, Who Used to Be Rich Last Sunday*

12.2 Making Estimates When Subtracting	♦Develop and use strategies to estimate results of whole-number operations. ♦Understand that an estimate represents a range of exact numbers.	♣Nicer Numbers ♣Subtracting with Store Catalogs	Page 48 Using "Nice Numbers"	Page 146: Practice Estimating Differences Page 147: Maintaining Concepts and Skills	BLM 12.1 Counting Back to 500	•Newspaper • "Store catalog" from Investigation 5.2 •Erasable pen •Newspaper
12.3 Selecting Methods to Subtract	♦Apply appropriate strategies to solve real-world subtraction problems. ♦Solve subtraction problems with mental computation.	♣Choosing a Method ♣Reviewing Subtraction of 2-digit Numbers ♣Mental Subtraction		Page 148: Practice Using Subtraction Page 149: Practice Comparing Pentathlon Scores Page 150: Maintaining Concepts and Skills	BLM 12.2 Snakes and Ladders BLM 12.3 Subtracting Mentally	• "Store catalog" from Investigation 5.2 •Erasable pen •Calculator •*Just for Fun* page 4 •Number Cubes •Base Ten Blocks •Catalogs, advertisements
12.4 Using Subtraction to Solve Problems	♦Select appropriate methods for subtracting whole numbers. ♦Solve problems involving subtraction of 3-digit numbers.	♣Subtracting 2-digit Numbers ♣Subtracting 3-digit Numbers	Page 49 Subtracting 3-digit Numbers	Page 151: Practice Finding Differences Page 152: Practice Finding Differences Page 153: Homework Finding Differences	BLM 12.4 Finding the Difference	•Base Ten Blocks Base Ten Blocks or calculator, poster board
12.5 Recording Steps of Subtraction	♦Solve problems that arise in everyday situations. ♦Develop fluency with subtraction.	♣Everyday Earth Store Subtraction ♣How Many Blocks Are Left? ♣Subtracting with Calculating Tools	Page 50 Problem Solving with Subtraction	Page 154: Homework Subtracting 3-digit Numbers Page 155: Practice Subtracting 3-digit Numbers Page 156: Maintaining Concepts and Skills	BLM 12.5 Solving Problems BLM 12.6 Calculating Differences	•Base Ten Blocks •Container •*Mathematics from Many Cultures* •Counters •Base Ten Blocks

Chapter 13						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
13.1 Seeing Objects from Different Directions	♦Visualize 3-dimensional objects from different perspectives. ♦Describe locations.	♣Exploring Perspective ♣Identifying Perspectives	Page 51 Visual Thinking	Page 157: Practice Bird's-Eye View Page 158: Maintaining Concepts and Skills Page 159: Practice Drawing an Object from Different Views	BLM 2.6 Dot Paper	•Tape or stick-on notes •Classroom objects with simple geometric shapes •Glue sticks Rectangular prism or box; overhead transparency of BLM 2.6; rulers
13.2 Making 3-D Shapes	♦Construct 3-dimensional geometric shapes based on pictures and descriptions. ♦Visualize 3-dimensional objects from different perspectives.	♣Cube Constructions ♣Different Views of Solids	Page 52 Constructing Solid Shapes	Page 160: Practice Showing Top and Side Views Page 161: Maintaining Concepts and Skills Page 162: Practice How Many Cubes?		•Centimeter Connecting Cubes Centimeter Connecting Cubes; books; solid figures; bag
13.3 Relating Solid Shapes to Nets	♦Identify and build 3-dimensional objects from 2-dimensional nets. ♦Identify 2-dimenional nets of 3-dimenional objects.	♣Creating Solids From Nets ♣Constructing Pyramids	Page 53 Folding to Make Solid Shapes	Page 163: Practice Exploring Shapes Page 164: Maintaining Concepts and Skills	BLM 13.1 Nets BLM 13.2 Nets BLM 13.3 Nets	•Overhead transparency of BLM 13.1 •I-inch cube •Scissors •Tape •Tag-board Classroom objects to trace; 1-inch wooden cubes; glue

13.4 Investigating Properties of 3-D Shapes	♦Describe, identify, and develop vocabulary for attributes of 3-dimensional shapes. ♦Define classes of shapes and classify 3-dimensional shapes.	♣Making a Space Shape ♣Exploring Corners and Edges ♣Describing 3-D Shapes	Page 54 Investigating Corners and Edges of Solid Shapes	Page 165: Practice Identifying 3-D Shapes Page 166: Maintaining Concepts and Skills	BLM 2.6 Dot Paper BLM 13.4 Solid Shape Cards BLM 13.5 Solid Shape Cards	•Colored Wooden Cubes •Drinking straws or toothpicks •Modeling clay or marshmallows •Constructions from Investigation 13.3 •*Fantastic Feats* page 3 •Teachers' Notes page 7 •Rectangular prism •Triangular pyramid Scissors
13.5 Exploring the Concepts of Volume	♦Develop strategies to determine the volume of a rectangular solid. ♦Given the volume and the number of layers, determine the number of units in each layer.	♣Finding the Number of Cubes in a Box Shape ♣Building Shapes ♣Shape Puzzles		Page 167: Practice Using Cubes Page 168: Practice Multiplying Three 1-digit Numbers Page 169: Homework Multiplying Three 1-digit Numbers		•Centimeter Connecting Cubes or Colored Wooden Cubes Centimeter Connecting Cubes, three wooden cubes
Chapter 14						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
14.1 Exploring Strategies for "Four" Facts	♦Develop fluency with basic number combinations (basic facts) for multiplications. ♦Develop strategies for using a known fact to find an unknown fact.	♣Describe Sets of Four ♣Showing Double Doubles ♣Using Double-Double Folders ♣Recording "Four" Facts		Page 170: Practice Multiplying by 2 and by 4 Page 171: Homework Multiplying by 2 and by 4 Page 172: Maintaining Concepts and Skills	BLM 8.9 Multiplication Facts BLM 8.9 Multiplication Facts	•Paper •Paint •Paintbrushes •Double-Double Multiplication Cards •Overhead transparency for each Double-Double Multiplication Card •3X5 cards

14.2 Exploring Strategies for "Threes" Facts	♦Develop strategies for multiplication. ♦Develop strategies for using a known fact to find an unknown fact.	♣Describing Sets of Three ♣Showing Doubles-Plus Facts ♣Applying Multiplication		Page 173: Practice Multiplying by 2 and by 3 Page 174: Homework Multiplying by 2 and by 3 Page 175: Practice Exploring Turnaround Facts Page 176: Maintaining Concepts and Skills	BLM 14.1 Using Multiplication	•Paper •Paint •Paintbrushes
14.3 Using Arrays for Multiplication and Division	♦Identify and use the inverse relationship between multiplication and division. ♦Identify a fact family for a given fact.	♣Finding the Hidden Number ♣Using Arrays ♣Writing Multiplication and Division Stories ♣Extension for Multiplying Using the Array Model	Page 55 Relating Multiplication and Division	Page 177: Practice Multiplying by 2, 3, 4, or 5 Page 178: Homework Multiplying by 2, 3, 4, or 5 Page 179: Practice Writing Multiplication Facts Page 180: Practice Working with Multiplication and Division Facts	BLM 14.2 Making 4-Way Puzzles BLM 14.3 Dividing the Stamps	•Multiplication and Division Array Cards (9 cards) •*Fantastic Feats* page 14 •Teachers' Notes page 30
14.4 Finding a Missing Number in Multiplication and Division Sentences	♦Use the inverse relationship between multiplication and division. ♦Apply appropriate strategies to solve problems.	♣Finding Missing Factors—Twos and Fives ♣Finding Related Facts ♣Finding Missing Factors—Three and Fours ♣Does It Divide Exactly?	Page 56 Learning Division Facts with Fives	Page 181: Practice Writing Multiplication and Division Fact Families Page 182: Practice Division Game Page 183: Maintaining Concepts and Skills	BLM 14.4 Making Arrays BLM 14.5 Identify Facts in Fact Families	•Overhead transparencies of BLM 14.4 •Scissors •Multiplication and Division Fact Wheel (Five) •Paper clips •Pencils •Spinners •Laminated division strips Wooden cubes

14.5 Using Multiplication and Division in Problem Solving	♦Use the inverse relationship between multiplication and division to solve problems. ♦Apply appropriate strategies to solve problems.	♣Analyzing Facts ♣Exploring Changes in Amounts Over Time ♣Extension for Using Multiplication to Solve Problems	Page 57 Problem Solving—Asking Questions	Page 184: Practice Writing Multiplication and Division Fact Families Page 185: Homework Writing Multiplication and Division Fact Families Page 186: Maintaining Concepts and Skills		•Cup, quart, and gallon measures •Calculators •*Fantastic Feats* page 7 •Teachers' Notes page 15 Index cards; access to faucet; cup or quart measures
Chapter 15						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
15.1 Using Appropriate Units of Measure	♦Select and use appropriate units to measure length. ♦Become familiar with standard units in the customary and metric systems.	♣Choosing Appropriate Measuring Units ♣What is a Mile?	Page 58 Selecting the Appropriate Unit of Length Page 59 Selecting the Appropriate Unit of Length	Page 187: Practice The Best Unit of Measure Page 188: Maintaining Concepts and Skills	BLM 15.1 Measuring in Inches	•*Mathematics from Many Cultures* page 4-5
15.2 Exploring Different Units of Length	♦Understand the need for measuring with standard units. ♦Carry out simple unit conversions within a system.	♣Measuring the Same Distance in Years, Feet, and Inches ♣Converting Yards to Feet to Inches ♣Measuring in Inches	Page 59 Selecting the Appropriate Unit of Length	Page 189: Practice Measuring the Lengths of Sides Page 190: Practice Using a Tape Measure Page 191: Maintaining Concepts and Skills	BLM 15.2 Choosing Units of Length	•Measuring tape •*Just for Fun* page 10 •Inch ruler •Yardsticks Rulers; 3-foot or longer length of paper; *Student Book* page 189

15.3 Exploring Distance Around a Rectangle	♦Build and draw rectangles. ♦Explore perimeter of a rectangle.	♣Pet Fencing ♣Making Rectangles		Page 192: Homework Measuring the Length of Sides Page 193: Practice Making Rectangles Page 194: Maintaining Concepts and Skills	BLM 2.6 Dot Paper BLM 15.3 Making Rectangles BLM 15.3 Rectangles BLM 15.4 Finding Perimeter	•Geo-boards •Rubber bands •Overhead transparency of BLM 15.3 •Paper clips or Learning Links Learning Links or paper clips; *Student Book* page 193; measuring tapes
15.4 Exploring Perimeter of Rectangles	♦Explore perimeter of a rectangle. ♦Develop strategies for finding the perimeter of a rectangle.	♣Finding the Perimeter ♣Follow-Up Activity ♣Finding Perimeters of Rectangles	Page 60 Investigating Perimeter	Page 195: Practice Finding Perimeters of Rectangles Page 196: Maintaining Concepts and Skills	BLM 15.5 Rectangles BLM 2.6 Dot Paper BLM 15.5 Rectangles	•String •Scissors •Paste •Ruler Scissors; rulers; Geo-boards; rubber bands
15.5 Exploring Perimeter of Equilateral Shapes	♦Develop strategies for finding the perimeter of equilateral polygons. ♦Recognize equilateral polygons.	♣Shapes with Equal Sides ♣Making Shapes an d Finding the Perimeter ♣Extension Activity	Page 61 Finding Shapes with the Same Perimeter	Page 197: Practice Finding the Perimeter Page 198: Homework Finding the Perimeter	•BLM 16.2 Family Letter BLM 15.6 Finding Perimeter	•Straws •Clay •String •Strips of paper •Scissors •Tape or glue •Rulers or measuring tapes •Toothpicks or paper clips Paper clips
Chapter 16						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**

16.1 Finding and Using Data from Maps	♦Read and use information from a map to solve problems related to it. ♦Develop increase fluency in addition of whole numbers.	♣Distances on a Map ♣Planning Routes	Page 62 Problem Solving with Maps	Page 199: Practice Reading a Map Page 200: Maintaining Concepts and Skills	BLM 16.1 Planning Routes BLM 16.1 Planning Routes	•Calculators •Crayons •Overhead transparency of BLM 16.1 •Overhead marking pen *Discussion Book* page 62; crayons; state or country road maps
16.2 Using Data to Make Predictions	♦Make predictions and justify conclusions based on data. ♦Represent data on a lone plot.	♣Length of Names ♣Comparing Data ♣Combining, Comparing, and Predicting	Page 63 Making Predictions	Page 201; Maintaining Concepts and Skills Page 202: Homework Survey of Birth Years		•Large sheets of paper
16.3 Collecting and Analyzing Data	♦Collect, organize, and represent data using graphs. ♦Propose and justify conclusions that are based on data. ♦Analyze data.	♣Sharing Data ♣Name-Lengths ♣Graphing Rectangles	Page 64 Using Graphs to Make Predictions	Page 203: Practice Graphing Name-Lengths Page 204: Maintaining Concepts and Skills	BLM 1.1 Centimeter Grid Paper BLM 16.2 Is It Possible?	•Completed *Student Book* page 202 •3X5 cards •Masking tape •Overhead transparency of BLM 1.1 •Scissors
16.4 Investigating Likely and Unlikely Outcomes	♦Describe the likelihood of events, using terms such as *certain, likely, equally likely, unlikely,* and *impossible.* ♦Make predictions about outcomes based on simple experiments.	♣Spinner Experiment ♣Color-Cube Predictions	Page 65 Predicting and Recording Outcomes	Page 205: Homework Exploring Combinations Page 206: Maintaining Concepts and Skills	BLM 16.3 Spinners BLM 16.4 Exploring Outcomes BLM 16.5 Exploring Outcomes	•Large paper clips •Brass fasteners •Scissors •Red and blue markers •Wooden cubes •Crayons or colored markers Coins; game-boards

16.5 Interpreting and Working with Data	♦Read and interpret data in a table and graph. ♦Understand that one way to find the average of a set of data is to redistribute the data.	♣Interpreting Data ♣Link Averaging	Page 66 Problem Solving—using Charts	Page 207: Practice Reading a Tally Table Page 208: Homework Reading a Tally Table		•Learning Links •Calculators •Clock with a second hand
					BLM 16.6 Reading and Making Graphs	Class lists by grade level; *Longest, Tallest, Heaviest* page 10-11; Teachers' Notes page 20; BLM 13; Play Money pennies or counters
Chapter 17						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
17.1 Reviewing Fractions and Counting by Halves	♦Use models and benchmarks to judge the size of fractions ♦Develop understanding of fractions as equal parts of a whole or equal parts of a collection or set.	♣Naming Fraction of Shapes ♣Coloring Shapes to Show Fractions ♣Dividing Shapes to Show Fractions ♣Counting by Halves	Page 67 Counting by Halves	Page 209: Practice Fraction Problems to Solve Page 210: Maintaining Concepts and Skills	BLM 17.1 Showing Fractions BLM 17.2 Showing Fractions BLM 4.7 Representation of Geo-boards	•Color tiles for overhead projector •Overhead transparencies of BLM 17.1 and 17.2 •Colored pencils
						Play Money dollars and half dollars
17.2 Using Fourths to Count and Measure	♦Demonstrate understanding of fractions as locations on a ruler or number line. ♦Extend counting by halves to counting by fourths.	♣Counting by Fourths ♣Measuring to the Nearest Inch ♣Measuring to the Nearest Half-Inch		Page 211: Practice Measuring to the Nearest Half-Inch Page 212: Practice Counting with Fractions	BLM 17.3 Measuring with an Inch Ruler	•Fraction strips from Investigation 7.2 •Fraction Circles PLUS •1/2-inch and 1/4-inch rulers or tag-board rulers from BLM 17.3 •Overhead transparencies of ½-inch ruler and ¼-inch ruler •Transparency with lines
					BLM 17.6 Working with Fractions	*Longest, Tallest, Heaviest* page 14; "halves" fraction strips

17.3 Comparing and Ordering Fractions	♦Compare and order fractions using models of fractions. ♦Recognize and create equivalent forms of a fractional amount.	♣Comparing Fractional Pieces ♣Comparing and Ordering Fractions ♣Showing Halves in Different Ways	Page 68 Comparing Fractions	Page 213: Practice Fractional Parts Page 214: Maintaining Concepts and Skills	BLM 17.5 Fraction Pies BLM 17.6 Working with Fractions	•Fraction Circles PLUS •Fraction strips from Investigation 7.2 •Tag-board •Crayons or colored pencils •Scissors *Longest, Tallest, Heaviest* page 5, 3X5 cards, fraction strips
17.4 Establishing ½ as a Benchmark	♦Use benchmarks to compare and order fractions. ♦Use models and benchmarks to judge the size of fractions.	♣Identify ½ ♣Comparing Fractions to ½	Page 69 Comparing Fractions to ½	Page 215: Practice Working with Fractions Page 216: Maintaining Concept and Skills Page 217: Practice Comparing Unit Fractions Page 218: Homework Comparing Unit Fractions	BLM 17.5 Fraction Pies	•Fraction strip from Investigation 7.2 •Tag-board •Scissors •Paste Fraction strips or fraction cards from the lesson; 3X5 cards
17.5 Relating Fractions to Division	♦Demonstrate understanding of fractions as divisions of whole numbers. ♦Describe separating a whole into equal groups with a division sentences and a fraction sentence.	♣Making Equal Shares ♣Fractions as Division ♣Creating Fraction Problems	Page 70 Finding a Fractional Part of a Set	Page 219: Practice Writing and Coloring Equivalent Fractions Page 220: Homework Writing and Coloring Equivalent Fractions Page 221: Maintaining Concepts and Skills	BLM 17.7 Coloring and Writing Fractions	•Centimeter Connecting Cubes Crayons, counters

Chapter 18						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
18.1 Calculating Intervals of Time	♦Explore strategies for calculating intervals of time. ♦Estimate intervals of time.	♣How Long Does It Take? ♣Time Intervals ♣Using a Pendulum		Page 222: Practice Telling Time in Hours Page 223: Maintaining Concepts and Skills Page 224: Practice Reading and Writing Times Page 225: Homework Reading and Writing Times	BLM 18.1 Working with Time BLM 18.2 Calculating Time	•Clock with minute hand •1- and 5-minute egg timers •Clock with moveable hands •Pendulum made from bolt or bunch of keys •String •Stopwatch *Mathematics from Many Cultures* page 4-5; *Fantastic Feats* page 5
18.2 Interpreting Information on a Time Line	♦Interpret information on a time line. ♦Develop understanding of the meanings of *a.m.* and *p.m.*	♣Ordering Times of Events ♣Reading a Time Line ♣Clock Time Line	Page 71 Working with Time Lines	Page 226: Practice Showing Times Page 227: Maintaining Concepts and Skills	BLM 18.3 One-day Time Line BLM 18.4 Placing Dates on a Time Line BLM 18.5 Placing Dates on a Time Line	•Slips of paper •Clock face •String •Removable labels *Just for Fun* page 2-3; scissors; tape or paste
18.3 Reviewing Past-the-Hour Times	♦Tell time past the hour at 5-minute intervals and 1-minute intervals. ♦Understand the movements of the hands on a clock.	♣5-minute Intervals ♣Time to the Nearest Minute ♣Telling Time	Page 72 Telling Time to the Nearest Minute	Page 228: Practice Reading and Writing Times Page 229: Homework Reading and Writing Times	BLM 18.6 Clock BLM 18.7 Ordering Time	•Geared clock with movable hands •Clock (hour hand only) •Paper plates •Paste •Scissors •Brass fasteners Scissors

18.4 Calculating Elapsed Time	♦Calculate elapsed time. ♦Create problems involving time.	♣The Passage of Time ♣Calculating the Hours That Have Passed ♣Calculating Hours and Minutes ♣Writing Problems About Elapsed Time		Page 230: Practice Using a Timetable Page 231: Maintaining Concepts and Skills	BLM 18.1 Working with Time BLM 18.8 Calculating Time	•Clocks from Investigation 18.3
18.5 Problem Solving with Time	♦Solve problems involving time. ♦Create problems involving time.	♣Solving Time Problems ♣Days in a Year	Page 73 Problem Solving with Time Page 74 Problem Solving with Time	Page 232: Practice Solving Problems with Time Page 233: Maintaining Concepts and Skills	BLM 18.9 Calculating Time	•Calculators *Longest, Tallest, Heaviest* page 7; stopwatches
Chapter 19						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
19.1 Making Purchases and Giving Change	♦Develop fluency with addition and subtraction of money amounts. ♦Solve problems in contexts other than math. ♦Use different coin combinations to show the same amount.	♣Making Change for One Dollar ♣Making Change	Page 75 Making Change	Page 234: Practice Counting Change Page 235: Maintaining Concepts and Skills		•Paper plates •Food pictures •Play Money •Calculators Containers from home; cup measures; slips of paper
19.2 Exploring Relationships for Capacity	♦Understand the meaning of capacity. ♦Explore relationships among cups, pints, quarts, and gallons.	♣Measuring with a Standard Cup ♣Measuring with Pint, Quarts, and Gallons ♣Problem Solving with Capacity	Page 76 Problem Solving with Capacity	Page 236: Practice Working with Weight and Capacity Page 237: Practice Writing Amounts in Different Ways	BLM 19.1 Working with Capacity	•Cup, pint, quart, and gallon measures •Dry Cereal •Containers from students' home Cup, pint, quart and gallon measures; dry cereal; water

19.3 Finding the Best Buy	♦Solve real-world problems involving weight and capacity. ♦Use estimation strategies to determine "best buys."	♣What is the Best Buy? ♣Working Out Best Buys ♣Making a Chart or Graph	Page 77 Working Out Best Buys	Page 238: Practice Figuring Out the Best Buy Page 239: Maintaining Concepts and Skills	BLM 19.2 Finding the Best Buy	•Calculators •Play Money Boxes; labels
19.4 Problem Solving with Weight	♦Understand the meaning of *weight.* ♦Explore the relationship between kilograms and grams, pounds and ounces.	♣Building with Grams ♣Investigating Grams ♣Investigating Pounds and Ounces ♣Extension of Weight Activities in Ounces and Pounds	Page 78 Investigating Grams	Page 240: Practice Working with Weights Page 241: Maintaining Concepts and Skills	BLM 19.4 Working with Pounds and Ounces BLM 19.3 Estimating Weights	•Centimeter Connecting Cubes •Stacking Balance •Mass Sets •Calculators •1-lb blocks of modeling clay •Table knives •1-lb weights •*Longest, Tallest, Heaviest* page 12 Small boxes; newspapers
19.5 Problem Solving with Weight	♦Solve problems in real-world context involving weight. ♦Use logic to order objects according to weight.	♣Estimating and Comparing Weights ♣Mystery Packages ♣Logical Thinking Using Weights	Page 79 Logical Thinking Using Weight	Page 242: Practice Weighing Lunch Items Page 243: Maintaining Concepts and Skills		•Fruit •Weights •Calculators •Small boxes filled with newspaper •Stacking Balance
Chapter 20						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
20.1 Exploring Square Numbers	♦Develop models for square numbers by constructing arrays. ♦Find patterns in square numbers.	♣Square Numbers ♣Stacking-up Squares	Page 80 Investigating Square Numbers	Page 244: Practice Square Number Patterns Page 245: Maintaining Concepts and Skills	BLM 1.1 Centimeter Grid Paper BLM 2.6 Dot Paper	•Tiles or cubes •Square tiles, blocks, and/or cubes Square tiles; cubes; pegs and peg-boards; Geo-boards and rubber bands

20.2 Finding Factors	♦Use arrays to find factors of numbers. ♦use arrays to solve problems.	♣Making Equal Rows ♣Building Rectangular Arrays ♣Rectangle Boxes	Page 81 Finding Factors	Page 246: Practice Multiplication and Division Fact Families Page 247: Homework Multiplication and Division Fact Families Page 248: Maintaining Concepts and Skills Page 249: Practice Finding Multiplication Facts and Factors		•Centimeter Connecting Cubes •Square tiles
20.3 Developing Strategies for "Nines"	♦Develop strategies to determine multiplication facts for nines. ♦Develop fluency with basic number combinations for multiplication.	♣Hundred Chart Patterns ♣Patterns on a Hundred Chart ♣Using "Tens" Facts to Solve "Nines" Facts ♣Playing the "Nine Spin" Games	Page 82 Patterns with Nines	Page 250: Practice Finding Patterns Page 251: Practice Nine Spin Game Page 252: Maintaining Concepts and Skills	BLM 20.1 Using a Hundred Chart BLM 20.2 Investigating "Nines" Facts BLM 20.1 Using a Hundred Chart	• "Nine" Multiplication cards •Paper clips •Pencils •Colored pencils
20.4 Extending Multiplication Facts	♦Use "double-double" and "build – on" strategies to develop new multiplication facts. ♦Develop fluency with basic number combinations for multiplication.	♣Doubling Any Known Fact ♣Doubling Problems ♣Building Up for a "Fives' Fact		Page 253: Practice Learning New Multiplication Facts Page 254: Homework Learning New Multiplication Facts Page 255: Practice Writing Multiplication and Division Facts Page 256: Practice Writing Fact Families	BLM 20.3 Working with Multiples BLM 20.4 Finding Division Facts	•Double-Double Multiplication Cards •9X12 sheets of tag-board •Markers

20.5 Using Multiplication and Division to Solve Problems	♦Use multiplication and division in problem-solving situations. ♦Develop strategies to estimate products.	♣Comparing the Price per Item ♣Polygon Perimeter ♣Finding the Closest Multiple of 5		Page 257: Practice Working with Multiples of 3, 4, and 5 Page 258: Practice Matching Number Sentences Page 259-260: Practice/Homework Using Multiplication to Answer Division Facts Page 261: Maintaining Concepts and Skills		•Advertisements from newspapers and magazines •3X5 cards •Drinking straws •Tape •Tag-board •Scissors
					BLM 20.5 Multiplication and Division Fact Wheels	Tag-board; Multiplication and Division Fact Wheels for twos, threes, fours, fives; scissors
Chapter 21						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
21.1 Exploring Ways to Cover Shapes	♦Understand that covering an area means covering it with no gaps or overlaps. ♦Explore the concepts of area as "covering."	♣Covering a Shape with Pattern Blocks ♣Quilt Patterns	Page 83 Covering with Shapes	Page 262: Practice Recognizing Shapes Page 263: Maintaining Concepts and Skills	BLM 2.6 Dot Paper BLM 21.1 Finding Shapes	•Pattern Blocks •4X4, 6X6, and 4X6 •Colored markers •String •3X5 cards
						Pattern Blocks; 3X5 cards; construction paper; cardboard polygons
21.2 Counting Squares and Half Squares	♦Develop strategies for finding area. ♦Relate the area of a polygon to the number of squares that cover it with no gaps or overlaps.	♣Different Shapes ♣Covering with Squares ♣Area Names	Page 84 Covering Rectangles	Page 264: Practice Drawing Shapes Page 265: Maintaining Concepts and Skills Page 266: Homework Investigating Area	BLM 1.1 Centimeter Grid Paper BLM 21.2 1-Inch Grid Paper	•Scissors •Paste •Overhead transparencies of 4 shapes •3X5 cards •Pattern Block squares •Copies of BLM 21.2 in three colors
					BLM 21.3 Pentomino Pieces BLM 1.1 Centimeter Grid Paper	Pattern Block squares; several paper items; markers; scissors

21.3 Rearranging Shapes with the Same Area	♦Understand that the area of a region remains constant when it is decomposed and then recomposed to form a new shape. ♦Construct different shapes with the same area.	♣Constructing Grids with the Same Area ♣Making Shapes from a Square	Page 85 Rearranging Shapes	Page 267: Maintaining Concepts and Skills Page 268: Practice Multiplying to Count Stamps in an Array Page 269: Homework Multiplying to Count Stamps in an Array	BLM 1.1 Centimeter Grid Paper BLM 21.4 Working with Shapes BLM 21.2 1-Inch Grid Paper	•Scissors •Paper squares •Paste •Construction paper
					BLM 21.2 1-Inch Grid Paper BLM 21.5 Arranging Shapes	Scissors; tag board pentominoes from Extra Practice: Investigation 21.2
21.4 Exploring the Concept of Volume	♦Develop strategies for measuring volume. ♦Explore volume as "filling space."	♣Finding the Number of Cubes in Box Shapes ♣Floor Plans ♣Using Arrays as the Base for Box Shapes		Page 270: Practice Modeling Volume Page 271: Maintaining Concepts and Skills Page 272: Practice Multiplying Three 1-digit Numbers Page 273: Homework Multiplying Three 1-digit Numbers	BLM 1.1 Centimeter Grid Paper	•Colored Wooden Cubes •Centimeter Connecting Cubes •Base Ten Blocks
					BLM 1.1 Centimeter Grid Paper	Scissors; tape; Base Ten Blocks units cubes; marbles; pebbles; container of water; pan
21.5 Problem Solving with Volume	♦Solve problems involving volume. ♦Understand that volume is measured in cubic units.	♣Exploring Volume in a Yo-Yo Company ♣Box Sorting	Page 86 Problem Solving with Volume	Page 274: Practice How Many Boxes? Page 275: Practice Practicing Division Facts Page 276: Homework Practicing Division Facts		•Collection of rectangular boxes •Colored Wooden Cubes •Base Ten Blocks •3X5 cards
						Centimeter Connecting Cubes or Linker Cubes; cylindrical boxes; liter open top box; sand or salt

Chapter 22						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
22.1 using Decimals to Record Tenths	♦Recognize the relationship between common fractions and decimal fractions. ♦Use decimal notation to record tenths.	♣Introducing Decimals ♣Reading and Writing Tenths	Page 87 Investigating Decimals to Tenths	Page 277: Practice Modeling and Writing Decimals Page 278: Maintaining Concepts and Skills Page 279: Practice Writing and Modeling Decimals Page 280: Homework Writing and Modeling Decimals	BLM 22.4 Estimating with Ones and Tenths BLM 22.1 Working with Ones and Tenths BLM 22.2 Writing Decimals	• "Tenths" fraction strips from Investigation 7.2 •2X9 strips of paper •Crayons •Bag or box • "Tenths" Decimals Expander •Scissors •Paste Learning Links; 3X5 cards; crayons
22.2 Using a Meter Strip to Show Tenths	♦Use a meter stick to illustrate tenths. ♦Convert between meters and centimeters.	♣Counting by Tenths ♣Tenths of a Meter	Page 88 Tenths of a Meter	Page 281: Practice Using a Calculator to Count Page 282: Practice Centimeters, Meter, and Decimals Page 283: Practice Counting by Tenths Page 284: Homework Counting by Tenths	BLM 4.2 Making a Meter Strip BLM 22.3 Counting by Tenths	• "Tenths" fraction strips from Investigation 22.1 •Calculators •Meter stick •Paste or tape •Base Ten Block tens rods •Scissors •3-meter strips of paper Calculators; meter sticks; 3-meter strips
22.3 Developing Benchmarks for Tenths	♦Use benchmarks to judge the size of decimals. ♦Develop relationships between fractions and decimals.	♣Estimating Amounts ♣Estimating Distances	Page 89 Relating Decimals to 0, ½, and 1	Page 285: Practice Working with Decimals Page 286: Maintaining Concepts and Skills	BLM 22.4 Estimating with Ones an Tenths	•Transparent 1-liter container •Water • "Tenths" and "halves" fraction strips from Investigation 7.2 Overhead transparencies of BLM 22.4; crayons; *Discussion Book* page 89

22.4 Adding Numbers with Tenths	♦Develop strategies to add decimal numbers. ♦Write addition problems that involve decimal numbers.	♣Creating Problems Where Tenths Are Added ♣Adding Tenths ♣Decimal Addition Game	Page 89 Relating Decimals to 0, ½, and 1	Page 287: Practice Modeling and Writing Fractions and Decimals Page 288: Maintaining Concepts and Skills	BLM 22.4 Estimating with Ones and Tenths BLM 22.5 Decimal Race Board	•Overhead transparencies and tag-board copies of BLM 22.4 •Overhead marking pens •Colored pencils •Blank wooden cubes
					BLM 22.5 Decimal Race Board BLM 22.4 Estimating with Ones and Tenths	Tape or paste; 3X5 cards; labeled wooden cubes from the lesson; colored pencils
22.5 Subtracting Numbers with Tenths	♦Develop strategies to subtract decimal numbers. ♦Write problems that involve subtraction of decimal numbers.	♣Creating Problems Where Tenths Are Subtracted ♣Subtracting Tenths ♣Decimal Subtraction Game	Page 89 Relating Decimals to 0, ½, and 1	Page 289: Practice Adding and Subtracting Decimals Page 290: Maintaining Concepts and Skills	BLM 22.4 Estimating with Ones and Tenths BLM 22.5 Decimal Race Board	•Overhead transparencies and tag-board copies of "one" square and "tens" strips from Investigation 22.4 •Wooden cubes from Investigation 22.4 •Colored pencils
					BLM 22.5 Decimal Race Board	3X5 cards from the Extra Practice, Investigation 22.4; colored pencils; wooden cubes from Investigation 22.4
Chapter 23						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
23.1 Solving Multi-step Problems	♦Solve math problems that arise in everyday contexts. ♦Use multiplication in problem-solving situations. ♦Develop fluency with multiplication.	♣At the Super Shirt Shop ♣Creating Multiplication Problems	Page 90 Solving Problems with More Than One Step	Page 291: Practice Practicing Multiplication Facts Page 292: Homework Practicing Multiplication Facts Page 293: Maintaining Concepts and Skills		*Discussion Book* page 90

23.2 Finding All the Possible Combinations	♦Develop strategies for listing combinations from two different sets. ♦Use multiplication to determine the total number of combinations.	♣Selecting and Graphing Combinations ♣Clothing Combinations	Page 91 Finding Possible Combinations	Page 294: Practice Practicing Multiplication Facts Page 295: Practice Finding Combinations Page 296: Homework Practicing Multiplication Facts		•Linker Cubes (7 colors) •Containers
					BLM 23.2 Making Desserts	Linker Cubes (6 or 8 colors); containers
23.3 Developing Mental Strategies for Multiplication	♦Develop mental computation strategies for multiplying 2-digit numbers. ♦Develop fluency with multiplication.	♣How Many Can I Buy? ♣Stamp Collections	Page 92 Multiplying 2-digit Numbers	Page 297: Maintaining Concepts and Skills		•Magazine advertisements •Scissors •Calculators •Tag-board •Paste or tape
					BLM 23.3 Practicing Multiplication Facts	Double-Double Multiplication Cards; "Nines" Multiplication Strategy Cards; cards made in Topic 20
23.4 Multiplying 2-digit Numbers	♦Use multiplication in problem-solving situations. ♦Develop mental computation strategies for multiplying 2-digit numbers.	♣Creating Multiplication Stories ♣Modeling Multiplication Problems ♣Combining Multiplication and Addition		Page 298: Practice Finding Patterns Page 299: Maintaining Concepts and Skills	BLM 23.3 Figuring Total Cost	•Joining and Sharing Mats •Base Ten Blocks •Calculators
					BLM 23.3 Figuring Total Cost BLM 23.4 Choosing the Appropriate Operation	Calculators

23.5 Using Appropriate Methods for Multiplication	♦Develop an algorithm for multiplying 2- and 3-digit numbers. ♦Develop fluency with multiplication.	♣Exploring Multiplication with Base Ten Blocks ♣Multiplying 2-digit Numbers	Page 92 Multiplying 2-digit Numbers Page 93 Multiplying 2-digit Numbers	Page 300: Practice Counting Calories Page 301: Maintaining Concepts and Skills	BLM 23.5 Using Multiplication in Other Operations BLM 23.6 Multiplying 2-digit Numbers	•Base Ten Blocks •Joining and Sharing Mats •Multiplication problems from previous Investigations Calculators
Chapter 24						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
24.1 Exploring Division of 2-digit Numbers	♦Develop strategies for dividing 2-digit numbers. ♦Use division in problem-solving situations. ♦Understand the effects of dividing whole numbers.	♣Generating Division Problems ♣Dividing Evenly	Page 94 Dividing 2-digit Numbers	Page 302: Practice Linking Multiplication and Division Page 303: Maintaining Concepts and Skills		•Play Money Coins and Bills •Colored Wooden Cubes •Calculators •Base Ten Blocks *Discussion Book* page 94; 3X5 cards; Base Ten Blocks; Play Money
24.2 Exploring the Division Algorithm	♦Use division in problem-solving situation. ♦Divide to find the unit price.	♣More Division Problems ♣Price of One ♣Multiply or Divide	Page 95 Dividing 2-digit Numbers	Page 304: Practice Deciding When to Multiply or Divide Page 305: Homework Linking Multiplication and Division		•Base Ten Blocks •Colored Wooden Cubes used in Investigation 24.1 •Play Money Coins and Bills •Joining and Sharing Mats •Overhead transparency of *Student Book* page 304 3X5 cards; Joining and Sharing Mats; Base Ten Blocks

24.3 2-step Division Problems	♦Extend the relationship between multiplication and division. ♦Explore 2-step division problems.	♣Cookies Sharing ♣Making a Tree Diagram ♣Relating Division and Multiplication		Page 306: Practice Cookie Sharing Page 307: Practice Practicing Multiplication and Division Facts Page 308: Maintaining Concepts and Skills	BLM 24.1 Sharing Cookies BLM 24.2 Modeling Division Situations	•Overhead transparency of BLM 24.1 •Counters or cubes •Joining and Sharing Mats
24.4 More Problem Solving with Division	♦Use division in problem-solving situations. ♦Understand effects of whole-number division. ♦Explore the meaning of *remainder*.	♣Dividing by 4 or 5 ♣Remainder Patterns ♣Remainder Stories	Page 96 Problem Solving with Division	Page 309: Practice Using Base Ten Blocks Page 310: Maintaining Concepts and Skills	BLM 24.3 Remainder Game BLM 24.4 No Remainder Game	•Counters or Cubes •Colored paper •Crayons or markers •Paste Double-Double Multiplication Cards; 3X5 cards; counters; small cards with numbers 30-50; number cubes; cubes
24.5 Introducing a New Division Symbol	♦Read a division example that is written with the division algorithm symbol. ♦Use division in a problem-solving situation.	♣Using the Division Algorithm Symbol ♣Collecting Remainders ♣Dividing 3-digit Numbers		Page 311: Homework Practicing Multiplication and Division Facts Page 312: Maintaining Concepts and Skills	BLM 24.5 Following Steps in Division BLM 24.6 Finding Patterns in Division	•Linker Cubes •Base Ten Blocks •Colored Wooden Cubes •Containers Counters or Base Ten Blocks (units cubes); overhead transparency of BLM 24.5

Subject Area: Math

Length of Unit: 7 days

Instructor: Grade 3 Teacher

Topic 1: Exploring Mathematics

Standards: 2 - Algebra; 5 - Probability Statistics

Benchmarks: Solve equations and inequalities;
Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
2.2	Topic 1	Understand the concept of an equation with addition and subtraction (i.e., a number sentence that show two quantities that are equal) [N]	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
5.2	Topic 1	Read and make simple inferences from data displayed in diagrams, charts, bar graphs, and tables (e.g., generalize of draw simple conclusions)	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math

Length of Unit: 7 days

Instructor: Grade 3 Teacher

Topic 2: Working with Addition and Subtraction

Standards: 1 - Content Problem Solving, 2 - Algebra, 4 - Measurement

Benchmarks: Count, read, write, represent, compare and order numbers in regular, expanded and exponential format;
Solve equations and inequalities;
Estimate measurements with appropriate precision (solving problems involving money)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 2	Mastery of addition and subtraction facts to 18	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
2.2	Topic 2	Understand the concept of an equation with addition and subtraction (i.e., a number sentence that show two quantities that are equal) [N]	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
4.3	Topic 2	Solve problems involving money (count sets of bills and coins)	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math

Length of Unit: 7 days

Instructor: Grade 3 Teacher

Topic: 3 Investigating Numbers to 1,000

Standards: 1 - Content Problem Solving

Benchmarks: Classify numbers by divisibility (multiply, divide & classify whole numbers with & without remainders) order of magnitude; Check reasonability of answers by performing operations & rounding.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.3	Topic 3	Understand the concept of place value of whole numbers through the ten-thousandth place	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
1.4	Topic 3	Use a variety of problem-solving strategies	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math

Length of Unit: 7 days

Instructor: Grade 3 Teacher

Topic 4: Investigating Length

Standard: 4 - Measurement

Benchmarks: Identify and use appropriate units of measurement (metric, US)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
4.1	Topic 4	Know approximate size of basic standard units (U.S. customary)	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math **Length of Unit:** 7 days

Instructor: Grade 3 Teacher **Topic 5:** Adding 2- and 3-digit Numbers

Standard: 1 - Content Problem Solving, 2 - Algebra

Benchmarks: **Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations; Solve equations and inequalities.**

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 5	Add and subtract whole numbers, each 9,999 or less, with or without regrouping	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
2.2	Topic 5	Understand the concept of an equation with addition and subtraction (i.e., a number sentence that show two quantities that are equal) [N]	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math **Length of Unit:** 7 days

Instructor: Grade 3 Teacher **Topic 6:** Analyzing Shapes

Standard: 3 - Geometry

Benchmarks: Identify, classify, and compare geometric figures knowing basic geometric language for shapes.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
3.1	Topic 6	Understand properties of and similarities and differences among basic solid figures (e.g., spheres, cubes, rectangular prisms, cylinders, pyramids, cones) and basic geometric terms (e.g., faces, edges, comers) associated with these figures.	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math **Length of Unit:** 7 days

Instructor: Grade 3 Teacher **Topic 8:** Developing Multiplication Concepts

Standard: 1 - Content Problem Solving

Benchmarks: **Count, read, write, represent, compare and order numbers in regular, expanded and exponential format**

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 8	Know multiplication and division facts to 9	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math **Length of Unit:** 7 days

Instructor: Grade 3 Teacher **Topic 9:** Developing the Concept of Division

Standard: 1 - Content Problem Solving

Benchmarks: **Count, read, write, represent, compare and order numbers in regular, expanded and exponential format**

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 9	Know multiplication and division facts to 9	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math **Length of Unit:** 7 days

Instructor: Grade 3 Teacher **Topic 10:** Collecting and Analyzing Data

Standard: 5 - Probability Statistics

Benchmarks: Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
5.2	Topic 10	Read and make simple inferences from data displayed in diagrams, charts, bar graphs, and tables (e.g., generalize of draw simple conclusions)	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math **Length of Unit:** 7 days

Instructor: Grade 3 Teacher **Topic:** 11 Investigating 4-digit Numbers

Standard: 1 - Content Problem Solving

Benchmarks: Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations;
Classify numbers by divisibility (multiply, divide & classify whole numbers with & without remainders) order of magnitude.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 11	Add and subtract whole numbers, each 9,999 or less, with or without regrouping	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
1.3	Topic 11	Understand the concept of place value of whole numbers through the ten-thousandth place	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math

Length of Unit: 7 days

Instructor: Grade 3 Teacher

Topic: 12 Subtracting 2- and 3-digit Numbers

Standard: 1 - Content Problem Solving

Benchmarks: Check reasonability of answers by performing operations & rounding.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.4	Topic 12	Use a variety of problem-solving strategies	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math

Length of Unit: 7 days

Instructor: Grade 3 Teacher

Topic: 13 Analyzing 3-D Shapes

Standard: 3 - Geometry

Benchmarks: Identify, classify, and compare geometric figures knowing basic geometric language for shapes.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
3.1	Topic 13	Understand properties of and similarities and differences among basic solid figures (e.g., spheres, cubes, rectangular prisms, cylinders, pyramids, cones) and basic geometric terms (e.g., faces, edges, comers) associated with these figures.	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math

Length of Unit: 7 days

Instructor: Grade 3 Teacher

Topic: 14: Developing Multiplication and Division Facts

Standard: 1 - Content Problem Solving

Benchmarks: Count, read, write, represent, compare and order numbers in regular, expanded and exponential format.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 14	Know multiplication and division facts to 9	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math

Length of Unit: 7 days

Instructor: Grade 3 Teacher

Topic 15: Working with Length and Exploring Perimeter

Standard: 4 - Measurement

Benchmarks: Identify and use appropriate units of measurement (metric, US)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
4.1	Topic 15	Know approximate size of basic standard units (U.S. customary)	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math

Length of Unit: 7 days

Instructor: Grade 3 Teacher

Topic 16: Using Data and Making Predictions

Standard: 5 - Probability Statistics

Benchmarks: Apply probability concepts and counting rules to determine probability of simple events.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
5.1	Topic 16	Understand the basic concepts of likely and unlikely outcomes	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math

Length of Unit: 7 days

Instructor: Grade 3 Teacher

Topic 18: Working with Time

Standard: 4 - Measurement

Benchmarks: Measure length/distance, time, temperature, weight, mass and volume.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
4.2	Topic 18	Tell time to the 5 minutes using digital and analog clocks [N]	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math

Length of Unit: 7 days

Instructor: Grade 3 Teacher

Topic 19: Working with Money, Capacity, and Weight

Standard: 4 - Measurement

Benchmarks: Estimate measurements with appropriate precision (solving problems involving money)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
4.3	Topic 19	Solve problems involving money (count sets of bills and coins)	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math **Length of Unit:** 7 days

Instructor: Grade 3 Teacher **Topic 20:** More Multiplication and Division Facts

Standard: 1 - Content Problem Solving, 2 - Algebra

Benchmarks: Count, read, write, represent, compare and order numbers in regular, expanded and exponential forma;
Check reasonability of answers by performing operations & rounding;
Solve equations and inequalities.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 20	Know multiplication and division facts to 9	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
1.4	Topic 20	Use a variety of problem-solving strategies	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
2.2	Topic 20	Understand the concept of an equation with addition and subtraction (i.e., a number sentence that show two quantities that are equal) [N]	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math **Length of Unit:** 7 days

Instructor: Grade 3 Teacher **Topic 21:** Investigating Area and Volume

Standard: 4 - Measurement

Benchmarks: Identify and use appropriate units of measurement (metric, US)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
4.1	Topic 21	Know approximate size of basic standard units (U.S. customary)	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math **Length of Unit:** 7 days

Instructor: Grade 3 Teacher **Topic 22:** Investigating Decimals

Standard: 1 - Content Problem Solving, 4 - Measurement

Benchmarks: Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations; Identify and use appropriate units of measurement (metric, US).

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 22	Add and subtract decimals through the hundredths in situations involving money	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
4.1	Topic 22	Know approximate size of basic standard units (U.S. customary)	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math

Length of Unit: 7 days

Instructor: Grade 3 Teacher

Topic 23: Multiplying 2- and 3-digit Numbers

Standard: 1 - Content Problem Solving

Benchmarks: Count, read, write, represent, compare and order numbers in regular, expanded and exponential format; Check reasonability of answers by performing operations & rounding.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 23	Know multiplication and division facts to 9	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
1.4	Topic 23	Use a variety of problem-solving strategies	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Subject Area: Math

Length of Unit: 7 days

Instructor: Grade 3 Teacher

Topic 24: Dividing 2-digit Numbers

Standard: 1 - Content Problem Solving

Benchmarks: Count, read, write, represent, compare and order numbers in regular, expanded and exponential format; Check reasonability of answers by performing operations & rounding.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 24	Know multiplication and division facts to 9	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
1.4	Topic 24	Use a variety of problem-solving strategies	Topic Checkup Topic Test Alternative Assessments	HOTS, MEDIA, MCGF, GUID, LS, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

3rd Grade
Curriculum Based Measurement
Title 1

Standard #1: Problem Solving
1.1 Facts

1. $9 + 10 =$ _____
2. $7 + 7 =$ _____
3. $15 - 8 =$ _____
4. $11 - 5 =$ _____
5. $6 \times 8 =$ _____
6. $4 \times 9 =$ _____
7. $35 \div 7 =$ _____
8. $64 \div 8 =$ _____

1.2 Add or Subtract Whole Numbers and Decimals

9. 255
   + 104

10. 578
    + 332

11. 77
    - 15

12. 1,192
    - 986

13. $10.49
    + 15.00

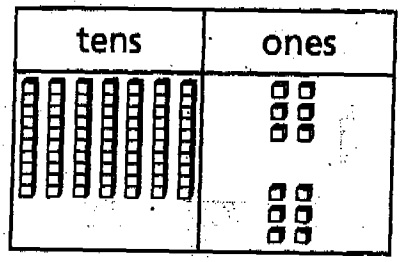
14. $937.99
    + 53.75

15. $8.34 - $5.65 = _____

16. $5,000.00
    - 2,000.00

1.3 Place Value of Whole Numbers

17. Choose how many tens and ones



A. 2 tens 8 ones
B. 7 tens 0 ones
C. 7 tens 2 ones
D. 8 tens 2 ones

18. Imagine that you are playing Number Card Draw. You have drawn one card from each box. The cards you have drawn are shown below.

6 tens	8 ones	3 hundreds

What number have you made?

A. 683 B. 386 C. 368

19. Write the number that has 29 ones and 4 thousands.

_____

20. What is the value of the 3 in the number 2,385?

_____

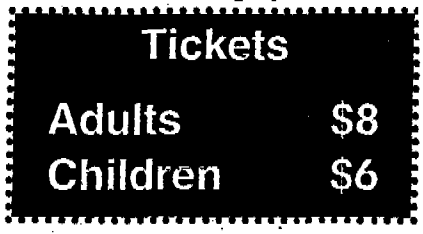
1.4 Problem-Solving Strategies

21. There are 5 jars. In each jar there are 6 marbles. How many marbles are there?

A. 5 B. 6 C. 30 D. 35

22. What would a family of 3 adults and 6 children pay for tickets?

$ _____



23. What is the total cost of 5 T-shirts?

$ _____

24. There are 6 baskets. There are 7 plants in each basket. How many plants are there?

A. 13 B. 35 C. 42

Standard #2: Algebra
2.2 Concept of Equation

25. Which is not a matching division fact?

8 x 4 = _____

A. 8 ÷ 4 = 2 B. 32 ÷ 4 = 8 C. 32 ÷ 8 = 4

26. Mia and Amelia are collecting cans for their school recycling project. Mia has collected 47 cans. Amelia has collected 32 cans. How many more cans has Mia collected than Amelia?

A. 32 + 47 = 79 B. 47 + 32 = 79

C. 47 – 32 = 15 D. 79 – 47 = 32

27. Jamie has \$23 and Xavier has \$19. They put their money together to buy a birthday present for their mom. The gift they want to buy costs \$60. How much more money do they need so that they can buy the present?

A. \$23 + \$19 = \$42
\$60 - \$42 = \$18

B. \$23 - \$19 = \$4
\$60 + \$4 = \$64

C. \$60 – \$23 = \$37
\$37 + \$19 = \$56

D. \$23 + \$19 + \$60 = \$102

28. Which is not a matching subtraction fact?

27 + 63 = 90

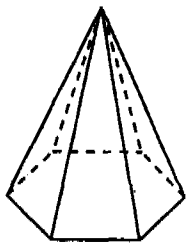
A. 90 – 63 = 27

B. 90 – 27 = 63

C. 90 – 45 = 45

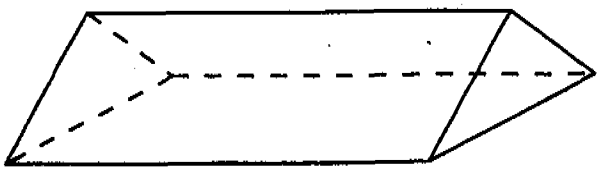
Standard #3: Geometry
3.1 Properties of Solid Figures/Basic Geometric Terms

29. What are the faces of this shape?



A. 1 square and 6 triangles
B. 1 hexagon and 4 triangles
C. 1 hexagon and 6 triangles

For questions 30-32
Use the shape shown.



30. How many faces does the shape have?

A. 2 B. 5 C. 6

31. How many edges does the shape have?

A. 9 B. 6 C. 3

32. How many corners does the shape have?

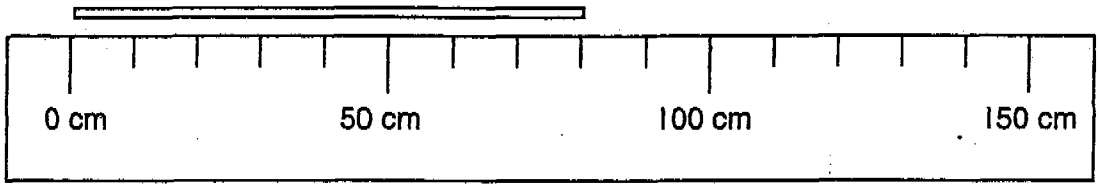
A. 3 B. 6 C. 9

Standard #4: Measurement
4.1 Basic Standard Units

33. Which is the best unit of measure? The flagpole outside the school is about 4 _____ tall.

A. cm B. km C. m

34. How long is this rod?



A. 80 cm B. 70 C. 53 cm

35. Which is about 1 meter?

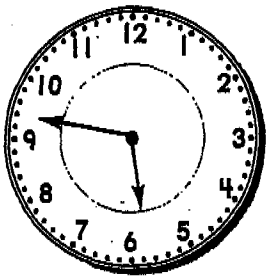
A. the length of a new car
B. the width of a door
C. the height of a math book

36. Which is the best estimate? A third grader weighs _____.

A. 90 cups B. 90 ounces C. 90 pounds D. 90 tons

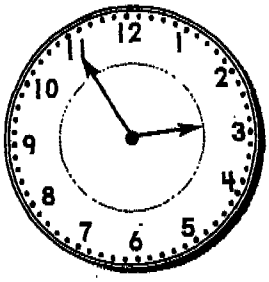
4.2 Time

37. What time does the clock show?



A. 5:47 B. 5:45 C. 6:45

38. What time does the clock show?



A. 2:00 B. 2:55 C. 3:00

39. What time will it be 5 minutes after 5:30?
A. 10:30 B. 5:80 C. 5:35 D. 10:00

40. Which time is 2 hours before 12:15?
A. 10:15 B. 12:17 C. 2:17 D. 10:17

4.3 Money

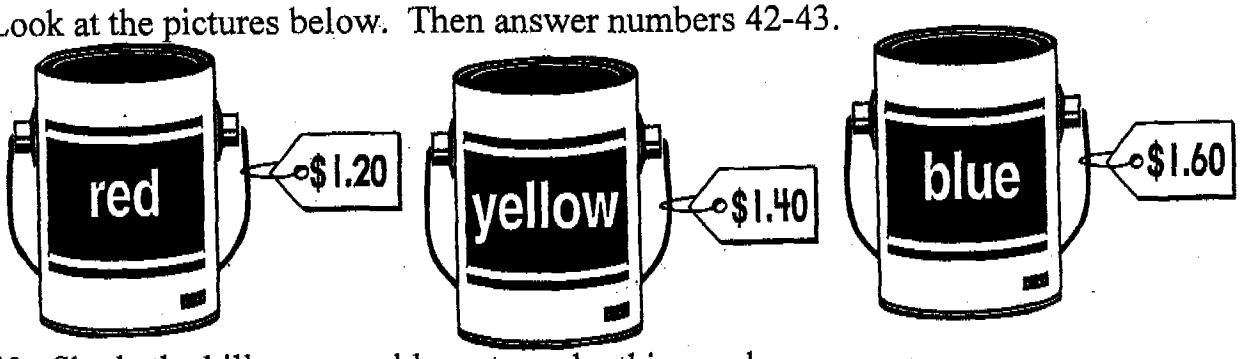
41. At the circus, Dora bought popcorn for $2.25 and cotton candy for $3.25. What is the smallest bill she could use to pay for both?

A. 

B. 

C. 

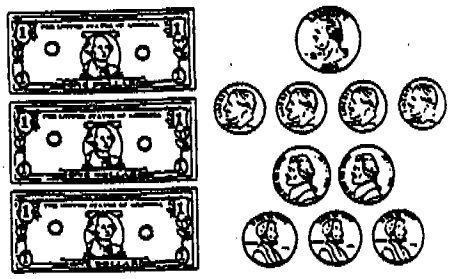
Look at the pictures below. Then answer numbers 42-43.



42. Shade the bill you would use to make this purchase.

43. What change would you receive? Show your work.

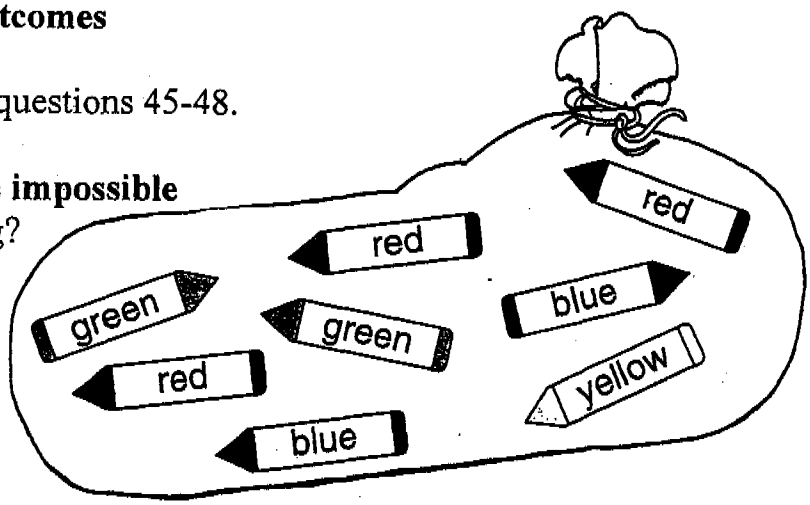
44. How much money is shown?



A. $1.78
B. $3.78
C. $3.38
D. $3.88

Standard #5: Probability and Statistics
5.1 Likely/Unlikely Outcomes

Use the picture to answer questions 45-48.



45. Which color would be **impossible** to draw out of the bag?

A. red
B. blue
C. orange

46. Which color is **most** likely to be drawn?

A. yellow B. red C. green

47. Which two colors are **equally** likely to be drawn?

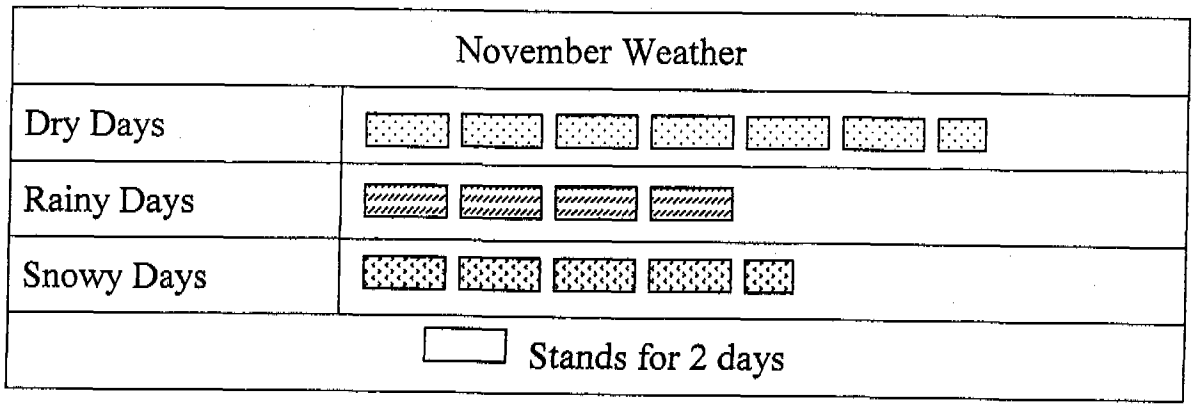
A. blue and green B. red and yellow C. orange and yellow

48. Which color would be unlikely to be drawn?

A. red B. green C. yellow D. pink

5.2 Read and Make Inferences from Data on Diagrams, Charts, Bar Graphs, and Tables

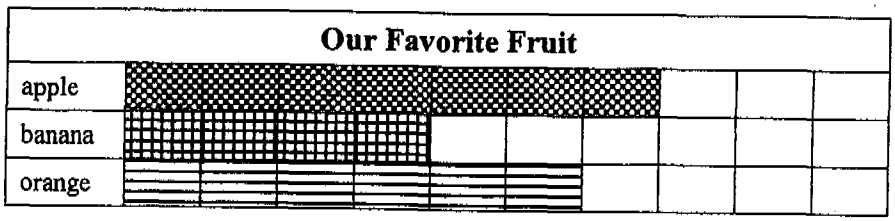
Use the graph to answer questions 49-50.



49. How many days were dry? _____

50. How many more days were rainy or snowy than were dry? _____

Use the table to answer questions 51-52.



51. How many like oranges the best?

☐ 6 ☐ 7 ☐ 8 ☐ not here

52. How many more like apples than bananas?

☐ 2 ☐ 4 ☐ 6 ☐ not here

4th
Math Standards & Benchmarks
Grade Level Indicators

1. Content Problem Solving

1.1. Count, read, write, represent, compare and order numbers in regular, expanded and exponential format

4 – Count, read and write numbers greater than 1000

1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations.

4 – Add, subtract, multiply and divide whole numbers and decimals
4 – Understand physical, verbal, and symbolic representation of the fractions ½, 1/3, ¼, 1/8, and 1/10 of a whole and of a set

1.3. Classify numbers by divisibility (multiply, divide & classify whole numbers with & without remainders) order of magnitude.

4 – Multiply multiple-digit whole numbers by single-digit numbers
4 – Multiply and divide whole numbers (e.g., multiply two whole numbers with up to three digits; divide by one-digit numbers with and without remainders)

1.4. Check reasonability of answers by performing operations & rounding.

4 – Check the reasonability of answers and verifies results

2. Algebra

2.1. Use and interpret operations and relational symbols (equal, greater than, less than)

4 – Use symbols of equality (=) and inequality (<, >)

2.2. Solve equations and inequalities

4 – Solve problems with a missing factor

2.3. Use expressions to model situations solving simple open sentences.

2.4. Understand and explore numerical patterns

3. Geometry

3.1. Identify, classify, and compare geometric figures knowing basic geometric language for shapes.

4 – Know basic geometric language for describing and naming shapes (e.g., trapezoid, parallelogram, cube, sphere, and polygon)

3.2. Describe geometric properties, patterns and relationships (trapezoids, parallelograms, cube, sphere, and polygon)

3.3. Apply concepts of perimeter, area, and volume

4. Measurement

4.1. Identify and use appropriate units of measurement (metric, US)

4 – Know the appropriate units (metric and U.S. customary) for measuring length/distance, weight/mass, area, capacity/volume, time, temperature

4.2. Measure length/distance, time, temperature, weight, mass and volume.

4.3. Estimate measurements with appropriate precision (solving problems involving money)

4 – Solve problems involving money (count sets of bills and coins, compare and order money amounts)

5. Probability Statistics

5.1. Apply probability concepts and counting rules to determine probability of simple events.

4 – Determine the probability of simple events using basic experiments or simulations (e.g., using coins, spinners, dice) [N]

5.2. Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.

4 – Read and interpret simple tables, graphs (e.g., simple bar, line) and chars (e.g., pie)

Course Outline – Grade 4
Growing With Math McGraw Hill

Topic 1: Exploring Mathematics

Topic 2: Investigating Length

Topic 3: Using Addition and Subtraction

Topic 4: Investigating 5-digit Numbers

Topic 5: Investigating Shapes and Angles

Topic 6: Finding Fractions

Topic 7: Multiplying by 1-digit Numbers

Topic 8: Working with Time

Topic 9: Exploring Shapes and Perimeters

Topic 10: Working with Fractions

Topic 11: Linking Multiplication and Division

Topic 12: Investigating Large Numbers

Topic 13: Manipulating Money

Topic 14: Multiplying by Tens

Topic 15: Exploring Polygons and the Circle

Topic 16: Investigating Decimal Fractions

Topic 17: Dealing with Data and Probability

Topic 18: Multiplying by 2-digit Numbers

Topic 19: Investigating Area

Topic 20: Dividing Large Numbers

Topic 21: Using Decimal Fractions

Topic 22: Exploring Volume and Capacity

Topic 23: Working with Weight

Topic 24: Thinking Visually

4th Grade

Chapter 1

Investigation	Learning Expectations	Core Activities	Discussion Book pages	Student Book	Blackline Masters	Manipulative and Other Materials
1.1 Discussing the Need for Mathematics	♦Identify 2- and 3-dimesional shapes. ♦Understand different attributes and select the appropriate type of unit for measuring each attribute. ♦Become familiar with standard metric systems.	♠Mathematics at Work ♠Garden Geometry ♠More About Measurement	Page 4 How We Use Mathematics	Page 1: Maintaining Concepts and Skills Page 2: Practice Counting On and Counting Back	BLM 1.1 Investigating Length	•String •Scissors •Rulers *Discussion Book* page4
1.2 Exploring the Origins of Mathematics	♦Read and interpret a time line. ♦Compute fluently and make reasonable estimates.	♠Mathematics in Ancient Egypt ♠Social Studies Follow Up		Page 3: Maintaining Concepts and Skills Page 4: Practice Counting On and Counting Back		•*Egyptian Genius* pages 2-5 and poster pages 2-3 •*Teachers' Notes* pages 4-7 •World map •*Nature's Mathematical Marvels* pages 8-9 *Egyptian Genius, Teachers' Notes* page 4-5
1.3 Exploring Geometry	♦Investigate, describe, and reason about the result of subdividing, combining, and transforming shapes. ♦Identify, compare, and analyze attributes of 2-and 3-dimensional shapes and develop vocabulary to describe the attributes.	♠Fountain Plan ♠Terrific Tessellations ♠Escher Tessellations	Page 5 How We Use Geometry	Page 5: Maintaining Concepts and Skills Page 6: Practice Adding 1-digit and 2-digit Numbers	BLM 1.2 Grid for Park Plans BLM 1.4 Escher Tessellations BLM 1.3 Planning a Park	•Pattern Blocks •Colored pencils •Scissors •Tape Assortment of 3-D shapes

1.4 Using Data to Solve Problems	♦Develop and use strategies to estimate. ♦Become familiar with standard units in the customary system.	♠Garden Planning ♠Using Data to Create Story Problems ♠Adding Amounts	Page 6 Problem Solving—Length and Money	Page 7: Practice Adding Amounts Page 8: Practice Working with Parallel Lines	BLM 1.5 Finding Ways to Pay	•Measuring tapes •Masking tape •Centimeter Connecting Cubes •Calculators •Overhead transparency of *Student Book* page7 Advertisements or catalogs; manila folders; scissors; paste
1.5 Interpreting and Discussing Graphs	♦Interpret information in a bar graph. ♦Create a bar graph from given data.	♠Reading Graphs ♠Creating and Using a Bar Graph ♠How Do I Feel About Math?	Page 7 Problem Solving - - Graphs	Page 9: Practice Adding 1-digit and 2-digit Numbers Page 10: Practice Reading and Creating Bar Graphs Page 11: Maintaining Concepts and Skills	BLM 1.6 Constructing a Bar Graph BLM 1.6 Constructing a Bar Graph	Graphs from newspapers

Chapter 2

Investigation	Learning Expectations	Core Activities	Discussion Book pages	Student Book	Blackline Masters	Manipulative and Other Materials
2.1 Exploring Ancient Units of Measure	♦Estimate measures with nonstandard units. ♦Explore properties of triangles.	♠Measuring with Hand spans ♠Comparing Egyptian Measures ♠Investigating Triangles ♠Measuring Weight		Page 12: Practice Testing Triangles Page 13: Maintaining Concepts and Skills		•Strips of paper •String •Scissors •Measuring tapes •*Egyptian Genius* pages 28-31 and poster pages 28-29 •Paper clips •*Teachers' Notes* pages 18-19 Paper Clips

2.2 Relating Meters and Kilometers	♦Become familiar with standard units in the metric system. ♦Convert between metric units. ♦Understand the distance represented by 1 meter.	♠Reviewing 1 Meter ♠Olympic Swimming Events ♠Olympic Track and Road Events	Page 8 Working with Length—Meters and Kilometers Page 9 Working with Metric Lengths	Page 14: Practice Relating Distances Page 15: Maintaining Concepts and Skills Page 16: Practice Reading and Creating Bar Graphs	BLM 2.1 Calculating Distances	•Meter Stick •Paper Clips Centimeter rulers, *Discussion Book* page 6
2.3 Introducing the Millimeter	♦Describe, extend, and make generalizations about numeric patterns. ♦Become familiar with standard units in the metric system. ♦Carry out simple unit conversions within the metric system.	♠Finding Out About Paper Clips ♠Paper Clip Measures ♠Using Millimeters	Page 10 Introducing the Millimeter	Page 17: Maintaining Concepts and Skills Page 18: Practice Using Millimeters	BLM 2.2 Measuring in Metric Units BLM 2.3 Estimating Length in Millimeters	•Paper clips (Different Sizes) •Centimeter rulers •3-cm long plastic-coated paper clips •Overhead transparency of *Student Book* page 18
2.4 Relating Customary Units of Length	♦Use appropriate customary units to measure length. ♦Become familiar with standard units in the customary system. ♦Carry out simple unit conversions within the customary system.	♠Measuring Around the School ♠Renaming Lengths ♠Comparing Lengths of the States	Page 11 Using Appropriate Units of Length	Page 19: Maintaining Concepts and Skills Page 20: Homework Relating Distances	BLM 2.4 Measuring to the Nearest ½-Inch	•String •Masking tape •Yardsticks •1-Meter Measuring Tape •Written work from previous activity •Map of United States •Inch rulers Map of United States; inch and centimeter rulers

2.5 Solving Problems Involving Lengths	♦Use appropriate customary units to measure length and weight. ♦Carry out simple unit conversions within the customary system.	♠Comparing Lengths ♠Comparing Lengths of Wingspans ♠Relating Wingspans and Weights of Birds		Page 21: Practice Reading Numbers on a Number Line Page 22: Homework Reading Numbers on a Number Line	BLM 2.5 Creating and Using a Graph	•Student work form Investigating 2.4 •*Fantastic Flight* pages 2-5 and poster pages 2-3 •*Teachers' Notes* pages 4-5 •String •Measuring tapes •Rulers •Scissors •Stacking Balance •Mass Sets

Chapter 3

Investigation	Learning Expectations	Core Activities	Discussion Book pages	Student Book	Blackline Masters	Manipulative and Other Materials
3.1 Creating Number Stores	♦Understand meanings of operations and how they relate to one another. ♦Identify relationships between operations to solve problems.	♠Using the Four Operations ♠Connecting Operations		Page 23: Maintaining Concepts and Skills Page 24: Practice Using Addition, Subtraction, Multiplication, Division		
3.2 Solving Distance Problems	♦Use addition and subtraction to solve problems. ♦Develop fluency in adding and subtracting whole numbers.	♠Distances on a Map ♠Comparing the Lengths of Coastlines	Page 12 Problem Solving--Distances	Page 25: Practice Investigating Distances Page 26: Practice Comparing Coastlines Page 27: Practice Adding and Subtracting 3-digit Numbers	BLM 3.1 Adding with 3-digit Numbers BLM 3.2 Finding Distances BLM 3.3 Comparing Numbers	•Calculators •Road atlas •Map of United States •Base Ten Blocks

3.3 Planning a Vacation	♦Develop fluency with while number computations. ♦Solve problems involving amounts of money.	♠Introducing the Word *Rate* ♠Hotel Rates ♠Comparing Vacation Prices	Page 12 Problem Solving—Distances Page 13 Planning a Vacation	Page 28: Practice Addition and Subtraction Problems Page 29: Maintaining Concepts and Skills Page 30: Practice Subtracting 3-digit Numbers		•Newspaper or magazine advertisements •Vacation brochures *Discussion Book* page 13
3.4 Problem Solving with Money	♦Solve problems involving amounts of money. ♦Use estimates to help solve problems. ♦Use addition and subtraction to solve problems.	♠Sandwich Orders ♠Animal Sets	Page 14 Solving Problems Related to Money Page 15 Thinking Logically About Money	Page 31: Maintaining Concepts and Skills Page 32: Practice Subtracting 3-digit Numbers		•Calculators *Discussion Book* pages 14-15
3.5 Solving Problems About Aircraft	♦Solve problems involving measurements. ♦Use estimates to solve problems.	♠Passenger Planes ♠Comparing Dimensions ♠Comparing Lengths of Airships		Page 33: Maintaining Concepts and Skills Page 34: Practice Addition and Subtraction Problems	BLM 3.4 Finding Differences	•Overhead transparency of *Student Book* page 34 •*Fantastic Flight* pages 18-21 and poster pages 18-19 •*Teachers' Notes* pages 12-13 Globe or world map; *Discussion Book* page 12

Chapter 4						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
4.1 Reviewing 4-digit Numbers	♦Understand the place-value structure of the base-ten number system. ♦Compare 4-digit numbers. ♦Read and interpret a time line. ♦Understand mathematics in geography.	♠Reading and Writing 4-digit Numbers ♠Distances, Dates, and Decades ♠Playing "Digit Draw"		Page 35: Practice Using a Number Expander Page 36: Practice Creating 4-digit Numbers Page 37: Maintaining Concepts and Skills Page 38: Practice Reading and Writing 4-digit Numbers	BLM 4.1 Number Expander	•Scissors •Glue •Clear packing tape •Nonpermanent pens •*Fantastic Flight* pages 38-40 •*Teachers' Notes* pages 22-23 •Globe •3X5 cards •Rulers *Fantastic Flight* pages 38-40; calculators
4.2 Visualizing 10,000	♦Explore the concept of 1,000. ♦Explore the concept of 10,000. ♦Understand the relationship of metric units.	♠Thousands of Things ♠Exploring 10,000 ♠Writing About Thousands	Page 16 Real World Examples of Ten Thousand	Page 39: Practice Writing About Thousands Page 40: Maintaining Concepts and Skills		•Base Ten Blocks •Meter Stick •Overhead transparency of *Student Book* page 39 •Metric ruler •Quarters Calculators
4.3 Reading and Writing 5-digit Numbers	♦Understand the place-value structure of the base-ten number system. ♦Read and write 5-digit numbers. ♦Read and interpret data presented in a graph.	♠Number Expanders ♠Number Lines ♠Using a Number Expander	Page 17 Reading 5-digit Numbers Page 18 Solving Problems—5-digit Numbers	Page 41: Practice Using a Number Expander Page 42: Practice Completing a Number Expander Page 43: Practice Writing 5-digit Numbers	BLM 4.2 Using a Number Expander BLM 4.3 Counting by Hundreds and by Thousands	•5-digit Number Expanders •Number expanders from Investigation 4.1 •Nonpermanent pens •Colored pencils or crayons Number expanders for Investigation 4.1; nonpermanent pens; reference books or internet access; calculators

4.4 Comparing 5-digit Numbers	♦Compare 4- and 5-digit numbers. ♦Make estimates with 4- and 5- digit numbers. ♦Understand and use units of area in geography.	♠The Great Lakes ♠Comparing Outcomes	Page 19 Comparing 5-digit Numbers	Page 44: Practice Comparing 5-digit Numbers Page 45: Homework Comparing 5-digit Numbers Page 46: Maintaining Concepts and Skills	BLM 4.4 Comparing Large Numbers	•Wall map of Great Lakes area •Digit cards from Investigation 4.1
4.5 Working with 5-digit Numbers	♦Understand the place-value structure of the base-ten number system. ♦Compare 4- and 5-digit numbers. ♦Read and interpret a bar graph. ♦Understand and use units of length and height in geography.	♠What Number Is It? ♠Mighty Mountains and Raging Rivers		Page 47: Homework Increasing and Decreasing Numbers Page 48: Practice Increasing and Decreasing Numbers Page 49: Maintaining Concepts and Skills	BLM 4.5 Increasing and Decreasing Numbers	•Abacus •*Nature's Mathematical Marvels* pages 6-9 and poster pages 6-7 •*Teachers' Notes* pages 6-7 •Blank overhead transparency (optional)

Chapter 5						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
5.1 Visualizing Line and Turning Symmetry	♦Identify and create figures that have line symmetry. ♦Identify figures that have turning symmetry.	♠Finding the Line of Symmetry ♠Investigating Symmetry ♠Investigating Turning Symmetry ♠Finding Turns in Arts and Crafts		Page 50: Practice Investigating Symmetry Page 51: Maintaining Concepts and Skills	BLM 5.1 Centimeter Dot Paper	•Pattern Blocks •String •Tape •Overhead transparency of *Student Book* page 50 •*Mathematics from Many Cultures* pages 2-3 •*Teachers' Notes* pages 5-9
					BLM 5.1 Centimeter Dot Paper	Pattern Blocks; newspaper; phone book yellow pages
5.2 Analyzing Shapes with Turning Symmetry	♦Identify and create figures that have turning (rotational) symmetry. ♦Use fractions to describe how much of a turn is made to achieve turning (rotational) symmetry.	♠Symmetry in Pinwheels ♠Rotating Shapes ♠Turning Symmetry in Nature	Page 20 Investigating Turning Symmetry	Page 52: Maintaining Concepts and Skills	BLM 5.1 Centimeter Dot Paper BLM 5.2 Rotating Shapes	•Construction paper •Scissors •Rulers •Thin dowel rods or plastic straws •Straight pins •Crayons •*Nature's Mathematical Marvels* pages 26-29 and poster pages 26-27 •*Teachers' Notes* pages 16-17
						Tag-board; scissors; fasteners
5.3 Investigating Direction and Angles	♦Become familiar with directions on a compass. ♦Use numbers to represent direction and amount of turn. ♦Use hands of a clock to visualize angels.	♠Facing Different Directions ♠Using a Compass ♠Making an Angle Wheel	Page 21 Describing Turns	Page 53: Practice Using a Map Page 54: Maintaining Concepts and Skills	BLM 5.3 Making an Angle Wheel	•Masking tape •Magnetic compass •Clock with movable hands •Scissors •Crayons
						Discussion Book page 21; map of North America

5.4 Investigating Angles and Sides	♦Construct different triangles and quadrilaterals. ♦Explore properties of triangles and quadrilaterals.	♠Making Geo-strips ♠Making Triangles ♠Sides and Angles	Page 22 Investigating Quadrilaterals	Page 55: Practice Creating and Investigating Triangles Page 56: Practice Investigating and Creating Angles Page 57: Practice Identifying Shapes	BLM 5.4 Identifying Properties of Polygons	•Tag-board strips •Crayons •Small hole punches •Ruler •Geo-strips •Paper fasteners Geo-strips
5.5 Applying Geometry in the Real World	♦Explore properties of triangles and quadrilaterals. ♦Construct rigid and non-rigid shapes.	♠Bridge Polygons ♠Exploring Kite Shapes	Page 23 Using Triangles in Constructions	Page 58: Practice Identifying Angles Page 59: Maintaining Concepts and Skills	BLM 5.4 Identifying Properties of Polygons	•Geo-strips from Investigation 5.4 •Paper fasteners •*Fantastic Flight* pages 10-13 and poster pages 10-11 •*Teachers' Notes* pages 8-9 Kite supplies as discussed in *Teachers' Notes* pages 8-9 of *Fantastic Flight*
Chapter 6						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
6.1 Exploring Equal Shares	♦Create fractional parts from unit wholes and from collections or sets. ♦Identify equivalent representations of the same fraction.	♠Exploring Equal Shares ♠Fraction Strips	Page 24 Problem Solving with Fractions	Page 60: Practice Using Fractions Page 61: Maintaining Concepts and Skills		•Paper •Scissors •Linker Cubes •String •Measuring tapes •Strips of paper •Colored pencils Linker Cubes

6.2 Finding a Fraction of a Set	♦Demonstrate understanding of fractions as equal parts of whole units of parts of a collection. ♦Recognize equivalent representations of the same fractional amount.	♠Solving Fraction Problems ♠Journal Writing	Page 25 Answering and Creating Problems with Fractions	Page 62: Practice Finding a Fraction of an Amount Page 63: Homework Finding a Fraction of an Amount		•Paper •Scissors •Linker Cubes Half Sheets of paper
6.3 Comparing Fractional Shares	♦Use models, benchmarks, and equivalent forms to judge the size of fractions. ♦Compare fractional amounts.	♠Pizza Problems ♠Searching for Patterns	Page 26 Comparing Fractions	Page 64: Practice Solving Fraction Problems Page 65: Maintaining Concepts and Skills	BLM 6.1 Solving Pizza Problems	Fraction Circles PLUS
6.4 Finding Equivalent Fractions	♦Use model, benchmarks, and equivalent forms to judge the size of fractions. ♦Identify equivalent fractional amounts.	♠Fractions That Look Different But Are the Same ♠Showing Equivalent Fractions ♠Creating Fractional Parts		Page 66: Practice Creating Fractional Parts Page 67: Maintaining Concepts and Skills	BLM 6.2 After the Pizza Party BLM 6.3 Leftover Pizza BLM 6.4 Get Set for Sharing	•Overhead transparency of BLM 6.2 •Fraction Circles PLUS •Paper •Scissors Game sheet of rectangles; wooden cubes; colored pencils
6.5 Showing Equivalent Fractions	♦Recognize equivalent representations of the same fractional amount. ♦Use models and equivalent forms to judge the size of fractions. ♦Recognize and generate equivalent forms of commonly used fractions.	♠Investigating Equivalence ♠Pattern Block Fractions ♠Creating Equal Fractions	Page 27 Showing Equivalent Fractions	Page 68: Practice Finding Equivalent Fractions Page 69: Homework Finding Equivalent Fractions Page 70: Practice Creating Equivalent Fractions Page 71: Maintaining Concepts and Skills	BLM 6.5 Showing Equivalent Fractions	•Pattern Blocks •Fraction strips from Investigating 6.1 •Centimeter Connecting Cubes Geo-boards; rubber bands; colored pencils

Chapter 7						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
7.1 Describing Multiplication Arrays	♦Use arrays to model multiplication facts. ♦Use multiplication to count numbers of objects.	♠Stars and Strips ♠Building Up Multiplication Facts	Page 28 Using Multiplication to Describe Arrays	Page 72: Practice Creating Multiplication Arrays Page 73: Maintaining Concepts and Skills Page 74: Practice Practicing Multiplication Number Facts Page 75: Homework Practicing Multiplication Number Facts	BLM 7.1 ½ Centimeter Grid Paper	•Counters •Colored Pencils 3X5 cards; newspapers; magazines
7.2 Investigating Factors and Multiples	♦Find all factors of a number. ♦Relate the terms *factor, product,* and *multiple*.	♠Finding Factors ♠Finding Multiples	Page 29 Investigating Factors	Page 76: Practice Identifying Numbers Page 77: Maintaining Concepts and Skills Page 78: Homework Writing and Identifying Factors and Multiples	BLM 7.2 Identifying Multiples BLM 7.3 Exploring Patterns among Square Numbers	•Counters •Tag-board squares or removable labels

7.3 Finding Easy Ways to Multiply	♦Use estimation to solve problems. ♦Develop fluency in multiplying whole numbers.	♠Working with Multiples of 10 ♠Multiplication Problems	Page 30 Finding Easy Ways to Multiply	Page 79: Practice Using Number Facts to Multiply Tens Page 80: Maintaining Concepts and Skills Page 81: Homework Using Number Facts to Multiply by Tens	BLM 7.4 Using Multiplication	•Tag-board cards Newspaper or magazine advertisements, scissors, paste; 3×5 cards
7.4 Visualizing Multiplication	♦Use arrays to model multiplication. ♦Develop strategies to multiply mentally.	♠Making Block Arrays ♠Using Arrays	Page 30 Finding Easy Ways to Multiply Page 31 Finding Different Ways to Multiply	Page 82: Maintaining Concepts and Skills Page 83: Practice Using Arrays to Find Products Page 84: Practice Multiplying Costs Page 85: Homework Multiplying Tens	BLM 7.1 ½ Centimeter Grid Paper BLM 7.1 ½ Centimeter Grid Paper	•Base Ten Blocks •Scissors •Paste Crayons or colored pencils
7.5 Comparing Data	♦Use multiplication to solve problems. ♦Solve problems that involve comparison.	♠Comparing Flight Facts ♠Calculating Seating Capacity		Page 86: Practice Encyclopedia Sale Page 87: Homework Finding Multiplication Patterns Page 88: Practice Multiplying 2-digit Numbers	BLM 7.1 ½ Centimeter Grid Paper BLM 7.5 Seating Plans	•*Fantastic Flight* pages 30-33 and poster pages 30-31 •*Teachers' Notes* pages 18-19

Chapter 8						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
8.1 Exploring Units of Time	♦Relate units of time to natural phenomena. ♦Read and interpret information from a line graph and a calendar.	♠Investigating Days, Months, and Years ♠Relating the Calendar to the Natural World		Page 89: Practice Using a Calendar Page 90: Maintaining Concepts and Skills		•*Nature's Mathematical Marvels* pages 30-33; poster pages 30-31 •*Teachers' Notes* Pages 18-19 •*Mathematics from Many Cultures* pages 6-7 •*Teachers' Notes* pages 18-26 •Globe •Overhead transparency of *Student Book* page 89 *Nature's Mathematical Marvels* page 33
8.2 Telling Time as Hours and Minutes	♦Discover how the Egyptians developed ways to measure months and years. ♦Express time as minutes past the hour and as minutes before the hour.	♠Measuring Time in Ancient Egypt ♠Expressing Times		Page 91: Practice Calculating Time Page 92: Maintaining Concepts and Skills	BLM 8.1 Recording Time BLM 8.2 Describing Time in Different Ways	•*Egyptian Genius* pages 16-19 and poster pages 16-17 •*Teachers' Notes* pages 12-13 •*Mathematics from Many Cultures* pages 6-7 •Erasable pens •Scissors
8.3 Relating Units of Time	♦Create schedules using different intervals of time. ♦Write and solve problems involving intervals of time.	♠Creating a Schedule ♠Time Data	Page 32 Relating Units of Time	Page 93: Practice Creating a Schedule Page 94: Practice Using Multiplication Page 95: Homework Relating Units of Time Page 96: Maintaining Concepts and Skills	BLM 8.3 Calculating Time in 15-minute Intervals BLM 8.1 Recording Time	•Overhead transparency of *Student Book* page 93 •Calculators Clock cards from Investigation 8.2

8.4 Measuring Time in Seconds	♦Understand how much time elapses in 1 second. ♦Understand the relationships among seconds, minutes, and hours. ♦Measure amounts of time in seconds.	♠How Long is a Second? ♠Measuring Pulse Rate	Page 33 Exploring the Second as a Unit of Time	Page 97: Maintaining Concepts and Skill	BLM 8.4 Measuring Time	•Stopwatches •Clock with a second hand •Stopwatches or clocks with a second hand *Discussion Book* page 83 calculators
8.5 Working with Simple Timetables	♦Read and interpret information in a timetable. ♦Develop strategies for calculating amounts of time.	♠Reading a Local Timetable ♠Train Timetable ♠Using a Timetable	Page 34 Reading Simple Timetables	Page 98: Practice Using a Timetable Page 99: Homework Calculating Time Differences		•Copies of a local timetable •Map of northeastern United States •Map of Unites States •Overhead transparency of *Student Book* page 98 •Copies of a local timetable
Chapter 9						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
9.1 Exploring Pyramids and Prisms	♦Recognize and extend geometric and numeric patterns. ♦Recognize and count the number of faces, edges, and vertices in a solid shape. ♦Discover the relationship among the numbers of faces, edges, and vertices in a solid shape.	♠Introducing Faces, Vertices, and Edges ♠Investigating Pyramids ♠Investigating Prisms ♠Exploring Pyramidal Numbers		Page 100: Practice Prism Pattern Page 101: Maintaining Concepts and Skills	BLM 9.1 Pyramid Patterns	•Classroom set of solid shapes •*Egyptian Genius* pages 10-11 •*Teachers' Notes* pages 8-9 •Set of Pyramids •Overhead transparency of *Student Book* page 100 •Set of prisms •Centimeter connecting cubes

9.2 Exploring Dimensions of Massive Monuments	♦Find the perimeter of the faces of solid figures. ♦Explore properties of pyramids. ♦Read and interpret information from a graph.	♠Exploring Pyramid Shapes ♠Investigating Measurements of Pyramids ♠Finding Perimeter		Page 102: Homework Finding Perimeter Page 103: Maintaining Concepts and Skills	BLM 9.2 ♠Using Nets	•*Egyptian Genius* pages 2-3, 6-9, and poster pages 2-3, 6-7 •*Teachers' Notes* pages 6-7 •Square pyramid •Set of solid shapes •Rulers Scissors; paste or tape; rulers
9.3 Finding Perimeters of Everyday Objects	♦Estimate and find perimeters of everyday objects. ♦Use perimeter to solve problems.	♠Looking Around for Perimeters ♠Measuring a Bookcase ♠Estimating and Finding Perimeters	Page 35 Finding the Distance Around	Page 104: Practice Estimating and Finding Perimeter Page 105: Maintaining Concepts and Skills		•Overhead transparency of *Student Book* page 104 •String •Rulers Measuring tapes
9.4 Solving Problems with Perimeter	♦Use two triangles to make different shapes. ♦Compare perimeters of shapes. ♦Find perimeters of regular polygons.	♠Perimeters of New Shapes ♠Perimeters of Regular Polygons	Page 36 Finding Shapes with the Same Perimeter	Page 106: Practice Finding Perimeter Page 107: Practice Calculating Perimeter Page 108: Homework Calculating the Perimeter of Polygons	BLM 9.3 Centimeter Grid Paper BLM 9.4 Exploring Perimeter	•Rulers •Scissors •Overhead transparency of *Student Book* page 107 Measuring tapes
9.5 Finding Distances Around Boxes	♦Find and compare the distances around (Perimeters of) rectangular prisms. ♦Find perimeters using different methods. ♦Understand that measurements are not always exact.	♠Wrapping Around a Box ♠How Much Ribbon? ♠Measuring Around a Box	Page 37 Problem Solving with Length	Page 109: Practice Finding and Comparing Perimeter Page 110: Maintaining Concepts and Skills	BLM 9.5 Finding Patterns in the Perimeter of Squares	•Different boxes •Scissors •String •Rulers Base Ten Blocks

Chapter 10						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
10.1 Combining and Separating Fractions	♦Use models to show addition or subtraction of commonly used fractions. ♦Write number sentences to represent addition and/or subtraction of fractions.	♠Making a Set of Fraction Strips ♠Pizza Fractions	Page 38 Combining and Separating Fractions	Page 111: Homework Using Fractions Page 112: Maintaining Concepts and Skills Page 113: Practice Adding and Subtracting Fractions Page 114: Homework Adding and Subtracting Fractions	BLM 10.1 Blank Fraction Strips	•Tag-board copies of BLM 10.1 •Rulers •Scissors •Envelopes •Fraction Circles PLUS Fraction Circles PLUS: fraction strips
10.2 Comparing Fractions of Circle Graphs	♦Use visual models, benchmarks, and equivalent forms to compare commonly used fractions. ♦Interpret data represented in a circle graph.	♠Keeping Records with Fractions ♠Reading Graphs ♠Finding Fractions on a Number Line	Page 39 Comparing Fractions of a Whole	Page 115: Homework Solving Fraction Problems Page 116: Maintaining Concepts and Skills Page 117: Practice Fractions on a Number Line	BLM 10.2 Subtracting Fractions	•Overhead transparency of BLM 10.2 •Fraction strips from Investigating 10.1 •Fraction Circles PLUS •Overhead transparency of *Student Book* Page 117 *Discussion Book* page 39; Play Money Coins and Bills, 3X5 cards

10.3 Combining Mixed Numbers	♦Explore addition of mixed numbers. ♦Estimate the location of fractions on a number line.	♠Finding Reasonable Answers ♠Locating Numbers on a Number Line	Page 40 Combining Mixed Numbers	Page 118: Homework Solving Fraction Problems Page119: Practice Using Number Lines Greater than 1 Page 120: Maintaining Concepts and Skills		•Fraction strips from Investigation 10.1 •Fraction Circles PLUS •Double-Sided Measuring Tapes •Measuring Pitchers •Drawing paper •Overhead transparency of *Student Book* page 119 Fraction strips, fraction Circles PLUS, prepared number cubes, rulers, and yardsticks
10.4 Adding and Subtracting Fractions	♦Explore addition and subtraction of fractions with different denominators. ♦Estimate sums and differences for two fractions with different denominators.	♠Adding and Subtracting Fractions ♠Adding and Comparing Fractions ♠Comparing Fractions Game	Page 41 Adding and Subtracting Fractions	Page 121: Practice Adding and Subtracting Fractions Page 122: Maintaining Concepts and Skills Page 123: Homework Adding and Subtracting Fractions	BLM 10.3 Estimating Fractional Amounts BLM 10.4 Comparing Fractions Game BLM 10.5 Fraction Strips	•Fraction strips fro Investigation 10.1 •Overhead transparency of BLM 10.3 •Cubes labeled 1-6 Fraction Circles PLUS, 3X5 cards
10.5 Thinking About Decimals	♦Understand place value in the base-ten number system. ♦Relate decimals to fractions that have a denominator of 10 or 100. ♦Read and write decimals through hundredths. ♦Recognize and generate equivalent fractions.	♠Thinking About Decimals ♠Make Ten!		Page 124: Practice Reading and Writing Hundredths Page 125: Homework Equivalent Common Fractions and Decimal Fractions Page 126: Practice Decimals on a Number Line	BLM 10.6 Make Ten! BLM 10.7 Reading Labels	•Overhead transparency of BLM 10.7 •Colored pencils or crayons •Pre-labeled wooden cubes •Overhead transparency of BLM 10.6 Play Money Bills, pennies, and dimes, 3X5 cards

Chapter 11						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
11.1 Practicing Division and Multiplication	♦Develop fluency in multiply whole numbers. ♦Use multiplication and division to solve problems.	♠Admission Prices ♠Product Puzzles	Page 42 Linking Multiplication and Division	Page 127: Practice Problems to Share Page 128: Homework Sharing Problems Page 129: Practice Relating Multiplication and Division Page 130: Homework Relating Multiplication and Division	BLM 11.1 Finding Factors and Products	•Play Money Coins and Bills
11.2 Relating Multiplication and Division	♦Use multiplication and division to solve problems. ♦Use arrays to represent multiplication and division.	♠Multiplication and Division Problems ♠Using Arrays to Solve Problems	Page 43 Creating Multiplication and Division Problems	Page 131: Practice Multiplication Machines Page 132: Maintaining Concepts and Skills Page 133: Homework Multiplication Machines	BLM 11.2 Identifying Facts in Fact Families	•3X5 cards
11.3 Introducing the Division Algorithm	♦Recognize when to use multiplication and division when solving problems. ♦Use the division algorithm to divide 2- and 3-digit numbers.	♠Multiplication or Division? ♠Developing Steps in Division ♠Practice with Division		Page 134: Practice Super Shirt Factory Sale Page 135: Practice Exploring Division Patterns Page 136: Maintaining Concepts and Skills	BLM 11.3 Working with Division	•Problems on 3X5 cards from Investigation 11.2 •Base Ten Blocks •Overhead transparency of *Student Book* page 134 3X5 cards; Base Ten Blocks

11.4 Introducing the Mean	♦Share a number of objects equally among members of a group. ♦Develop fluency in dividing with whole numbers. ♦Collect and analyze data.	♠Sharing Equally ♠Grab the Cubes	Page 44 Using Division to Compare Amounts	Page 137: Grab the Cubes Page 138: Maintaining Concepts and Skills Page 139: Homework Exploring Division Patterns		•Centimeter Connecting Cubes •Base Ten Unit Cubes •Containers Tag-board (2-inch squares); Centimeter Connecting Cubes
11.5 Exploring Ancient Ways to Multiply and Divide	♦Explore different methods for multiplying and dividing. ♦Explore different methods for representing fractions.	♠Egyptian Multiplication and Division ♠Egyptian and Arabic Multiplication ♠Egyptian Fractions		Page 140: Maintaining Concepts and Skills Page 141: Practice Solving Division Problems Page 142: Homework Solving Division Problems	BLM 11.4 Egyptian Multiplication BLM 11.5 Egyptian Division	•*Egyptian Genius* page 36-39 and poster pages 36-37 •*Mathematics for Many Cultures* pages 10-11 *Egyptian Genius* pages 38-39
Chapter 12						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
12.1 Reviewing Large Numbers	♦Read, write, and compare whole numbers having up to five digits. ♦Understand such attributes as length, weight, volume, and diameter.	♠Flying Numbers ♠Comparing Altitudes ♠Finding Large Numbers		Page 143: Homework Reading Numbers on a Number Line Page 144: Maintaining Concepts and Skills		•*Fantastic Flight* pages 14-17 and poster pages 14-15 •Balloons *Fantastic Flight* pages 16-17

12.2 Working with 5-digit Numbers	♦Understand the place-value structure of the base-ten number system and be able to represent and compare whole numbers. ♦Develop fluency in adding and subtracting whole number.	♠Airplane Flights ♠The Up-Down Game ♠Finding the New Amount	Page 45 Sequencing 5-digit Numbers	Page 145: Practice Finding the New Amount Page 146: Maintaining Concepts and Skills Page 147: Practice Calculating Sums and Differences Page 148: Homework Calculating Sums and Differences	BLM 12.1 Investigating Addition and Subtraction Patterns	•Abacus •Wooden cubes 3X5 cards; scissors
12.3 Introducing 6-digit Numbers	♦Understand the place-value structure of the base-ten number system and be able to represent and compare whole numbers. ♦Read and write 6-digit number.	♠Reading 6-digit Number Expanders ♠Whole-Group Digit Draw ♠Small-Group Digit Draw ♠Comparing Populations	Page 46 Reading 6-digit Numbers	Page 149: Practice Comparing Populations in Ohio Page 150: Maintaining Concepts and Skills	BLM 12.2 Mix-and-Match Puzzles BLM 12.3 Continuing Number Patterns	•30 3X5 cards (numbered with digits 0-9) •6-digit Number Expander Calculators
12.4 Comparing 6-digit Numbers	♦Understand the place-value structure of the base-ten number system and be able to compare 6-digit numbers. ♦Develop and use strategies to estimate the results of whole number computations and judge the reasonableness of such results.	♠Comparing Large Numbers ♠Lengths of Road Networks ♠Making Comparisons Based on Data	Page 47 Working with 6-digit Numbers	Page 151: Practice Using Data Page 152: Maintaining Concepts and Skills Page 153: Practice Ordering 6-digit Numbers Page 154: Homework Ordering 6-digit Numbers		•Large sheets of paper •Two strips of paper about 2 inches wide •Topographic map and/or population map of the United States (optional) 3X5 cards with # sequences; calculators; altimeters made in Investigating 12.2; road atlas with city populations or Internet access

12.5 Exploring 1,000,000	♦Develop and use strategies to estimate the results of whole number computations and judge the reasonableness of such results. ♦Carry out simple conversions within a system of measurement. ♦Solve multi-digit computation problems.	♠Making a Million ♠Time for 1,000,000 ♠Exploring Other Millions	Page 48 Exploring One Million	Page 155: Homework Working with One Million Page 156: Homework Adding On to Make One Million	BLM 12.4 Calculating with One Million BLM 12.5 Using Numbers from Ancient Egypt	•Calculators •*Mathematics from Many Cultures* pages 4-5 *One Million* by Hendrik Hertzberg
Chapter 13						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
13.1 Problem Solving with Money	♦Describe and extend numeric patterns. ♦Develop fluency in adding, subtracting, and multiplying whole numbers. ♦Develop and use strategies to estimate the results of whole number computations and to judge the reasonableness of results.	♠Using Coins to Explore Number Patterns ♠Buying Muffins	Page 49 Problem Solving with Money	Page 157: Maintaining Concepts and Skills	BLM 13.1 Comparing Prices	•Calculators *Discussion Book* page 49
13.2 Working with Bills and Coins	♦Develop fluency in adding, subtracting, multiplying, and dividing whole numbers. ♦Solve problems involving amounts of money.	♠Using Bills and Coins ♠Investigating Combinations of Bills and Coins	Page 50 Making Purchases and Giving Change	Page 158: Practice Money Combinations Page 159: Homework Making Change	BLM 13.2 Identifying Coins to Use	•Play Money Coins and Bills Chart from "Investigating Combinations of Bills and Coins" activity, Play Money

13.3 Showing How Money is Spent	♦Read and interpret data in bar graphs, picture graphs, and simple pie graphs. ♦Represent data using graphs such as picture graphs and bar graphs. ♦Solve problems involving amounts of money.	♠Reading Graphs ♠Showing Information in Different Ways ♠Solving Problems Involving Money	Page 51 Using Different Types of Graphs	Page 160: Practice Solving Problems Involving Money Page 161: Maintaining Concepts and Skills	BLM 13.3 Analyzing and Constructing Pie Graphs	•Calculators 3X5 cards; box; *Discussion Book* page 58
13.4 Solving Problems with Movie Budgets	♦Read and interpret data in pie graphs. ♦Read and interpret data in charts and tables. ♦Solve problems involving amounts of money.	♠Analyzing Movie Budgets ♠Working with Budget		Page 162: Maintaining Concepts and Skills		•*Mathematics Behind the Scenes* pages 12-15 and poster pages 12-13 •Calculators *Mathematics Behind the Scenes* pages 12-15 and poster pages 12-13
13.5 Solving Capacity and Cost Problems	♦Develop fluency in adding, subtracting, multiplying, and dividing whole numbers. ♦Carry out simple unit conversions within a system of measurement.	♠Reviewing Pints, Quarts, and Gallons ♠Purchasing Paint ♠Supermarket Specials	Page 52 Solving Money Problems	Page 163: Practice Supermarket Specials Page 164: Maintaining Concepts and Skills	BLM 13.4 Solving Problems Involving Money BLM 13.5 Finding the Cost	•Paper circles •Colored pencils or crayons •Circulars or newspaper advertisements that show paint prices •Calculators

Chapter 14						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
14.1 Exploring Multiplication Patters	♦Describe, extend, and make generalizations about numeric patterns. ♦Understand the effect of multiplying a whole number by a multiple of 10, 100, or 1,000. ♦Develop fluency in multiplying whole numbers.	♠Looking for Patterns ♠Product Patterns ♠Working with Multiplying Machines	Page 53 Showing Multiplication Patterns	Page 165: Practice Practicing Multiplication Page 166: Homework Practicing Multiplication Page 167: Practice Multiplication Machines Page 168: Maintaining Concepts and Skills	BLM 7.1 ½ Centimeter Grid Paper BLM 14.1 Multiplying 2-digit Numbers	•3X5 cards •Scissors •Tape •Calculators
14.2 Multiplying by Tens	♦Describe, extend, and make generalizations about numeric patterns. ♦Develop fluency in multiplying whole numbers. ♦Generate equivalent representations of the same number by decomposing and composing numbers.	♠Looking for Patterns ♠Multiplying to Find Costs	Page 54 Multiplying by Tens	Page 169: Practice Multiplying 2-digit Numbers Page 170: Homework Multiplying 2-digit Numbers Page 171: Practice Finding Costs Page 172: Maintaining Concepts and Skills	BLM 14.2 Multiplying by 10, 100, and 1,000	•Calculators *Discussion Book* page 54
14.3 Using the Distributive Property	♦Describe, extend, and make generalizations about numeric patterns. ♦Generate equivalent representations of the same number by decomposing and composing numbers. ♦Use the distributive property to compute the products of whole numbers.	♠Using a "Time Saver" to Multiply ♠Making a "Time Saver"	Page 55 Exploring Patterns for Multiplying Tens and Ones	Page 173: Practice Multiplying by Tens Page 174: Homework Multiplying by Tens Page 175: Practice Using a Time Saver Page 176: Maintaining Concepts and Skills	BLM 14.3 Time Saver BLM 7.1 Multiplying Costs	•Overhead transparency of BLM 14.3

14.4 Using Strategies to Multiply Mentally	♦Generate equivalent representations of the same number by decomposing and composing numbers. ♦Use the distributive property to compute products of whole numbers.	♠Exploring 2-digit Multipliers ♠Visualizing Multiplication ♠Finding Square Numbers	Page 56 Investigating 2-digit Multipliers	Page 177: Practice Finding Square Numbers Page 178: Maintaining Concepts and Skills	BLM 7.1 ½ Centimeter Grid Paper BLM 7.1 ½ Centimeter Grid Paper BLM 14.5 Solving Multiplication Problems	•A sheet of paper •Calculators •Scissors •Colored pencils or crayons •Base Ten Blocks Scissors, colored pencils or crayons
14.5 Finding the Area of a Rectangle	♦Identify and develop vocabulary to describe attributes of 2-dimensional shapes. ♦Develop and use strategies to find the area of a rectangle. ♦Recognize equivalent representations of the same number and generate them by decomposing and composing numbers.	♠Finding the Area of a Rectangle ♠Creating Different Shapes with the Same Area	Page 57 Calculating the Area of a Rectangle	Page 179: Practice Calculating the Number of Squares Page 180: Homework Calculating the Number of Squares	BLM 9.3 Centimeter Grid Paper	•1-inch square tiles •Rulers •Colored pencils or crayons •Base Ten Blocks 3X5 cards
Chapter 15						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
15.1 Introducing Congruence and Similarity	♦Explore congruence and similarity. ♦Describe, extend, and make generalizations about geometric patterns. ♦Identify, compare, and analyze attributes of 2- and 3-dimensional shapes and develop vocabulary to describe the attributes.	♠Identifying Congruent and Similar Shapes ♠Creating Congruent and Similar Shapes ♠Finding Similar Shapes	Page 58 Finding and Describing Congruent Shapes	Page 181: Practice Finding Similar Shapes Page 182: Maintaining Concepts and Skills	BLM 5.1 Centimeter Dot Paper BLM 15.1 Finding and Drawing Congruent Shapes	•Tracing paper •Classroom solid shapes •Overhead transparency of *Student Book* page 181

15.2 Using Grids to Enlarge Shapes	♦Use coordinate systems to change the size of shapes. ♦Explore congruence and similarity.	♠Making Enlargements ♠Enlarging with a Grid ♠Making an Enlargement		Page 183: Maintaining Concepts and Skills Page 184: Practice Making an Enlargement	BLM 9.3 Centimeter Grid Paper BLM 15.2 Making an Enlargement	•Overhead transparency of BLM 9.3 with cartoon sketch •Reduced copies of BLM 9.3 with different polygons •*Egyptian Genius* pages 12-15 and poster pages 12-13 •Rulers •Double-Sided Measuring Tapes
					BLM 9.3 Centimeter Grid Paper	Overhead transparencies of reduced BLM 9.3 cartoons; *Fantastic Flight* pages 8-9
15.3 Describing and Constructing Tessellations	♦Investigate, describe. And reason about the results of subdividing, combining, and transforming shapes. ♦Create tessellating shapes.	♠Creating Tessellating Patterns ♠Finding and Creating Tessellations		Page 185: Practice Finding Congruent Shapes Page 186: Homework Finding Congruent Shapes Page 187: Maintaining Concepts and Skills Page 188: Homework Making Tessellation Designs Page 189: Practice Creating Tessellations	BLM 15.3 Tessellating with polygons	•Pattern Blocks •*Nature's Mathematical Marvels* pages 22-25 and poster pages 22-23 •Construction paper •Scissors; tape •Overhead transparency •Rulers
						Scissors; construction paper; tape or glue; colored pencils; Internet access

15.4 Exploring Angles Around a Point	♦Investigate, compare, and analyze attributes of 2-dimensional shapes and develop vocabulary to describe attributes. ♦Investigate, describe, and reason about the results of subdividing, combining, and transforming shapes.	♠Exploring Angle Measures of Quadrilaterals ♠Pattern-Block Tessellations	Page 59 Investigating Angles of Quadrilaterals Page 60 Investigating Tessellations	Page 190: Maintaining Concepts and Skills	BLM 15.4 Pattern Block Shapes BLM 5.1 Centimeter Dot Paper	•Scissors •Pattern Blocks Wallpaper books; scissors; colored pencils or crayons
15.5 Exploring the Circle	♦Describe, extend, and make generalizations about geometric and numeric patterns. ♦Build and draw geometric objects. ♦Propose and justify conclusions and predictions that are based on data and design studies.	♠Creating s Square from a Circle ♠Working with Circles ♠Finding Triangular Numbers	Page 61 Exploring Properties of Circles Page 62 Connecting Points to Create Number Patterns	Page 191: Practice Identifying Parts of Shapes Page 192: Homework Identifying Parts of Shapes Page 193: Practice Working with Circles Page 194: Practice Drawing Diagonals	BLM 15.5 Circles for Squares	•Coffee filters •Scissors •Rulers •Glue or staplers •Overhead transparency of *Student Book* page 193 •Colored pencils •Math dictionary/encyclopedia *Discussion Book* page 62; compasses; scissors; glue or tape

Chapter 16						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
16.1 Relating Common and Decimal Fractions	♦Understand the place-value structure of the base-ten number system and be able to read and write decimal fractions through the hundredths place. ♦Write fractional amounts as common fractions and as decimal fractions.	♠Modeling Fractions as Hundredths ♠Playing "Mr. Fraction's Neighborhood"		Page 195: Practice Relating Common Decimal Fractions Page 196: Homework Relating Common Decimal Fractions Page 197: Maintaining Concepts and Skills	BLM 10.5 Fraction Strips BLM 16.1 Fraction Grids BLM 16.2 Mr. Fraction's Neighborhood Cards BLM 16.3 Mr. Fraction's Neighborhood Game	•Overhead transparency of BLM 10.5 •Calculators, scissors •Crayons or colored pencils •Overhead transparencies of BLM 16.2 and BLM 16.3 •Tag-board copies of BLM 16.2 •Fraction strips from Investigation 10.1 •Paper, colored pens, meter sticks, grocery store flyers
16.2 Expressing Decimals as Tenths and Hundredths	♦Understand the place-value structure of the base-ten number system and be able to represent and compare decimals through the hundredths place. ♦Add and subtract decimals through the hundredths.	♠Track-Meet Results ♠Relating Fractions and Decimals ♠ "On Target" Game	Page 63 Working with Tenths and Hundredths	Page 198: Practice Writing Fractions as Decimals Page 199: Practice Relating Decimals and Fractions Page 200: Practice Writing Decimals Fractions in Words Page 201: Homework Writing Decimals as Fractions	BLM 16.1 Fraction Grids	•Sets of 3X5 cards labeled 1-9 •Calculators •Sets of 3X5 cards labeled 1-9

16.3 Using Decimals to Record Thousandths	♦Read and write decimals through the thousandths place. ♦Use models and equivalent forms to judge the size of decimals. ♦Understand how thousandths relate to measurement of real-world examples.	♠Relating Fractions and Decimals ♠Representing Thousandths on a Grid ♠Modeling Thousandths	Page 64 Introducing Thousandths	Page 202: Practice Writing Tenths, Hundredths, and Thousandths as Decimals Page 203: Homework Writing Tenths, Hundredths, and Thousandths as Decimals Page 204: Maintaining Concepts and Skills	BLM 16.4 Tenths, Hundredths, and Thousandths Grid	•Colored pencils or crayons •Rulers, meter stick, and 10-meter measuring tapes •Stacking Balance •Spring Scale •Mass Sets •Measuring Pitchers •Metric measuring spoons *Mathematics Behind the Scenes* pages 12-13 and poster
16.4 Adding and Subtracting Decimals	♦Develop and use strategies to estimate decimal sums and differences. ♦Add and subtract decimals through the thousandths place.	♠Computer Challenges ♠Playing "Decimal Destroyer"	Page 65 Regrouping Decimal Fractions	Page 205: Practice Increasing and Decreasing Decimals Page 206: Homework Increasing and Decreasing Decimals Page 207: Maintaining Concepts and Skills	BLM 16.3 Mr. Fraction's Neighborhood Game	•Sets of labeled 3X5 cards from Investigation 16.2 •Calculators Sets of labeled 3X5 cards from Investigation 16.2; 3X5 cards
16.5 Exploring Patterns and Estimating with Decimals	♦Describe, extend, and make generalizations about decimal patterns. ♦Develop and use strategies to estimate decimal sums and differences.	♠Decimal Fraction Number Patterns ♠Finding Decimal Patterns ♠Using Estimation for Problems Involving Decimals		Page 208: Practice Ordering Decimals Page 209: Homework Writing Amounts in Different Ways Page 210: Maintaining Concepts and Skills Pages 211/212: Practice/Homework Adding and Subtracting Decimals	BLM 16.5 Exploring Decimal Patterns BLM 16.6 Estimating, Then Answering	•Overhead transparency of BLM 16.5 •Calculators •Overhead transparency of *Student Book* page 207 •Overhead transparency of BLM 16.6 Decimal cards made in investigation 16.4; newspapers; magazines

Chapter 17						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
17.1 Working with Weather Data	♦Explore numbers less than zero in familiar applications. ♦Represent and analyze data using tables and bar graphs. ♦Describe events as likely or unlikely and discuss the degree of likelihood using words such as *very likely, likely,* and *very unlikely.*	♠Investigating Weather Records ♠Making Predictions ♠Comparing Maximum		Page 213: Practice Making Predictions Page 214: Practice Likely-Unlikely Weather Page 215: Homework Likely-Unlikely Weather Page 216: Maintaining Concepts and Skills		•*Nature's Mathematical Marvels* pages 10-13 and poster pages 10-11 •Thermometer; scissors; glue •Globe and/or world map •List (from newspaper) of maximum temperatures •Overhead transparency of temperature list Almanacs; *Nature's Mathematical Marvels* page 10
17.2 Conducting Probability	♦Collect data using experiments. ♦Describe events as likely or unlikely and discuss the degree of likelihood using words such as *more likely, less likely,* and *unlikely.* ♦Predict the probability of outcomes of simple experiments and test the predictions.	♠Probability Experiment ♠Graphing Probability Experiments	Page 66 Carry Out Simple Probability Experiments	Page 217: Practice Using a Pictograph Page 218: Practice Designing a Spinner Page 219: Homework Making Spinners Page 220: Maintaining Concepts and Skills	BLM 17.1 Making a Spinner BLM 17.2 Recording Data BLM 17.2 Recording Data	•Silver coins or Play Money Coins •Clean, empty milk carton •Tag-board •Paper clips •Colored markers *Discussion Book* page 66

17.3 Reading Grid Maps	♦Read and interpret information on a grid map. ♦Make and use coordinate systems to specify locations.	♠Grids on a Map ♠Reading Grid Maps ♠Playing "Sunken Treasure" on a Grid	Page 67 Locating Spaces on a Map	Page 221: Practice Zoo Map Page 222: Homework Orchard and Garden Map Page 223: Maintaining Concepts and Skills	BLM 17.3 Sunken Treasure	•*Fantastic Flight* pages 24-25 •Grid maps (tourist maps, state maps, or street directories) •Scissors •Overhead transparency of BLM 17.3, with the ship tokens cut out *Fantastic Flight* page 24; magnetic compasses
17.4 Reading and Interpreting Line Graphs	♦Read and interpret data on a line graph. ♦Find the distance between two points along horizontal and vertical lines on a coordinate graph.	♠Reading a Line Graph ♠Using Line Graphs to Show Changes in Day Length ♠Attendance at a Science Fair	Page 68 Using a Line Graph	Page 224: Practice Reading a Line Graph Page 225: Practice Annual Rainfall Page 226: Homework Graphing Plant Growth Page 227: Maintaining Concepts and Skills	BLM 9.3 Centimeter Grid Paper BLM 17.4 Reading a Line Graph	•*Nature's Mathematical Marvels* pages 32-33 •*Teachers' Notes* page 18-19 •Overhead transparency of *Student Book* page 224 Graphs from newspaper and magazines; *Nature's Mathematical Marvels* page 30-31, 33 and poster pages 30-31
17.5 Interpreting and Constructing Pie Graphs	♦Read and interpret data on a pie graph. ♦Develop understanding of fractions as parts of a whole. ♦Represent data using circle (pie) graphs.	♠Reading Pie Graphs ♠Using Links to Help Make a Pie Graph ♠Interpreting Pie Graphs	Page 69 Interpreting a Circle Graph	Page 228: Practice Reading Pie Graphs Page 229: Practice Working with Bar Graphs Page 230: Homework Using Bar Graphs	BLM 17.5 Making a Pie Graph BLM 17.5 Making a Pie Graph	•Lists of video titles •Students' pie graphs •Colored plastic links/paper clips •Colored markers •Rulers •Chart paper •Overhead transparency of *Student Book* page 228 •Centimeter Connecting Cubes •Opaque bags Colored markers

Chapter 18						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
18.1 Reviewing Factors, Products, and Multiples	♦Develop fluency in multiplying whole numbers. ♦Recognize equivalent representations for the same number and generate them by decomposing and composing numbers. ♦Explore prime and composite numbers.	♠Using Tree Diagram to Review Multiplication ♠Factors, Products, and Multiples ♠Identifying Multiples	Page 70 Exploring Factor Patterns	Page 231: Practice Identify Multiples Page 232: Maintaining Concepts and Skills	BLM 18.1 Completing Multiplication Trees	•Overhead transparency of 18.1 •Overhead transparency of *Student Book* page 231 •Colored pencils Internet or library access
18.2 Multiplying 1- and 2-digit Numbers	♦Recognize equivalent representations for the same number and generate them by decomposing and composing numbers. ♦Read and interpret data on a graph. ♦Develop fluency in multiplying whole numbers.	♠How Many is a Stack? ♠Comparing Speeds and Calculating Distances	Page 71 Using Multiplication and Division in Stacking Problems	Page 233: Practice Counting Bricks Page 234: Practice Multiplying by 1-digit Numbers Page 235: Homework Multiplying by 1-digit Numbers Page 236: Maintaining Concepts and Skills	BLM 18.2 Mental Math Multiplication	•Centimeter Connecting Cubes or Base Ten Blocks •*Nature's Mathematical Marvels* pages 36-37 Centimeter Connecting Cubes or Base Ten Blocks
18.3 Modeling Multiplication by a 2-digit Number	♦Develop fluency in multiplying whole numbers. ♦Recognize equivalent representations for the same number and generate them by decomposing and composing numbers.	♠Using Grids to Multiply ♠Using Base Ten Blocks to Multiply ♠Solving Real-World Multiplication Problems	Page 72 Finding Different Ways to Show 2-digit Multipliers	Page 237: Practice Modeling Multiplication Page 238: Homework Modeling Multiplication Page 239: Maintaining Concepts and Skills	BLM 7.1 ½ Centimeter Grid Paper BLM 7.1 ½ Centimeter Grid Paper	•Colored pencils or pens •Base Ten Blocks •*Mathematics Behind the Scenes* pages 32-35 and poster pages 32-33 •*Teachers' Notes* pages 18-19 •Calculators Scissors, colored pencils, *Mathematics Behind the Scenes: Egyptian Genius* pages 2-23, *Teachers' Notes* pages 14-15

18.4 Developing Multiplication Algorithms	♦Understand various meanings of multiplication. ♦Recognize equivalent representations for the same number and generate them by decomposing and composing numbers. ♦Develop fluency in multiplying whole numbers.	♠Developing Multiplication Algorithms ♠Recording Multiplication ♠Multiplying by Tens to Find Film Lengths		Page 240: Practice Using Arrays to Find Products Page 241: Practice Multiplying 23 Page 242: Homework Multiplying 27 Page 243: Maintaining Concepts and Skills	BLM 18.3 Recording Multiplication	•Student grids from Investigation 18.3 •Overhead transparency of BLM 18.3 •*Mathematics Behind the Scenes* pages 32-33 and poster Base Ten Blocks, scissors, calculators
18.5 Exploring the Lattice Method of Multiplication	♦Recognize equivalent representations for the same number and generate them by decomposing and composing numbers. ♦Develop fluency in multiplying whole numbers.	♠Using a Lattice to Multiply ♠More Multiplication ♠Finding Products in Different Ways	Page 73 Estimating with 2-digit Multipliers	Page 244: Practice Finding Products in Different Ways Page 245: Practice Multiplying 2-digit Numbers Page 246: Homework Multiplying 2-digit Numbers	BLM 18.4 Use the Lattice Method to Multiply BLM 18.5 Practice Multiplication BLM 18.6 Multiplication Match	•*Mathematics from Many Cultures* pages 10-11 •Overhead transparency of *Student Book* page 244

Chapter 19

Investigation	Learning Expectations	Core Activities	Discussion Book pages	Student Book	Blackline Masters	Manipulative and Other Materials
19.1 Finding the Area of Irregular Shapes	♦Understand that the area of a 2-dimesnional shape is found by counting the total number of squares within a given boundary. ♦Develop strategies for estimating the area of an irregular shape.	♠Measuring the Area of a Hand ♠Finding the Area of Pictures of Animal Giants ♠Estimating Area		Page 247: Practice Estimating Area Page 248: Practice Dinosaur Club Patch Page 249: Homework Practicing Multiplication Page 250: Homework Practicing Multiplication	BLM 19.1 1-inch Grid Paper BLM 9.3 Centimeter Grid Paper BLM 9.3 Centimeter Grid Paper BLM 19.2 Using Hexagons to Draw Shapes	•Colored pencils •Paste •*Nature's Mathematical Marvels* pages 40-42 poster •Inch rulers •Erasable markers •Overhead transparencies of BLM 19.1 and BLM 9.3 •A collection of leaves Classroom objects

19.2 Finding the Area of a Triangle	♦Understand attributes such as base, height, and area of rectangles and triangles. ♦Develop, understand, and use formulas to find the area of rectangles and related triangles.	♠Discovering the Rule for Finding the Area of a Triangle ♠Using Different Bases to Calculate Areas of Triangles	Page 74 Exploring the Area of Triangles	Page 251: Practice Finding the Area of Triangles Page 252: Maintaining Concepts and Skills	BLM 9.3 Centimeter Grid Paper BLM 19.3 Finding Area BLM 9.3 Centimeter Grid Paper	•Scissors •Construction paper in two colors •Scissors •Paste •Inch rulers •Calculators Geo-boards; rubber bands
19.3 Calculating Areas from Scale Drawings	♦Recognize geometric ideas and relationships and apply them to situations in everyday life. ♦Develop strategies for finding perimeter and areas of irregular shapes.	♠Buying Tiles ♠Working with Plans and Scale Drawings	Page 75 Calculating Area—Square Feet	Page 253: Homework Painting a Room Page 254: Maintaining Concepts and Skills	BLM 9.3 Centimeter Grid Paper BLM 9.3 Centimeter Grid Paper	•Calculators •*Mathematics Behind the Scenes* pages 24-27 and poster pages 24-25 •Yardstick or Double-Sided Measuring Tapes *Discussion Book* page 75
19.4 Relating Measures for Area	♦Carry out simple conversions within a system of measurement. ♦Develop strategies for finding perimeter and areas of irregular shapes.	♠Finding How Many Square Inches Are in a Square Foot ♠Square Measures of Area ♠Relating Area and Perimeter	Page 76 Calculating Area in Square Yards	Page 255: Homework Calculating Area Page 256: Maintaining Concepts and Skills Page 257: Practice Using Multiplication to Find Area Page 258: Homework Using Multiplication to Find Area	BLM 9.3 Centimeter Grid Paper BLM 19.4 Finding Perimeter and Area BLM 19.5 Exploring Area of a Triangle	•Inch rulers •Scissors •Large sheets of poster board •1-inch square tiles in containers •Newspapers •Yardsticks or Double-Sided Measuring Tapes

19.5 Estimating and Comparing Areas	♦Develop strategies for estimating and comparing areas of rectangles. ♦Select appropriate methods for computing with whole numbers from among metal computation, estimation, calculators, and paper and pencil.	♠Comparing Dimensions and Areas of Rectangles ♠Figuring the Cost for Paint ♠Finding the Cost of Fertilizing Lawns	Page 77 Problem Solving—Area and Money	Page 259: Practice Solving Problems with Area Page 260: Maintaining Concepts and Skills Page 261: Practice Reviewing Division Page 262: Homework Reviewing Division	BLM 98 Centimeter Grid Paper	•A set of 3X5 cards numbered 21-40
Chapter 20						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
20.1 Applying an Efficient Division Algorithm	♦Understand various meanings of division. ♦Develop fluency in dividing whole numbers.	♠Estimating Answers ♠Finding Exact Answers		Page 263: Practice Estimating with Division Page 264: Maintaining Concepts and Skills Page 265: Practice Modeling Division Page 266: Homework Modeling Division		•3X5 cards •Calculators •Base Ten Blocks Division problem cards from "Estimating Answers"
20.2 Interpreting Remainders	♦Develop fluency in dividing whole numbers. ♦Understand the meaning of remainder when dividing whole numbers.	♠Solving Division Problems ♠Working with a Remainder ♠Finding Distances	Page78 Expressing Remainders as Decimals	Page 267: Practice Solving Division Problems Page 268: Practice Practicing Division Page 269: Homework Practicing Division	BLM 201 Practicing Division	•Calculators •*Nature's Mathematical Marvels* pages 36-37 •*Teachers' Notes* pages 20-21 •Calculators

20.3 Solving Multiplication and Division Problems	♦Develop fluency in dividing whole numbers. ♦Understand the effects of dividing whole numbers.	♠School Store Prices ♠Unit Prices ♠Dividing Mentally	Page 79 Relating Multiplication and Division	Page 270: Practice Bulk Buy Specials Page 271: Practice Choosing Divisors Page 272: Maintaining Concepts and Skills	BLM 20.2 Finding the Cost of Just One	•Base Ten Blocks Magazines; newspapers; scissors; glue
20.4 Exploring the Pattern of Dividing by 10	♦Understand the place-value structure of the base-ten number system, including decimals. ♦Understand the effects of dividing whole numbers by 10.	♠Division Patterns ♠Dividing by 10 ♠Dividing by Halving	Page 80 Investigating Patterns for Dividing by 10	Page 273: Practice Dividing By 10 Page 274: Maintaining Concepts and Skills	BLM 20.3 Finding the Cost of Just One	•Calculators •*Egyptian Genius* pages 36-37 and poster •*Teachers' Notes* pages 20-21 Wooden cubes; calculators
20.5 Using Division to Calculate the Mean	♦Develop fluency in adding and dividing whole numbers. ♦Understand the mean as a measure of central tendency to analyze data.	♠Calculating the Mean ♠Finding the Mean ♠Comparing Movie Data ♠Using Data to Find the Mean	Page 81 Using Division to Find Averages	Page 275: Practice Finding the Mean Page 276: Maintaining Concepts and Skills	BLM 20.4 Dividing by a 1-digit Number	•Base Ten Blocks (unit cubes) •Calculators •*Mathematics Behind the Scenes* pages 36-39 and poster pages 36-37 •*Teachers' Notes* pages 20-23 Books

Chapter 21

Investigation	Learning Expectations	Core Activities	Discussion Book pages	Student Book	Blackline Masters	Manipulative and Other Materials
21.1 Relating Decimals to Fractions	♦Recognize equivalent forms of fractions and decimals. ♦Understand the place-value structure of the base-ten number system for decimals.	♠Converting Metric Measures ♠Interpreting Decimals	Page 82 Relating Decimal Fractions to Common Fractions	Page 277: Maintaining Concepts and Skills Page 278: Practice Modeling Decimal Numbers Page 279: Homework Modeling Decimal Numbers	BLM 21.1 Making a Number Expander BLM 21.2 Using the Number Expander	•Meter sticks •Scissors •Glue •Erasers or removable labels 3X5 cards; box

21.2 Using Fractions are Benchmarks	♦Develop and use strategies to estimate the sizes of decimals and fractions. ♦Use models and benchmarks to relate decimals and fractions.	♠Penny Trails ♠Playing the "Comparing Fractions" Game	Using 1, ½, and ¼ as Reference Points	Page 280: Practice Working with Decimals and Fractions Page 281: Practice Solving Problems with Decimals and Fractions Page 282/283: Practice/Homework Relating Decimal Fractions to Common Fractions	BLM 16.3 Mr. Fraction's Neighborhood Game BLM 21.3 Game Cards	•Pennies •Meter stick •Number expanders from Investigation 21.1 •Overhead transparency of BLM 16.3 •Tag-board copies of BLM 21.3 •Scissors •Coins or counters •Envelopes Calculators, 3X5 cards
21.3 Modeling Decimals on Number Lines	♦Use models to judge the size of decimals. ♦Compare and order decimals.	♠Using a Number Line to Show Decimals ♠Modeling Decimals		Page 284: Maintaining Concepts and Skills Page 285: Practice Reading Decimal Numbers on a Number Line Page 286: Homework Reading Decimal Numbers on a Number Line Page 287: Practice Using Decimal Fractions	LM 16.4 Tenths, Hundredths, and Thousandths Grid BLM 21.4 Identifying Points on a Number Line BLM 21.5 Decimal Caterpillar Game	•Overhead transparencies of BLM 21.4 and BLM 16.4 •*Nature's Mathematical Marvels* pages 4-5 •*Teachers' Notes* pages 4-5 •Atlases; world map •Calculators •Colored pens; stapler •Construction paper Number cubes; *Nature's Mathematical Marvels* pages 4-5
21.4 Interpreting Decimals on a Graph	♦Use a variety of strategies to add and subtract common decimals. ♦Develop and use strategies to estimate computations involving decimals. ♦Interpret decimals on a graph.	♠Reading a Line Graph ♠ "One"—Choosing Decimals That Have a Sum of 1 ♠Finding Pairs	Page 84 Showing Decimal Fractions on a Graph	Page 288: Practice Finding Pairs Page 289: Maintaining Concepts and Skills	BLM 21.3 Game Cards	•Straightedge •Envelopes with cards from Investigation 21.2 •Overhead transparency of BLM 21.3 cut apart 3X5 cards, calculators, *Discussion Book* pages 84, jars or water, plants, rulers, grid paper

21.5 Multiplying Decimals by Whole Numbers	♦Develop and use strategies to estimate computations involving decimals. ♦Use models to add, subtract, and multiply decimals. ♦Multiply decimals by whole numbers.	♠Introducing Multiplying Decimals ♠Weights and Prices	Page 85 Multiplying Decimal Fractions	Page 290: Practice Stock Up Week at the Grocery Store Page 291: Maintaining Concepts and Skills	BLM 21.6 Multiplying Decimals	•Overhead transparency of BLM 21.6 •Meter sticks Deck of cards from Investigation 21.4; 3X5 cards; *Discussion Book* page 85
Chapter 22						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
22.1 Finding the Volume of Rectangular Prisms	♦Understand and identify attributes of length, width, and height. ♦Develop strategies to determine volumes of rectangles solids.	♠Finding Volume ♠Volume Problems ♠Volume of a Container	Page 86 Comparing Solid Shapes	Page 292: Practice Exploring Volume Page 293: Maintaining Concepts and Skills		•Base Ten unit cubes or Linker Cubes •Straight-sided containers •Base Ten Blocks Calculators; rectangular prisms in the classroom
22.2 Using Cubic Units to Measure Volume	♦Develop strategies to determine volumes of rectangular solids. ♦Use appropriate standard units of express volume.	♠Units of Volume ♠Predicting Volume	Page 87 Predicting How Many Cubes Fill a Box	Page 294: Practice Exploring Volume Page 295: Maintaining Concepts and Skills	BLM 9.3 Centimeter Grid Paper BLM 22.1 Finding Area and Volume BLM 9.3 Centimeter Grid Paper	•Base Ten Blocks •Calculators •Scissors •Tape •2-centimeter cubes Base Ten unit cubes; drinking straws; string; scissors

22.3 Exploring the Volume of Irregular Shapes	♦Build shapes to determine volume. ♦Develop strategies for estimating and finding volumes of irregular shapes.	♠Volume of Unusual Shapes ♠Estimating a Balloon's Volume ♠Larger Volumes		Page 296: Maintaining Concepts and Skills		•Base Ten Blocks; calculators •Overhead transparencies of shapes •Balloons; boxes of various sizes •Centimeter and inch rulers •*Fantastic Flight* pages 14-17 and poster pages 14-15 •*Teachers' Notes* pages 22-23
					BLM 22.2 Constructing a Rectangular Prism BLM 22.3 Constructing a Prism	Tag-board; scissors; glue or tape; Base Ten unit cubes; small boxes; balloons; felt-tip pens
22.4 Reviewing Units of Capacity	♦Become familiar with standard units in the customary system of measurement. ♦Carry out simple conversions within the customary system of measurement.	♠Relating Cups, Pints, Quarts, and Gallons ♠Making Pancakes ♠Ancient Units of Capacity	Page 88 Problem Solving with Capacity	Page 297: Practice Finding Volume Page 298: Maintaining Concepts and Skills		•Cup, pint, quart, and gallon containers •Measuring Pitchers •*Egyptian Genius* pages 36-39 and poster pages 36-37 •*Teachers' Notes* pages 22-23
						Cup, pint, quart, and gallon containers; water; sand or rice; containers from home with capacity (c, pt, qt, gal) labeled

22.5 Working with Milliliters	♦Become familiar with standard units in the metric system of measurement. ♦Carry out simple conversions within the metric system of measurement.	♠Metric Units of Capacity ♠Relating Volume and Capacity	Page 89 Investigating Milliliters	Page 299: Practice Relating Volume and Capacity		•1-liter container •Measuring Pitchers •Metric measuring cups and spoons •Rice and/or water •Metric medicine glasses and droppers •Bottles and jar lids •Base Ten Blocks Clean containers from home labelled with ml or l; chart paper
Chapter 23						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
23.1 Exploring Weight, Capacity, and Volume	♦Understand attributes of weight, capacity, and volume. ♦Carry out simple conversions within a measuring system. ♦Understand the need for measuring with standard units.	♠Comparing Volumes ♠Relating Volume and Weight	Page 90 Relating Metric Units of Weight and Capacity	Page 300: Practice Relating Volume and Weight	BLM 23.1 Relating Volume and Capacity	•Stacking Balance and Mass Sets •Liter Volume Cubes •Base Ten Blocks (unit cubes) •Containers and water •Measuring Pitchers •Metric measuring spoons •Rice; as slide of bread; an apple Small solid objects; containers; cake pans; water; Measuring Pitchers

23.2 Analyzing Nutritional Values	♦Develop and use strategies to estimate computation of fractions and decimals. ♦Use equivalent forms to add and subtract fractions and decimals. ♦Carry out simple conversions within a measuring system.	♠Food Portions ♠Using the Food Guide Pyramid	Page 91 Working with Grams	Page 301: Maintaining Concepts and Skills	BLM 23.2 Measurement Mix and Match	•Stacking Balance •Mass Sets •Butter and oil •Containers •Spoons •Metric kitchen scales •Medium-sized fruit pieces •Picture of the Food Guide Pyramid •Tag-board, scissors, poster board, colored pencils or markers
23.3 Working with Pounds, Ounces, and Tons	♦Carry out simple conversions within a measuring system. ♦Develop and use strategies to estimate computations involving various measuring units. ♦Understand the need for measuring with standard units.	♠Looking at the Weights of Movie Cameras ♠Comparing the Weights of Birds		Page 302: Maintaining Concepts and Skills	BLM 23.3 Working with Weights of Birds	•*Mathematics Behind the Scenes* pages 28-29 and poster •*Fantastic Flight* pages 2-5 and poster pages 2-3 •Information about postage costs, classroom objects, scales
23.4 Solving Weight and Price Problems	♦Carry out simple conversions within a measuring system. ♦Develop and use strategies to estimate computations involving various measuring units. ♦Understand the need for measuring with standard units.	♠Apply Prices ♠Sharing 1 or More Pounds Equally ♠Working with Quantity	Page 92 Problem Solving—Pounds and Ounces	Page 303: Practice Working with Quantity Page 304: Maintaining Concepts and Skills	BLM 23.4 Finding the Best Buy	

23.5 Investigating Large Animal Weights	♦Carry out simple conversions within a measuring system. ♦Develop fluency in computing with whole numbers. ♦Develop and use strategies to estimate results of whole number computation.	♠Comparing Weights of Larger Animals ♠Writing and Solving Problems About Large Animals	Page 93 Problem Solving--Weight	Page 305: Maintaining Concepts and Skills	BLM 23.5 Dinosaur Fact Sheet	•*Nature's Mathematical Marvels* pages 34-35 and poster •3X5 cards
Chapter 24						
Investigation	**Learning Expectations**	**Core Activities**	**Discussion Book pages**	**Student Book**	**Blackline Masters**	**Manipulative and Other Materials**
24.1 Working with Sequences of Shapes	♦Describe, extend, and make generalizations about geometric and numeric patterns. ♦Analyze patterns and functions using words. ♦Model problems situations with objects and use representations such as graphs, tables, and equations to draw conclusions.	♠Analyzing a Sequence of 3-dimensional Shapes ♠Looking for Patterns ♠Analyzing a Sequence of 2-dimensional Shapes		Page 306: Practice Looking for Patterns Page 307: Maintaining Concepts and Skills	BLM 19.1 1-inch Grid Paper BLM 24.1 Investigating Number Patterns	•Linker Cubes •Scissors •Tape •Toothpicks •Tag-board •Glue Classroom set of solid shapes
24.2 Exploring Pathways	♦Explore network and paths. ♦Recognize how geometric ideas are applied in everyday life.	♠Exploring Pathways ♠Investigating Paths ♠Counting Checker Paths	Page 94 Following and Creating Paths	Page 308: Practice Investigating Paths Page 309: Maintaining Concepts and Skills	BLM 9.3 Centimeter Grid Paper BLM 24.2 Investigating Paths	•String or cord •Pipe cleaners •Glue •Tag-board •Overhead transparency of *Student Book* page 308 •*Mathematics from Many Cultures* pages 12-13 •Counters

24.3 Finding the Shortest Routes Between Locations	♦Explore networks and paths. ♦Describe, extend, and make generalizations about geometric and numeric patterns.	♠Finding Routes on a Map ♠Finding Routes of Equal Distance ♠Revisiting Looking for Patterns	Page 95 Finding Shortest Routes Page 96 Finding and Predicting Patterns	Page 310: Maintaining Concepts and Skills	BLM 24.3 Finding Routes on a Map	•Colored pencils or pens •Overhead transparency of BLM 24.3 Pattern Blocks
24.4 Exploring Line and Turning Symmetry	♦Describe location and movement using common language and geometric vocabulary. ♦Predict and describe the results of sliding, flipping, and turning 2-dimensional shapes. ♦Identify and describe line and rotational symmetry in 2-dimensional shapes and designs.	♠Exploring Symmetry in Nature ♠Analyzing Symmetry in Ancient Designs		Page 311: Maintaining Concepts and Skills	BLM 5.1 Centimeter Dot Paper BLM 24.4 7-piece Tangram	•*Nature's Mathematical Marvels* pages 18-21, 26-27 and poster pages 18-19, 26-27 •Construction paper •Scissors •*Egyptian Genius* pages 24-25 and poster •Pattern Blocks Construction paper; tag-board; scissors
24.5 Creating Designs with Flip and Slides	♦Predict and describe the results of sliding, flipping, and turning 2-dimsinional shapes. ♦Identify and describe line and rotational symmetry in 2-dimensional shapes and designs. ♦Build and draw geometric objects.	♠Using a Stencil to Create a Border Design ♠Flipping a Shape to Create a Boarder Design ♠Sliding Shapes		Page 312: Practice Sliding Shapes	BLM 5.1 Centimeter Dot Paper BLM 9.3 Centimeter Grid Paper BLM 24.5 Creating a Border Design	•*Egyptian Genius* pages 24-27 and poster pages 24-25 •Tag-board; construction paper •Rulers; scissors •Overhead transparency of BLM 9.3 •Erasable Markers •Colored pencils Tag-board; scissors; *Mathematics from Many Cultures* pages 8-9; *Teacher's Notes* pages 28-32

Subject Area: Math

Length of Unit: _____

Instructor: Grade 4 Teacher

Topic: 1 Exploring Math

(Use same standard # listed on the standards and benchmarks to be used for this unit)

Standard:
1. Content Problem Solving
3. Geometry
5. Probability Statistics

Benchmarks:
1.4 Check reasonability of answers by performing operations & rounding.
3.1 Identify, classify, and compare geometric figures knowing basic geometric language for shapes.
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.4	Topic 1	Check the reasonability of answers and verifies results	Topic 1 Check up Topic 1 Test Alternative Assessment	
3.1	Topic 1	Know basic geometric language for describing and naming shapes (e.g., trapezoid, parallelogram, cube, sphere, and polygon)	Topic 1 Check up Topic 1 Test Alternative Assessment	
5.2	Topic 1	Read and interpret simple tables, graphs (e.g., simple bar, line) and chars (e.g., pie)	Topic 1 Check up Topic 1 Test Alternative Assessment	

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math

Length of Unit: _____

Instructor: Grade 4 Teacher

Topic: 2 Investigating Length

(Use same standard # listed on the standards and benchmarks to be used for this unit)

Standard: 1. Content Problem Solving
4. Measurement

Benchmarks: 1.1 Check reasonability of answers by performing operations & rounding.
4.1 Identify and use appropriate units of measurement (metric, US)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 2	Check the reasonability of answers and verifies results	Topic 2 Check up Topic 2 Test Alternative Assessment	
4.1	Topic 2	Know the appropriate units (metric and U.S. customary) for measuring length/distance, weight/mass, area, capacity/volume, time, temperature	Topic 2 Check up Topic 2 Test Alternative Assessment	

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math

Length of Unit: _____

Instructor: Grade 4 Teacher

Topic 3/Using Addition & Subtraction

(Use same standard # listed on the standards and benchmarks to be used for this unit)

Standard: 1. Content Problem Solving
4. Measurement

Benchmarks:
1.4 Check reasonability of answers by performing operations & rounding.
1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations.
4.3 Estimate measurements with appropriate precision (solving problems involving money)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.4	Topic 3	Check the reasonability of answers and verifies results	Topic 3 Check up Topic 3 Test Alternative Assessment	
1.2	Topic 3	Add, subtract, multiply and divide whole numbers and decimals)	Topic 3 Check up Topic 3 Test Alternative Assessment	
4.3	Topic 3	Solve problems involving money (count sets of bills and coins, compare and order money amounts))	Topic 3 Check up Topic 3 Test Alternative Assessment	

\Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math

Length of Unit: _____

Instructor: Grade 4 Teacher

Topic: 4 Investigating 5-digit Numbers

(Use same standard # listed on the standards and benchmarks to be used for this unit)

Standard: 1. Content Problem Solving
5. Probability Statistics

Benchmarks: 1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.1	Topic 4	Count, read and write numbers greater than 1000	Topic 4 Check up Topic 4 Test Alternative Assessment	
5.2	Topic 4	Read and interpret simple tables, graphs (e.g., simple bar, line) and chars (e.g., pie)	Topic 4 Check up Topic 4 Test Alternative Assessment	

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math

Length of Unit: _____

Instructor: Grade 4 Teacher

Topic: 5 Investigating Shapes and Angles

(Use same standard # listed on the standards and benchmarks to be used for this unit)
Standard: 3. Geometry

Benchmarks: 3.1. Identify, classify, and compare geometric figures knowing basic geometric language for shapes.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
3.1	Topic 5	Know basic geometric language for describing and naming shapes (e.g., trapezoid, parallelogram, cube, sphere, and polygon)	Topic 5 Check up Topic 5 Test Alternative Assessment	

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math

Length of Unit: _____

Instructor: Grade 4 Teacher

Topic 6 Finding Fractions

(Use same standard # listed on the standards and benchmarks to be used for this unit)
Standard: 1. Content Problem Solving

Benchmarks: 1.2. Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 6	Understand physical, verbal, and symbolic representation of the fractions ½, 1/3, ¼, 1/8, and 1/10 of a whole and of a set	Topic 6 Check up Topic 6 Test Alternative Assessment	

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area Math

Length of Unit: _____

Instructor: Grade 4 Teacher

Topic: 7 Multiplying by 1 Digit Numbers

(Use same standard # listed on the standards and benchmarks to be used for this unit)
Standard: 1. Content Problem Solving

Benchmarks:
1.2 Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations.
1.3 Classify numbers by divisibility (multiply, divide & classify whole numbers with & without remainders) order of magnitude.
1.4 Check reasonability of answers by performing operations & rounding.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 7	Add, subtract, multiply and divide whole numbers and decimals	Topic 7 Check up Topic 7 Test Alternative Assessment	
1.3	Topic 7	Multiply multiple-digit whole numbers by single-digit numbers	Topic 7 Check up Topic 7 Test Alternative Assessment	
1.4	Topic 7	Check the reasonability of answers and verifies results	Topic 7 Check up Topic 7 Test Alternative Assessment	

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math

Length of Unit: _____

Instructor: Grade 4 Teacher

Topic: 8 Working with Time

(Use same standard # listed on the standards and benchmarks to be used for this unit)

Standard:
1. Content Problem Solving
4. Measurement
5. Probability Statistics

Benchmarks:
1.4 Check reasonability of answers by performing operations & rounding.
4.1 Identify and use appropriate units of measurement (metric, US)
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.4	Topic 8	Check the reasonability of answers and verifies results	Topic 8 Check up Topic 8 Test Alternative Assessment	
4.1	Topic 8	Know the appropriate units (metric and U.S. customary) for measuring length/distance, weight/mass, area, capacity/volume, time, temperature	Topic 8 Check up Topic 8 Test Alternative Assessment	
5.2	Topic 8	Read and interpret simple tables, graphs (e.g., simple bar, line) and chars (e.g., pie)	Topic 8 Check up Topic 8 Test Alternative Assessment	

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math

Length of Unit: _____

Instructor: Grade 4 Teacher

Topic: 9 Exploring Shapes and Perimeters

(Use same standard # listed on the standards and benchmarks to be used for this unit)

Standard:
1. Content Problem Solving
3. Geometry
4. Measurement
5. Probability Statistics

Benchmarks:
1.4 Check reasonability of answers by performing operations & rounding.
3.1. Identify, classify, and compare geometric figures knowing basic geometric language for shapes.
4.1 Identify and use appropriate units of measurement (metric, US)
5.2. Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.4	Topic 9	Check the reasonability of answers and verifies results	Topic 9 Check up Topic 9 Test Alternative Assessment	
3.1	Topic 9	Know basic geometric language for describing and naming shapes (e.g., trapezoid, parallelogram, cube, sphere, and polygon)	Topic 9 Check up Topic 9 Test Alternative Assessment	
5.2	Topic 9	Know the appropriate units (metric and U.S. customary) for measuring length/distance, weight/mass, area, capacity/volume, time, temperature	Topic 9 Check up Topic 9 Test Alternative Assessment	

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math

Length of Unit: _____

Instructor: Grade 4 Teacher

Topic: 10 Working with Fractions

(Use same standard # listed on the standards and benchmarks to be used for this unit)

Standard: 1. Content Problem Solving
5. Probability Statistics

Benchmarks: 1.2. Describe and apply properties of whole numbers and fractions in physical, verbal and symbolic representations.
5.2. Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
1.2	Topic 10	Understand physical, verbal, and symbolic representation of the fractions ½, 1/3, ¼, 1/8, and 1/10 of a whole and of a set	Topic 10 Check up Topic 10 Test Alternative Assessment	
5.2	Topic 10	Read and interpret simple tables, graphs (e.g., simple bar, line) and chars (e.g., pie)	Topic 10 Check up Topic 10 Test Alternative Assessment	

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

4th Grade
Curriculum Base Measurement
Title 1

Standard #1: Problem Solving
1.1 Count, Read, and Write Numbers Greater than 1,000

1. What is the largest 4-digit number you can write using the numbers 8, 2, 5, 1, 9?

A. 85,921 B. 98,521 C. 9,852

2. Which number is the same as seven thousand, two hundred twelve?

A. 17,212 B. 7,212 C. 7,222

3. What is the largest 4-digit number you can write using the digits 8, 6, 2, 3, 7?

A. 86,732 B. 8,763 C. 87,632

4. Which number is the same as nine thousand, five hundred fifteen?

A. 9,515 B. 90,515 C. 9,015

1.2 Add, Subtract, Multiply, and Divide Whole Numbers and Decimals.

1. 9,472
- 5,316

2. 7,809
+ 1,317

3. $26.05
x 4

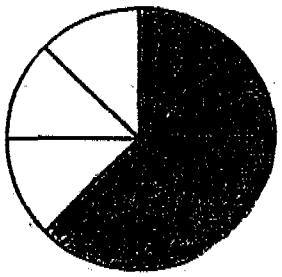
4. $8\overline{)64}$

4th Grade Curriculum Based Measurements

1.2 Understand physical, verbal, and symbolic representation of the fractions 1/2, 1/3.

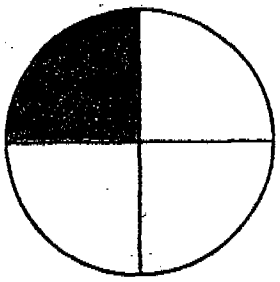
1. What fraction of the circle is shaded?

A. 5/6 B. 4/8 C. 5/8



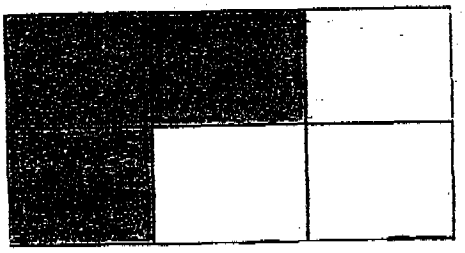
2. What fraction of the circle is shaded?

A.1/4 B. 1/2 C. 1/8



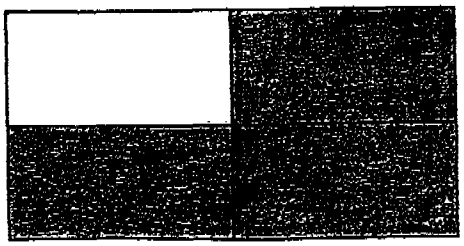
3. What fraction of the rectangle is shaded?

A. 3/6 B. 4/6 C. 3/5



4. What fraction of the rectangle is shaded?

A. 4/3 B. 1/4 C. 3/4



4th Grade Curriculum Based Measurement

1.3 Multiply multiple-digit whole numbers by single-digit numbers.

1. $\begin{array}{r} 23 \\ \underline{\times\ 4} \end{array}$	A) 27	B) 92	C) 82
2. $\begin{array}{r} 52 \\ \underline{\times\ 3} \end{array}$	A) 156	B) 55	C) 106
3. $\begin{array}{r} 352 \\ \underline{\times\ 6} \end{array}$	A) 358	B) 2112	C) 1812
4. $\begin{array}{r} 820 \\ \underline{\times\ 2} \end{array}$	A) 1602	B) 1642	C) 1640

1.3 Multiply and divide whole number

1. $\begin{array}{r} 531 \\ \underline{\times\ 15} \end{array}$	A) 7965	B) 3186	C) 546
2. $\begin{array}{r} 127 \\ \underline{\times\ 23} \end{array}$	A) 150	B) 635	C) 2921
3. $4\overline{)74}$	A) 18 r 2	B) 18	C) 17 r 2
4. $5\overline{)315}$	A) 63	B) 60 r 3	C) 73

4th Grade Curriculum Based Measurement

1.4 Checks reasonability of answers and verifies results

1. Which combination of foods would make a 205-calorie snack?

   A. banana and apple
   B. apple and yogurt
   C. yogurt and banana

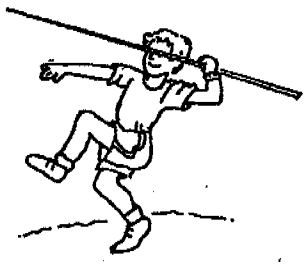
2. Jim had oatmeal, a pear, and milk for breakfast. How many calories did he consume?

   A. 340 calories
   B. 400 calories
   C. 440 calories

3. The menu in the cafeteria serves the following for lunch: Hot dog with bun; peas; baked potato with butter; and milk. How many calories would a student consume if he or she ate this for lunch?

   A. 710 calories
   B. 610 calories
   C. 490 calories

4. Pauli threw the javelin 43 meters. Daniela's throw was 27meters. How far did Daniela and Pauli throw the javelin together?



Estimate _____

Answer _____

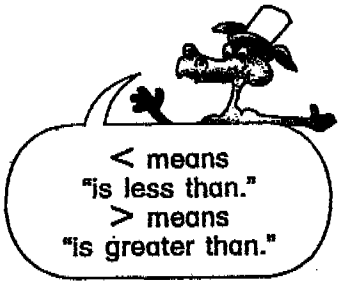
Number of Calories per Serving of Food

Food	Calories
Apple	80
Banana	85
Bread	70
Bun (hotdog or hamburger)	120
Butter	100
Hamburger (no bun)	185
Hot Dog (no bun)	170
Ice Cream	255
Milk	160
Oatmeal	180
Pear	100
Peas	65
Potato, baked	95
Potato Chips	110
Yogurt	125

4th Grade Curriculum Based Measurement

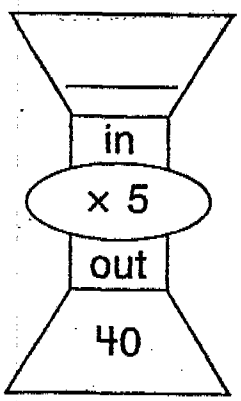
Standard 2: Algebra

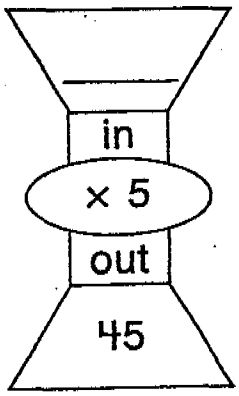
2.1 Use symbols of equality and inequality (<,>, =)

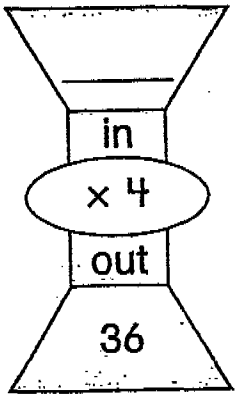


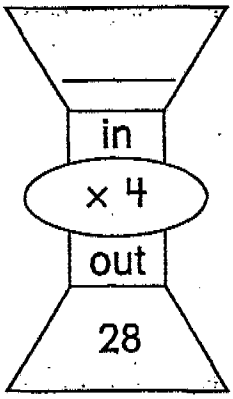
1. 29,999_____ 30,001
2. 19,099_____ 19,900
3. 61,010_____ 61,100
4. 41,256_____ 41,246

2.2 Solve problems with missing factor.









1. A) 7	2. A) 8	3. A) 8	4. A) 5
B) 6	B) 7	B) 9	B) 9
C) 5	C) 9	C) 6	C) 8

4th Grade Curriculum Based Measurement

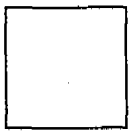
Standard 3: Geometry

3.1 Know basic geometric language for describing and naming shapes.

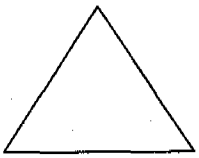
Choose the correct name for each polygon.

1. 

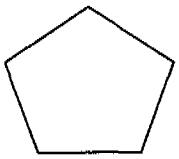
A. square
B. parallelogram
C. pentagon
D. triangle

2. 

A. square
B. parallelogram
C. pentagon
D. triangle

3. 

A. square
B. parallelogram
C. pentagon
D. triangle

4. 

A. square
B. parallelogram
C. pentagon
D. triangle

Standard 4: Measurement

4.1 Know the appropriate units for measuring length/distance, weight/mass, area, capacity/volume, time, temperature.

1. The height of the classroom door is about

A. 2cm B. 2m C. 2km

2. What unit would be best to measure the length of a hammer?

A. centimeter B. meter C. kilometer

3. What unit would be best to measure the width of a football field?

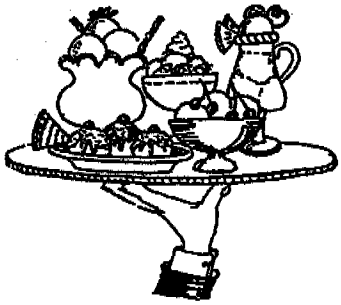
A. centimeter B. meter C. kilometer

4. What unit would be best to measure the distance of a bike race?

A. foot B. yard C. mile

4th Grade Curriculum Based Measurement

4.3 Solve problems involving money.



Tara wants a double serving of custard in a waffle cup How much will that cost?

A. $ 4.00 B. $ 3.00 C. $ 3.25

José orders a single serving of custard with sprinkles in a waffle cup. Mia orders a single serving of custard in a cone. What is the total cost of their orders?

A. $4.00 B. $ 5.00 C. $ 4.25

Pat paid for his order with a $ 5.00 bill. He got $ 1.75 in change. What did he order?

A. a single serving in a cone
B. a single serving with 1 topping in a bowl
C. a double serving with 1 topping in a waffle cup

There are five members of the Thompson family. Each one orders a double serving of custard in a cone. Mr. Thompson pays with a $ 20.00 bill. How much change should he receive?

A. $ 5. 25 B. $ 6.25 C. $ 11. 25

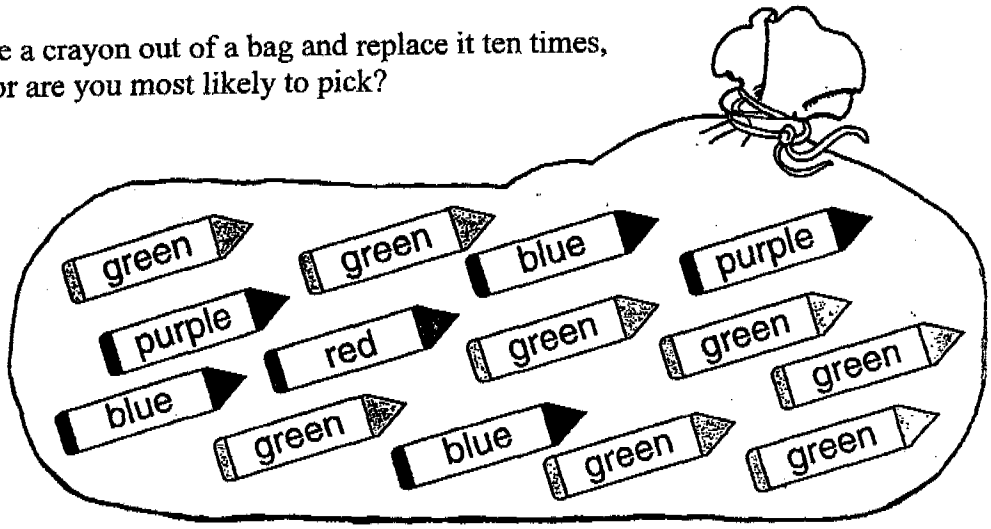
4th Grade Curriculum Based Measurement

Standard 5: Probability/Statistics

5.1 Determine with probability of simple events using basic experiments or simulations

1.If you take a crayon out of a bag and replace it ten times, what color are you most likely to pick?

A. blue
B. green
C. purple

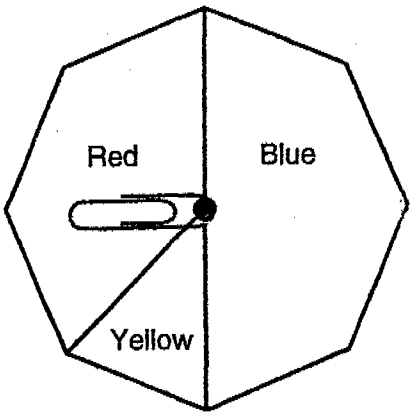


2. Landing on a green after spinning is

A. most likely B. impossible C. least likely

3. Landing on a blue after spinning is

A. most likely B. impossible C. least likely

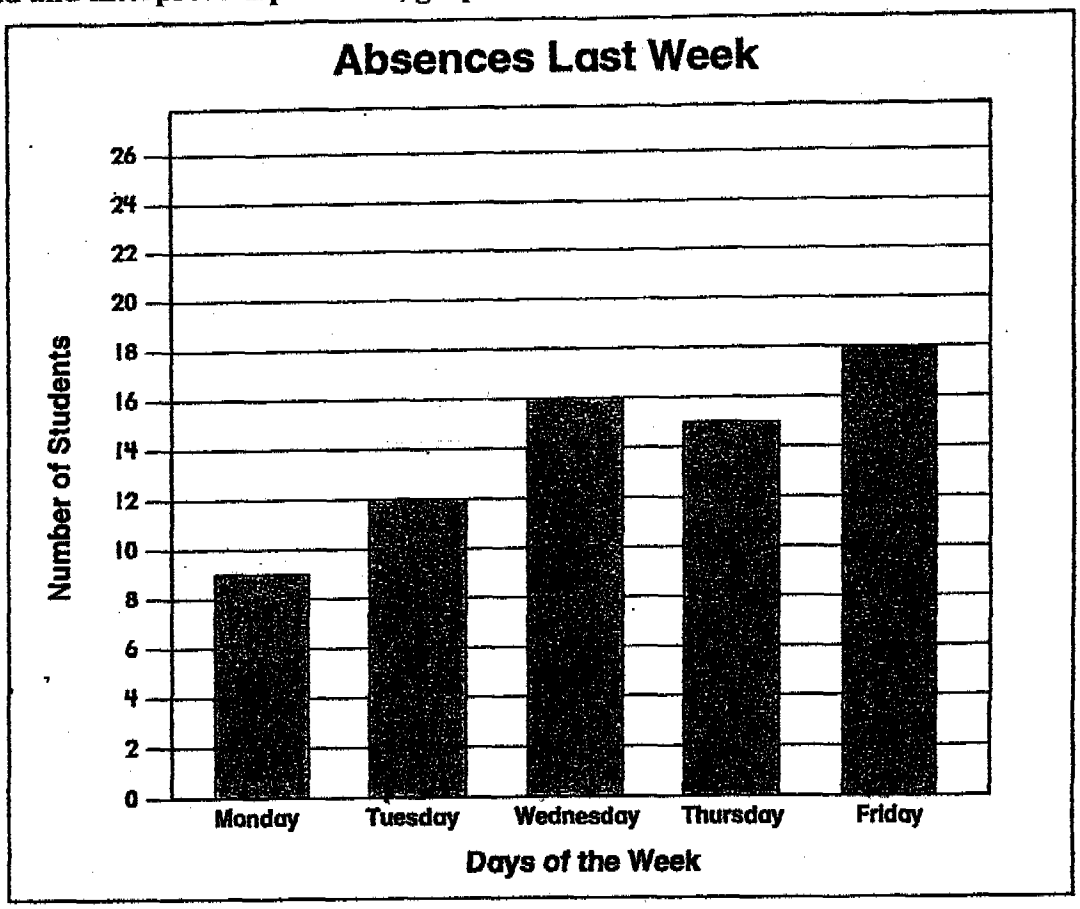


4. Landing on a yellow after spinning is

A. most likely B. impossible C. least likely

4th Grade Curriculum Based Measurement

5.2 Read and interpret simple tables, graphs and charts.



1. On which day were the fewest students absent?

_____

2. How many more students were absent on Friday than on Monday?

_____

3. How many students were absent for the entire week?

_____

4. What was the average number of students absent for the week?

_____

5th
MATH STANDARDS & BENCHMARKS
GRADE LEVEL INDICATORS
***To provide for more continuity, these additions will be introduced but not tested.**

1. CONTENT PROBLEM SOLVING

1.1. COUNT, READ, WRITE, REPRESENT, COMPARE AND ORDER NUMBERS IN REGULAR, EXPANDED AND EXPONENTIAL FORMAT

5 – ADD AND SUBTRACT DECIMALS
*5 – Counts, reads, and writes numbers 1 – 1,000,000 and decimals to ten-thousandths place

1.2. DESCRIBE AND APPLY PROPERTIES OF WHOLE NUMBERS AND FRACTIONS IN PHYSICAL, VERBAL AND SYMBOLIC REPRESENTATIONS.

*5 – Introduced to all four operations with fractions

1.3. CLASSIFY NUMBERS BY DIVISIBILITY (MULTIPLY, DIVIDE & CLASSIFY WHOLE NUMBERS WITH & WITHOUT REMAINDERS) ORDER OF MAGNITUDE.

5 – UNDERSTAND THE CONCEPT OF PLACE VALUE FOR WHOLE NUMBERS THROUGH THE MILLIONS (E.G., ONES, TENS, HUNDREDS, THOUSANDS, TEN-THOUSANDS, HUNDRED-THOUSANDS, MILLIONS)

1.4. CHECK REASONABILITY OF ANSWERS BY PERFORMING OPERATIONS & ROUNDING.

5 – CHECK THE REASONABILITY OF ANSWERS AND VERIFIES RESULTS
5 – UNDERSTAND THE CONCEPT OF ROUNDING NUMBERS EXPRESSED THROUGH THE MILLIONS (E.G., TO THE NEAREST THOUSAND, TEN THOUSAND, HUNDRED THOUSAND)

2. ALGEBRA

2.1. USE AND INTERPRET OPERATIONS AND RELATIONAL SYMBOLS (EQUAL, GREATER THAN, LESS THAN)

2.2. SOLVE EQUATIONS AND INEQUALITIES

5 – SOLVE EQUATIONS AND OPEN SENTENCES WITH UNKNOWN VARIABLE(S)

2.3. USE EXPRESSIONS TO MODEL SITUATIONS SOLVING SIMPLE OPEN SENTENCES.

2.4. UNDERSTAND AND EXPLORE NUMERICAL PATTERNS

5 – USE APPROPRIATE OPERATION AND METHOD OF CALCULATION (E.G., MENTAL MATH, PAPER AND PENCIL, CALCULATOR, COMPUTER) TO SOLVE PROBLEMS AND TO CHECK THE REASONABLENESS OF RESULTS [N]

3. GEOMETRY

3.1. IDENTIFY, CLASSIFY, AND COMPARE GEOMETRIC FIGURES KNOWING BASIC GEOMETRIC LANGUAGE FOR SHAPES.

3.2. DESCRIBE GEOMETRIC PROPERTIES, PATTERNS AND RELATIONSHIPS (TRAPEZOIDS, PARALLELOGRAMS, CUBE, SPHERE, AND POLYGON)

5 – UNDERSTAND THE CHARACTERISTICS OF AND RELATIONSHIPS AMONG POINTS, LINES, LINE SEGMENTS, RAYS, AND PLANES

3.3. APPLY CONCEPTS OF PERIMETER, AREA, AND VOLUME

4. MEASUREMENT

4.1. IDENTIFY AND USE APPROPRIATE UNITS OF MEASUREMENT (METRIC, US)

5 – KNOWS APPROXIMATE SIZE OF BASIC STANDARD AND METRIC UNITS AND RELATIONSHIPS BETWEEN THEM

4.2. MEASURE LENGTH/DISTANCE, TIME, TEMPERATURE, WEIGHT, MASS AND VOLUME.

4.3. ESTIMATE MEASUREMENTS WITH APPROPRIATE PRECISION (SOLVING PROBLEMS INVOLVING MONEY)

5. PROBABILITY STATISTICS

5.1. APPLY PROBABILITY CONCEPTS AND COUNTING RULES TO DETERMINE PROBABILITY OF SIMPLE EVENTS.

5 – DRAW CONCLUSIONS AND MAKE PREDICTIONS FROM SETS OF DATA (E.G., UNDERSTAND RELATIONSHIPS AND TRENDS)

5.2. READ AND INTERPRET SIMPLE TABLES & GRAPHS TO DEMONSTRATE UNDERSTANDING AND APPLICATION OF MEASURES OF CENTRAL TENDENCY AND VARIABILITY.

5 – READ AND INTERPRET TABLES, GRAPHS (E.G., CLUSTERED BAR, LINE) AND CHARTS (E.G., DETERMINE RANK, PERFORM OPERATIONS)

Course Outline-Grade 5

(Numbers in outline indicate chapter numbers)

Unit 1: Use Whole Numbers and Decimals

1. Place Value of Whole Numbers
2. Place Value of Decimals
3. Add and Subtract Whole Numbers and Decimals
4. Algebra: Use Addition and Subtraction

Unit 2: Data and Graphing

5. Analyze Data and Graphs
6. Make Graphs

Unit 3: Multiply Whole Numbers and Decimals

7. Multiply Whole Numbers
8. Multiply Decimals

Unit 4: Divide Whole Numbers and Decimals

9. Divide by 1-Digit Divisors
10. Divide by 2-Digit Divisors
11. Divide Decimals by Whole Numbers
12. Algebra: Use Multiplication and Division

Unit 5: Number Theory and Fractions

13. Factors and Multiples
14. Exponents and Prime Numbers
15. Fraction Concepts

Unit 6: Operations with Fractions

16. Add and Subtract Fractions
17. Add and Subtract Mixed Numbers
18. Multiply Fractions
19. Divide Fractions

Unit 7: Geometry and Algebra

20. Geometric Figures
21. Classify Plane and Solid Figures
22. Algebra: Integers
23. Geometry and the Coordinate Plane

Unit 8: Measurement

24. Customary and Metric Systems
25. Perimeter
26. Area
27. Surface Area and Volume

Unit 9: Ratio, Percent, and Probability

28. Ratio
29. Percent
30. Probability

5th Grade

NCTM Standards 2000	
1. Number and Operations	6. Problem Solving
2. Algebra	7. Reasoning and Proof
3. Geometry	8. Communication
4. Measurement	9. Connections
5. Data Analysis and Probability	10. Representation

Chapter 1 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
1.1 Understand Place Value pp. 2-3 **Objective** To identify the value of a digit to the hundred thousands place	**1, 6, 8, 9,10**	1 Day	*Review* period		Re-teach, Practice, Problem Solving, Challenge 1.1 Worksheets Transparency 1.1 **Intervention**, *Skills 1,2* (CD or Book) **Harcourt Mega Math the Number Games**, *Tiny's Think Tank*
1.2 Millions and Billions pp. 4-7 **Objective** To identify the value of a digit to the billions place	**1, 2, 5, 6, 7, 8, 9, 10**	1 Day	**billion**	*For each student* grid paper, crayons, tape	Re-teach, Practice, Problem Solving, Challenge 1.2 Worksheets Transparency 1.2 **Intervention**, *Skill 1, 2* (CD or Book)
1.3 Benchmark Numbers pp. 8-9 **Objective** To use a benchmark to determine a reasonable estimate	**1, 6, 7, 8, 9, 10**	1 Day	**benchmark**		Re-teach, Practice, Problem Solving, Challenge 1.3 Worksheets **Intervention**, *Skill 1,2* (CD or Book)
1.4 Compare and Order pp. 10-13 **Objective** To compare and order whole numbers	**1, 6, 7, 8, 9, 10**	1 Day			Re-teach, Practice, Problem Solving, Challenge 1.4 Worksheets Transparency 1.4 **Intervention**, *Skill 1,2* (CD or Book) **Harcourt Mega Math Fraction Action**, *Number Line Mine*
1.5 Problem Solving Skill: ***Use a Table*** pp. 14-15 **Objective** To solve problems by using the skill *use a table*	**1, 2, 5, 6, 7, 8, 9, 10**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge 1.5 Worksheets Transparency 1.5 Scaffolded Instruction Transparency 1 Reading Transparency 1 **Intervention – Problem Solving,** *Strategy/Skill 1* (CD or Book)

Chapter 2 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
2.1 Decimal Place Value pp. 22-25 **Objective** To read and write decimal numbers in tenth, hundredths, thousandths, and ten-thousandths	**1, 2, 5, 6, 7, 8, 10**	2 Day	**decimal** **tenth** **hundredth** **thousandth** **ten-thousandth** *Review* mixed number		Re-teach, Practice, Problem Solving, Challenge 2.1 Worksheets Transparency 2.1 **Math Jingles CD 5-6** **Intervention,** Skill 36 (CD or Book) **Harcourt Mega Math Fraction Action,** *Number Line Mine* Scaffolded Instruction Transparency 2
2.2 Equivalent Decimals pp.26-27 **Objectives** To identify and write equivalent decimals	**1, 5, 7, 8, 9**	1 Day	**equivalent decimals**		Re-teach, Practice, Problem Solving, Challenge 2.2 Worksheets Transparency 2.2 **Intervention,** *Skill 36* (CD or Book) **Harcourt Mega Math Fraction Action,** *Fraction Flare-Up*
2.3 Compare and Order Decimals pp. 28-29 **Objective** To compare and order decimal numbers	**1, 6, 8, 9**	1 Day			Re-teach, Practice, Problem Solving, Challenge 2.3 Worksheets Transparency 2.3 **Intervention,** *Skill 4,5,36* (CD or Book) **Harcourt Mega Math Fraction Action,** *Number Line Mine*
2.4 Problem Solving Skill: *Draw Conclusions* pp. 30-31 **Objective** To solve problems by using the skill *draw conclusions*	**5, 6, 8**	1 Days			Re-teach, Practice, Problem Solving, Challenge 2.4 Worksheets Transparency 2.4 Reading Transparency 2 **Intervention – Problem Solving,** *Strategy/Skill 2* (CD or Book)
Chapter 3 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
3.1 Round Whole Numbers pp. 38-39 **Objective** To round whole numbers to a given place value	**1, 5, 6, 8, 10**	1 Day			Re-teach, Practice, Problem Solving, Challenge, 3.1 Worksheets Transparency 3.1 **Harcourt Mega Math Fraction Action,** *Number Line Mine* **Math Jingles CD 5-6**
3.2 Round Decimals pp. 40-41 **Objective** To round decimals to a given place value	**1, 5, 6, 8, 9, 10**	1 Day			Re-teach, Practice, Problem Solving, Challenge 3.2 Worksheets Transparency 3.2 **Harcourt Mega Math Fraction Action,** *Number Line Mine*

3.3 Estimate Sums and Differences pp. 42-45 **Objective** To estimate sums and differences of whole numbers and decimals	**1, 4, 5, 6, 8, 9**	1 Day	**estimate** **front-end estimation**		Re-teach, Practice, Problem Solving, Challenge 3.3 Worksheets Transparency 3.3 **Intervention,** *Skill 6, 8, 38, 39* (CD or Book)
3.4 Add and Subtract Whole Numbers pp. **Objective** To add and subtract whole numbers	**1, 5, 6, 8, 10**	1 Day			Re-teach, Practice, Problem Solving, Challenge 3.4 Worksheets Transparency 3.4 **Harcourt Mega Math The Number Games,** *Tiny's Think Tank*
3.5 Add and Subtract Decimals pp. 48-51 **Objective** To add and subtract decimals	**1, 2, 3, 4, 5, 6, 7, 8, 9**	1 Day			Re-teach, Practice, Problem Solving, Challenge 3.5 Worksheets Transparency 3.5 **Harcourt Mega Math The Number Games,** *Tiny's Think Tank, Buggy Bargains*
3.6 Choose a Method pp. 52-55 **Objective** To choose mental math, paper and pencil, or a calculator to find sums and differences	**1, 5, 6, 7, 8**	1 Day		Calculator	Re-teach, Practice, Problem Solving, Challenge 3.6 Worksheets Transparency 3.6 **Intervention,** *Skill 8, 39* (CD or Book)
3.7 Problem Solving Strategy: *Use Logical Reasoning* pp.56-57 **Objective** To use the strategy *use logical reasoning* to solve problems	**1, 5, 6, 7, 8, 9, 10**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge 3.7 Worksheets Transparency 3.7 Scaffolded Instruction Transparency 3 Reading Transparency 3 **Intervention – Problem Solving,** *Strategy/Skill 3*(CD or Book)

Chapter 4 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
4.1 Expressions and Variables pp. 64-67 **Objective** To write and evaluate numerical and algebraic expressions	**1, 2, 4, 6, 7, 8, 9, 10**	1 Day	**expression** **variable**		Re-teach, Practice, Problem Solving, Challenge 4.1 Worksheets Transparency 4.1 **Harcourt Mega Math Ice Station Exploration,** *Arctic Algebra* **Math Jingles CD 5-6**
4.2 Write Equations pp. 68-69 **Objective** To write simple algebraic equations	**1, 2, 3, 5, 6, 8, 9, 10**	1 Day	**Equation**		Re-teach, Practice, Problem Solving, Challenge 4.2 Worksheets Transparency 4.2 **Intervention,** *Skill 58* (CD or Book)

4.3 Solve Equations pp. 70-73 **Objective** To write and solve equations	**1, 2, 6, 7, 8, 9, 10**	1 Day	**solution**	*For each student* balance, weights	Re-teach, Practice, Problem Solving, Challenge 4.3 Worksheets Transparency 4.3 **Harcourt Mega Math Ice Station Exploration,** *Arctic Algebra* **Math Jingles CD 5-6**
4.4 Inequalities pp. 74-75 **Objective** To find whole-number solutions of inequalities	**1, 2, 3, 6, 7, 8, 9, 10**	1 Day	**inequality**	*For each student* balance, weights	Re-teach, Practice, Problem Solving, Challenge, 4.4 Worksheets Transparency 4.4
4.5 Mental Math: Use the Properties pp. 76-79 **Objective** To use the properties and mental math to solve addition and subtraction problems	**1, 2, 6, 7, 9, 10**	1 Day	**commutative property** **associate property** **compensation** *Review* identify property order property grouping property		Re-teach, Practice, Problem Solving, Challenge, 4.5 Worksheets Transparency 4.5 **Intervention,** *Skills 7, 58* (CD or Book)
4.6 Problem Solving Strategy: *Write an Equation* pp. 80-81 **Objective** To use the strategy *write an equation* to solve problems	**1, 2, 5, 6, 7, 8**	1 Day			Re-teach, Practice, Reading Strategy, Challenge, 4.6 Worksheets Transparency 4.6 Scaffolded Instruction Transparency 4 Reading Transparency 4

Chapter 5 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
5.1 Collect and Organize Data pp. 96-99 **Objective** To collect data by using surveys and to organize data in frequency tables and line plots	**1, 5, 6, 7, 8, 9, 10**	1 Day	**survey** **sample** **population** **random sample** **cumulative frequency** **outlier** *Review* line plot range		Re-teach, Practice, Problem Solving, Challenge, 5.1 Worksheets Transparency 5.1 **Intervention**, *Skill 64* (CD or Book) **Harcourt Mega Math The Number Games,** *ArachnaGraph*
5.2 Find the Mean pp. 100-101 **Objective** To compute the mean of a set of data	**1, 5, 6, 7, 8, 9, 10**	1 Day	**mean**	Calculator	Re-teach, Practice, Problem Solving, Challenge 5.2 Worksheets Transparency 5.2 Scaffolded Instruction Transparency 5 **Math Jingles CD 5-6**
5.3 Find the Median and Mode pp. 102-103 **Objective** To find the median and mode of a set of data	**1, 4, 5, 6, 7, 8, 9, 10**	1 Day	**median** **mode**		Re-teach, Practice, Problem Solving, Challenge 5.3 Worksheets Transparency 5.3 **Harcourt Mega Math The Number Games**, *ArachnaGraph* **Math Jingles CD 5-6**

5.4 Problem Solving Strategy: *Make a graph* pp. 104-105 **Objective** To use a stem-and-leaf plot to solve problems	**1, 5, 6, 7, 8, 9, 10**	1 Day	**stem-and-leaf plot**	Calculator	Re-teach, Practice, Reading Strategy, Challenge 5.4 Worksheets Transparency 5.4 Reading Transparency 5 **Intervention-Problem Solving,** *Strategy/Skill 5* (CD of Book)
5.5 Analyze Graphs pp. 106-109 **Objective** To read, interpret, and analyze the data in graphs	**1, 4, 5, 6, 7, 8, 9, 10**	1 Day	**pictograph** **bar graph** **line graph** **circle graph** **tend**		Re-teach, Practice, Problem Solving, Challenge 5.5 Worksheets Transparency 5.5 **Intervention,** *Skill 65, 66* (CD or Book)

Chapter 6 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
6.1 Choose a Reasonable Scale pp. 116-119 **Objective** To choose appropriate scales and intervals for graphs	**1, 4, 5, 6, 7, 8, 10**	1 Day	**interval** **scale**		Re-teach, Practice, Problem Solving, Challenge 6.1 Worksheets Transparency 6.1 Scaffolded Instruction Transparency 6 **Intervention,** *Skill 61*(CD or Book)
6.2 Graph Ordered Pairs pp. 120-121 **Objective** To use ordered pairs of numbers to graph or identify points on a grid	**3, 6, 7, 8, 9, 10**	1 Day	**ordered pair**	*For each student* grid paper	Re-teach, Practice, Problem Solving, Challenge 6.2 Worksheets **Intervention,** *Skill 63* (CD or Book) **Harcourt Mega Math The Number Games,** *ArachnaGraph* **Math Jingles CD 5-6**
6.3 Make Line Graphs pp. 122-125 **Objective** To make single-and-double-line graphs to show how data changes over time	**1, 5, 6, 7, 8, 9, 10**	1 Day		*For each student* line graph pattern	Re-teach, Practice, Problem Solving, Challenge 6.3 Worksheets Transparency 6.3 **Intervention,** *Skill 61, 63* (CD or Book) **Harcourt Mega Math The Number Games,** *ArachnaGraph*
6.4 Problem Solving Strategy: *Draw a Diagram* pp. 126-127 **Objective** To solve problems using the strategy *draw a diagram*	**1, 5, 6, 8, 9, 10**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge 6.4 Worksheets Transparency 6.4 Reading Transparency 6 **Intervention – Problem Solving,** *Strategy/Skill 6* (CD or Book)
6.5 Hands On: Histograms pp. 128-129 **Objective** To display and interpret data in histogram	**1, 5, 6, 7, 8, 10**	1 Day	**histogram**		Re-teach, Practice, Problem Solving, Challenge 6.5 Worksheets Transparency 6.5 **Intervention,** *Skill 61* (CD or Book)

6.6 Choose the Appropriate Graph pp. 130-133 **Objective** To choose the best graph for a set of data	**1, 5, 6, 7, 8, 9, 10**	1 Day			Re-teach, Practice, Problem Solving, Challenge 6.6 Worksheets Transparency 6.6 **Intervention**, *Skill 61, 63* (CD or Book)
Chapter 7					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
7.1 Estimation: Patterns in Multiples pp. 148-149 **Objective** To estimate using multiples of 10	**1, 6, 7, 8, 9**		**multiples**		Re-teach, Practice, Problem Solving, Challenge 7.1 Worksheets Transparency 7.1 **Intervention**, *Skill 11* (CD or Book) **Math Jingles CD 5-6**
7.2 Multiply by 1-Digit Numbers pp. 150-151 **Objective** To multiply numbers by a 1-digit number	**1, 2, 5, 6, 8, 9, 10**	1 Day (For Lessons 7.1 & 7.2)			Re-teach, Practice, Problem Solving, Challenge 7.2 Worksheets Transparency 7.2
7.3 Multiply by-2 Digit Numbers pp. 152-153 **Objective** To multiply a 2-, 3-, or 4-digit number	**1, 2, 5, 6, 7, 8, 9**	1 Day			Re-teach, Practice, Problem Solving, Challenge 7.3 Worksheets Transparency 7.3 **Intervention**, *Skill 12* (CD or Book) **Harcourt Mega Math The Number Games,** *Tiny's Think Tank*
7.4 Choose a Method pp. 154-155 **Objective** To choose mental math, paper and pencil, or a calculator to multiply whole numbers	**1, 6, 7, 8, 9, 10**	1 Day		Calculator	Re-teach, Practice, Problem Solving, Challenge 7.4 Worksheets Transparency 7.4 **Intervention,** *Skill 12* (CD or Book) **Harcourt Mega Math The Number Games,** *Tiny's Think Tank*
7.5 Problem Solving Skill: *Evaluate Answers for Reasonableness* pp. 156-157 **Objective** To use the problem-solving skill *evaluate answers for reasonableness*	**1, 5, 6, 7, 8, 9**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge, 7.5 Worksheets Transparency 7.5 Scaffolded Instruction Transparency 7 Reading Transparency 7 **Intervention – Problem Solving,** *Strategy/Skill 7*(CD or Book)

Chapter 8 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
8.1 Hands On: Multiply Decimals and Whole Numbers pp. 164-165 **Objective** To model multiplying a decimal and a whole number	**1, 4, 8, 9, 10**			*For each student* decimal models, marker or color pencils	Re-teach, Practice, Problem Solving Challenge 8.1 Worksheets Transparency 8.1
8.2 Algebra: Patterns in Decimal Factors and Products pp. 166-167 **Objective** To use mental math and patterns to find decimal products	**1, 2, 4, 6, 7, 8, 9**	1 Day (For Lessons 8.1 & 8.2)			Re-teach, Practice, Problem Solving, Challenge 8.2 Worksheets Transparency 8.2
8.3 Model Decimal Multiplication pp. 168-169 **Objective** To multiply a decimal by a decimal	**1, 2, 4, 6, 7, 8, 9, 10**	1 Day			Re-teach, Practice, Problem Solving, Challenge 8.3 Worksheets Transparency 8.3 **Jingles CD 5-6**
8.4 Place the Decimal Point pp. 170-173 **Objective** To use estimations and patterns to place the decimal point	**1, 4, 5, 6, 8, 9**	2 Day			Re-teach, Practice, Problem Solving, Challenge 8.4 Worksheets Transparency 8.4 **Intervention,** *Skill 12, 13* (CD of Book) **Harcourt Mega Math The Number Games,** *Tiny's Think Tank, Buggy Bargains* Scaffolded Instruction Transparency 8
8.5 Zero in the Product pp. 174-175 **Objective** To multiply decimals with zeros in the product	**1, 6, 8, 9**	1 Day		Calculator	Re-teach, Practice, Problem Solving, Challenge 8.5 Worksheets Transparency 8.5 **Intervention,** *Skill 12, 13* (CD of Book) **Harcourt Mega Math The Number Games,** *Tiny's Think Tank, Buggy Bargains*
8.6 Problem Solving Skill: *Make Decisions* pp. 176-177 **Objective** To use the problem solving skill *make decisions*	**1, 5, 6, 8, 9**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge 8.6 Worksheets Transparency 8.6 Reading Transparency 8 **Intervention-Problem Solving,** *Strategy/Skill 8* (CD or Book)

Chapter 9 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
91. Estimate Quotients pp. 192-193 **Objective** To estimate quotients using compatible numbers	**1, 5, 6, 7, 9**	1 Day	**compatible numbers**		Re-teach, Practice, Problem Solving, Challenge 9.1 Worksheets Transparency 9.1 **Intervention,** *Skill 19, 20*
9.2 Divide 3-Digit Dividends pp. 194-195 **Objective** To divide 3-digit dividends by 1-digit divisors	**1, 2, 5, 6, 8, 9**	1 Day			Re-teach, Practice, Problem Solving, Challenge 9.2 Worksheets Transparency 9.2 **Intervention,** *Skill 19,20* (CD or Book) **Harcourt Mega Math The Number Games,** *Up, Up, & Array* **Math Jingles CD 5-6**
9.3 Zeros in Division pp. 196-197 **Objective** To use zeros in division	**1, 2, 6, 7, 8**	1 Day			Re-teach, Practice, Problem Solving, Challenge 9.3 Worksheets Transparency 9.3 **Intervention,** *Skills 19, 20* **Harcourt Mega Math The Number Games,** *Up, Up, & Array*
9.4 Choose a Method pp. 198-199 **Objective** To choose mental math, paper and pencil, or a calculator to find a quotient	**1, 5, 6, 7, 8**	1 Day		Calculator	Re-teach, Practice, Problem Solving, Challenge 9.4 worksheets Transparency 9.4 **Intervention,** *Skills 19,20*
9.5 Problem Solving Skill: *Interpret the Remainder* pp. 200-201 **Objective** To solve problems using the problem solving skill *interpret the remainder*	**1, 5, 6, 7, 8**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge, 9.5 Worksheets Transparency 9.5 Problem Solving Think Along, p. TR1 **Intervention-Problem Solving,** *Strategy/Skill 9* **Math Jingles CD 5-6** Scaffolded Instruction Transparency 9

Chapter 10 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
10.1 Algebra: Patterns in Division pp. 208-209 **Objective** To use patterns to divide	**1, 2, 4, 5, 6, 7, 8, 9**	1 Day			Re-teach, Practice, Problem Solving, Challenge 10.1 Worksheets Transparency 10.1 Scaffolded Instruction Transparency 10

10.2 Estimate Quotients pp. 210-211 **Objective** To estimate quotients	**1, 2, 5, 6, 7, 8, 9**	1 Day			Re-teach, Practice, Problem solving, Challenge 10.2 Worksheets Transparency 10.2 **Intervention**, *Skill 20*
10.3 Divide by 2-Digit Divisors pp. 212-215 **Objective** To divide numbers by 2-digit divisors	**1, 5, 6, 7, 8, 9**	1 Day		*For Thinker's Corner* paper, pencil, 5 blank number cubes	Re-teach, Practice, Problem solving, Challenge 10.3 Worksheets Transparency 10.3 **Math Jingles CD 5-6** **Intervention,** *Skills 15, 19* **Harcourt Mega Math The Number Games,** *Up, Up, & Array*
10.4 Correcting Quotients pp. 216-217 **Objective** To correct the quotient when the estimate is too high or too low	**1, 6, 7, 8, 9**	1 Day			Re-teach, Practice, Problem Solving, Challenge 10.4 Worksheets Transparency 10.4 **Intervention**, *Skills 15, 19, 20*
10.5 Practice Division pp. 218-219 **Objective** To practice dividing by 2-digit divisors	**1, 2, 6, 7, 8, 9**	1 Day		Calculator	Re-teach, Practice, Problem Solving, Challenge 10.5 Worksheets Transparency 10.5 **Intervention,** *Skills 15, 19, 20*
10.6 Problem Solving Strategy: *Predict and Test* pp. 220-221 **Objective** To solve problems using the strategy *predict and test*	**1, 4, 5, 6, 7, 8, 9**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge 10.6 Worksheets Transparency 10.6 Problem Solving Think Along, p. TR1 **Intervention – Problem Solving,** *Strategy/Skill 10* (CD or Book)

Chapter 11 Planer

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
11.1 Algebra: Patterns in Decimal Division pp. 228-229 **Objective** To use basic facts and patterns to divide	**1, 2, 6, 7, 8, 9, 10**	1 Day	*Review* decimal point		Re-teach, Practice, Problem Solving, Challenge 11.1 Worksheets Transparency 11.1 **Intervention,** *Skill 22*
11.2 Hands On: Decimal Division pp. 230-231 **Objective** To divide decimals by using decimal models	**1, 4, 6, 7, 8, 9, 10**			*For each student* decimal models, markers, scissors	Re-teach, Practice, Problem Solving, Challenge 11.2 Worksheets Transparency 11.2 **Harcourt Mega Math The Number Games,** *Tiny's Think Tank* **Intervention,** *Skills 22, 23*

11.3 Divide Decimals by Whole Numbers pp. 232-235 **Objective** To divide decimals by whole numbers	**1, 2, 5, 6, 7, 8, 9, 10**	2 Days (For Lessons 11.2 & 11.3)			Re-teach, Practice, Problem Solving, Challenge 11.3 Worksheets Transparency 11.3 Scaffolded Instruction Transparency 11 **Math Jingles CD 5-6** **Intervention,** *Skill 22, 23*
11.4 Problem Solving Skill: Choose the Operation pp. 236-237 **Objective** To solve problems by *choosing the appropriate operation*	**1, 2, 5, 6, 7, 8, 9**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge 11.4 Worksheets Transparency 11.4 Problem Solving Think Along, p. TR1 **Intervention-Problem Solving,** *Strategy/Skills 11*
11.5 Divide to Change a Fraction to a Decimal pp.238-239 **Objective** To change a fraction to a decimal by using division	**1, 5, 6, 8, 9**	1 Day		Calculator	Re-teach, Practice, Problem Solving, Challenge 11.5 Worksheets Transparency 11.5 **Intervention,** *Skill 40*

Chapter 12 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
12.1 Expressions and Equations pp. 246-249 **Objective** To evaluate expressions and solve equations	**1, 2, 5, 6, 7, 8, 9**	1 Day	**evaluate**		Re-teach, Practice, Problem Solving, Challenge 12.1 Worksheets Transparency 12.1 **Harcourt Mega Math Ice Station Exploration,** *Arctic Algebra* **Math Jingles CD 5-6**
12.2 Order of Operations pp. 250-251 **Objective** To use the order of operations to evaluate expressions	**1, 2, 6, 7, 8**	1 Day	**order of operations**		Re-teach, Practice, Problem Solving, Challenge 12.2 Worksheet Transparency 12.2 **Math Jingles CD 5-6**
12.3 Number Patterns pp. 252-253 **Objective** To write a rule for a number pattern and use it to find missing numbers	**1, 2, 6, 8, 9, 10**	1 Day			Re-teach, Practice, Problem Solving, Challenge 12.3 Worksheets Transparency 12.3 **Harcourt Mega Math The Number Games,** *Tiny's Think Tank*
12.4 Functions pp. 254-255 **Objective** To use a table and an equation to represent a function	**1, 2,6**	1 Day	**function**		Re-teach, Practice, Problem Solving, Challenge 12.4 Worksheets Transparency 12.4 **Harcourt Mega Math Ice Station Exploration,** *Arctic Algebra*

12.5 Problem Solving Strategy: *Compare Strategies* pp. 256-257 **Objective** To compare different strategies in order to solve a problem	**1, 2, 6, 8, 9, 10**	1 Day			Re-teach, Practice, Reading Strategy, Challenge 12.5 Worksheets Transparency 12.5 Scaffolded Instruction Transparency 12
12.6 Use Multiplication Properties pp. 258-259 **Objective** To identify and apply the multiplication properties to solve problems	**1, 2, 5, 6, 7, 8**	1 Day	**commutative property associative property**		Re-teach, Practice, Problem Solving, Challenge 12.6 Worksheets Transparency 12.6
12.7 The Distributive Property pp. 260-261 **Objective** To use the Distributive Property of Multiplication	**1, 2, 6, 7, 8, 10**	1 Day	**distributive property**	*For each student* grid paper	Re-teach, Practice, Problem Solving, Challenge 12.7 Worksheet Transparency 12.7

Chapter 13 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
13.1 Divisibility pp. 276-277 **Objective** To learn divisibility rules for 2, 3, 4, 5, 6, 9, and 10	**1, 5, 6, 7, 8, 9**	1 Day	**divisible**		Re-teach, Practice, Problem Solving, Challenge 13.1 Worksheet Transparency 13.1 **Intervention,** *Skill 18* **Harcourt Mega Math Ice Station Exploration,** *Arctic Algebra* **Math Jingles CD 5-6**
13.2 Greatest Common Factor pp. 278-281 **Objective** To find factors and the greatest common factor of a set of numbers	**1, 5, 6, 7, 8, 9**	1 Day	**greatest common factor (GCF)**		Re-teach, Practice, Problem Solving, Challenge 13.2 Worksheets Transparency 13.2 **Intervention,** *Skill 18*
13.3 Hands On: Multiples and the Least Common Multiple pp. 282-283 **Objective** To find multiples and the LCM of a set of numbers	**1, 5, 6, 10**		**common multiple least common multiple (LCM)**	*For each student* two-color counters	Re-teach, Practice, Problem Solving, Challenge 13.3 Worksheets Transparency 13.3 **Intervention,** *Skill 16*

13.4 Problem Solving Skill: *Identify Relationships* pp. 284-285 **Objective** To solve problems by using the skill *identify relationships*	**1, 3, 5, 6, 7, 8, 9**	1 Day (For Lessons 13.3 & 13.4)		Calculator	Re-teach, Practice, Problem Solving, Challenge 13.4 Worksheets Transparency 13.4 Scaffolded Instruction Transparency 13 Problem Solving Think Along, p. TR1 **Intervention – Problem Solving,** *Strategy/Skill 13*

Chapter 14 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
14.1 Introduction to Exponents pp. 292-295 **Objective** To express and find the value of numbers using an exponent and a base	**1, 2, 6, 7, 8, 9**	1 Day	**exponent** **base** **square number**	*For each student* square tiles or grid paper	Re-teach, Practice, Problem Solving, Challenge 14.1 Worksheets Transparency 14.1 **Intervention,** *Skill 9* **Harcourt Mega Math Ice Station Exploration,** *Arctic Algebra*
14.2 Exponents and Expanded Form pp. 296-299 **Objective** To find the value of a number with an exponent of 1 or 0 and to write the expanded form of a number by using exponents	**1, 2, 6, 8, 9, 10**	1 Day			Re-teach, Practice, Problem Solving, Challenge 14.2 Worksheets Transparency 14.2 **Intervention,** *Skill 9* **Harcourt Mega Math Ice Station Exploration,** *Arctic Algebra*
14.3 Hands On: Prime and Composite Numbers pp. 300-301 **Objective** To identify prime and composite numbers	**1, 6, 7, 8, 10**	1 Day	**composite number** **prime number**	*For each pair* 24 square tiles	Re-teach, Practice, Problem Solving, Challenge 14.3 Worksheets Transparency 14.3 **Intervention,** *Skill 24*
14.4 Prime Factors and Exponents pp. 302-305 **Objective** To write the prime factorization of a number by using exponents	**1, 2, 6, 7, 8**	2 Day	**prime** **factorization** **factor tree**		Re-teach, Practice, Problem Solving, Challenge 14.4 Worksheets Transparency 14.4 Scaffolded Instruction Transparency 14 **Intervention,** *Skill 24*
14.5 Problem Solving Strategy: *Make a Table* pp. 306-307 **Objective** To use the problem solving strategy *make a table* to solve problems	**1, 2, 5, 6, 10**	1 Day			Re-teach, Practice, Reading Strategy, Challenge 14.5 Worksheets Transparency 14.5 Problem Solving Think Along, p. TR1 **Intervention-Problem Solving,** *Strategy/Skill 14*

Chapter 15 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
15.1 Equivalent Fractions pp. 314-315 **Objective** To find equivalent fractions	**1, 5, 6, 8, 9**	1 Day	**equivalent fractions**		Re-teach, Practice, Problem Solving, Challenge 15.1 Worksheets Transparency 15.1 **Harcourt Mega Math Fraction Action,** *Fraction Flare-Up*
15.2 Simplest Form pp. 316-319 **Objective** To use common factors or the GCF to write fractions in simplest form	**1, 3, 5, 6, 7, 8, 9, 10**	1 Day	**simplest form**	*For Thinker's Corner* grid paper, ruler	Re-teach, Practice, Problem Solving, Challenge 15.2 Worksheets Transparency 15.2 **Harcourt Mega Math Fraction Action,** *Fraction Flare-Up*
15.3 Understand Mixed Numbers pp. 320-321 **Objective** To rename fractions as mixed numbers and mixed numbers as fractions	**1, 5, 6, 7, 8, 9, 10**	1 Day	**mixed numbers**		Re-teach, Practice, Problem Solving, Challenge 15.3 Worksheets Transparency 15.3 **Harcourt Mega Math Fraction Action,** *Number Line Mine* **Math Jingle CD 5-6**
15.4 Compare and Order Fractions and Mixed Numbers pp. 322-325 **Objective** To compare and order fractions and mixed numbers with unlike denominators	**1, 5, 6, 7, 8, 9, 10**	1 Day			Re-teach, Practice, Problem Solving, Challenge 15.4 Worksheets Transparency 15.4 **Harcourt Mega Math Fraction Action,** *Number Line Mine*
15.5 Problem Solving Strategy: *Make a Model* pp. 326-327 **Objective** To solve problems by using the strategy *make a model*	**1, 3, 5, 6, 9, 10**	1 Day		Calculator, *For each Student* fraction bars, (halves, fourths, eighths)	Re-teach, Practice, Reading Strategy, Challenge 15.5 Worksheets Transparency 15.5 Problem Solving Think Along, p. TR1 Scaffolded Instruction Transparency 15 **Intervention-Problem Solving,** *Strategy/Skill 15*
15.6 Relate Fractions and Decimals pp. 328-331 **Objective** To represent numbers as fractions and as decimals	**1, 4, 5, 6, 7, 8, 9, 10**	1 Day			Re-teach, Practice, Problem Solving, Challenge 15.6 Worksheets Transparency 15.6 **Harcourt Mega Math Fraction Action,** *Number Line Mine*

Chapter 16 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
16.1 Add and Subtract Like Fractions pp. 346-347 **Objective** To add and subtract fractions that have like denominators	**1, 2, 4, 6, 7, 8, 10**	1 Day		*For each student* fraction bars	Re-teach, Practice, Problem Solving, Challenge 16.1 Worksheets Transparency 16.1 **Math Jingle CD 5-6** **Harcourt Mega Math Fraction Action,** *Fraction Flare-Up*
16.2 Add, and Subtract Unlike Fractions pp. 348-351 **Objective** To demonstrate how to add and subtract unlike fractions	**1, 6, 7, 8, 10**	1 Day		*For each group* fraction bars	Re-teach, Practice, Problem Solving, Challenge 16.2 Worksheets Transparency 16.2 **Harcourt Mega Math Fraction Action,** *Fraction Flare-Up* **Intervention,** *Skills 29,30*
16.3 Estimate Sums and Differences pp. 352-353 **Objective** To estimate sums and differences with fractions, using benchmarks	**1, 6, 7, 8, 10**	1 Day			Re-teach, Practice, Problem Solving, Challenge 16.3 Worksheets Transparency 16.3 **Intervention,** *Skill 30* **Harcourt Mega Math Fraction Action,** *Number Line Mine*
16.4 Use Common Denominators pp. 354-355 **Objective** To use common denominators to add and subtract fractions	**1, 2, 5, 6, 7, 8, 10**	1 Day	**least common denominator (LCD)** *Review* least common multiple (LCM)		Re-teach, Practice, Problem Solving, Challenge 16.4 Worksheets Transparency 16.4 **Intervention,** *Skill 29,30*
16.5 Use the Least Common Denominator pp. 356-359 **Objective** To add and subtract fractions	**1, 2, 4, 6, 7, 8, 9**	1 Day			Re-teach, Practice, Problem Solving, Challenge 16.5 Worksheets Transparency 16.5 **Math Jingles CD 5-6** **Intervention,** *Skill 29, 30*
16.6 Problem Solving Skill: *Work Backward* pp. 360-361 **Objective** To use the strategy *work backward* to solve problems	**1, 2, 5, 6, 7, 8**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge 16.6 Worksheets Transparency 16.6 Scaffolded Instruction Transparency 16 Problem Solving Think Along, p. TR1 **Intervention-Problem Solving,** *Strategy/Skill 16*

Chapter 17 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
17.1 Add Mixed Numbers pp. 368-371 **Objective** To add mixed numbers by using fraction bars and the LCD	**1, 2, 4, 5, 6, 7, 8, 9, 10**	1 Day	*Review* mixed numbers	*For each group* fraction bars	Re-teach, Practice, Problem Solving, Challenge 17.1 Worksheets Transparency 17.1 **Intervention,** *Skills 31, 33, 34* **Harcourt Mega Math The Number Games,** *Tiny's Think Tank*
17.2 Subtract Mixed Numbers pp. 372-373 **Objective** To subtract mixed numbers	**1, 2, 4, 5, 6, 7, 8, 9, 10**	1 Day		Calculator	Re-teach, Practice, Problem Solving, Challenge 17.2 Worksheets Transparency 17.2 **Intervention,** *Skills 31, 33, 34* **Harcourt Mega Math The Number Games,** *Tiny's Think Tank*
17.3 Hands On: Subtraction with Renaming pp. 364-375 **Objective** To subtract mixed numbers with renaming	**1, 6, 7, 8, 10**			*For each group* fraction bars	Re-teach, Practice, Problem Solving, Challenge 17.3 Worksheets Transparency 17.3 **Math Jingles CD 5-6** **Intervention,** *Skills 31, 33, 34*
17.4 Practice with Mixed Numbers pp. 376-377 **Objective** To add and subtract mixed numbers	**1, 2, 4, 6, 7, 8, 9**	1 Day			Re-teach, Practice, Problem Solving, Challenge 17.4 Worksheets Transparency 17.4 **Intervention,** *Skill 31, 33, 34*
17.5 Problem Solving Skill: Multi-step Problems pp. 378-379 **Objective** To solve multi-step problems	**1, 4, 5, 6, 7, 8, 9, 10**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge 17.5 Worksheets Transparency 17.5 Scaffolded Instruction Transparency 17 Problem Solving Think Along, p. TR1 **Intervention-Problem Solving,** *Strategy/Skill 17*
Chapter 18 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
18.1 Multiply a Fraction by a Fraction pp. 386-387 **Objective** To multiply a fraction by a fraction	**1, 3, 6, 7, 8, 9**	1 Day		*For each student* paper, ruler, and 2 different color pencils or markers	Re-teach, Practice, Problem Solving, Challenge 18.1 Worksheets Transparency 18.1 **Intervention,** *Skill 32* **Harcourt Mega Math Fraction Action,** *Fraction Flare-Up* **Math Jingles CD 5-6**

18.2 Multiply Fractions and Whole Numbers pp. 388-389 **Objective** To multiply a fraction by a whole number	**1, 2, 3, 6, 7, 8, 9, 10**	1 Day			Re-teach, Practice, Problem Solving, Challenge 18.2 Worksheets Transparency 18.2 **Intervention,** *Skill 25* **Harcourt Mega Math Fraction Action,** *Number Line Mine* **Math Jingles CD 5-6**
18.3 Multiply Fractions and Mixed Numbers pp. 390-391 **Objective** To multiply a fraction by a mixed number	**1, 4, 6, 7, 8, 9, 10**	1 Day			Re-teach, Practice, Problem Solving, Challenge 18.3 Worksheets Transparency 18.3 **Intervention,** *Skill 32* **Math Jingles CD 5-6**
18.4 Multiply with Mixed Numbers pp. 392-393 **Objective** To multiply two mixed numbers	**1, 4, 6, 7, 8, 9**	1 Day			Re-teach, Practice, Reading Strategy, Challenge 18.4 Worksheets Transparency 18.4 **Intervention,** *Skill 32*
18.5 Problem Solving Skill: ***Sequence and Prioritize Information*** pp. 394-295 **Objective** To solve problems by using the problem solving skill *sequence and prioritize information*	**1, 4 5, 6, 7, 8, 9**	1 Day			Re-teach, Practice, Reading Strategy, Challenge 18.5 Worksheets Transparency 18.5 Scaffolded Instruction Transparency 18 Problem Solving Think Along, p. TR1 **Intervention-Problem Solving,** *Strategy/Skill 18*

Chapter 19 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
19.1 Hands On: Explore Division of Fractions pp. 402-403 **Objective** To model division of fractions by using fraction bars	**1, 6, 7, 10**	1 Day		*For each groups* fraction bars	Re-teach, Practice, Problem Solving, Challenge 19.1 Worksheets Transparency 19.1 **Intervention,** *Skill 32* **Harcourt Mega Math Fraction Action,** *Fraction Flare-Up*
19.2 Reciprocals pp. 404-405 **Objective** To write the reciprocal of a fraction	**1, 2, 6, 7, 8**	1Day (For Lessons 19.2 & 19.3)	**reciprocal**		Re-teach, Practice, Problem Solving, Challenge 19.2 Worksheets Transparency 19.2 **Intervention,** *Skill 32* **Math Jingles CD 5-6**
19.3 Divide Whole Numbers by Fractions pp. 406-407 **Objective** To divide whole numbers by fraction	**1, 6, 7, 8, 10**				Re-teach, Practice, Problem Solving, Challenge 19.3 Worksheets Transparency 19.3 **Intervention,** *Skill 35* **Math Jingles CD 5-6**

19.4 Divide Fractions pp. 408-411 **Objective** To divide with fractions	**1, 2, 5, 6, 7, 8, 9, 10**	2 Days			Re-teach, Practice, Problem Solving, Challenge 19.4 Worksheets Transparency 19.4 **Intervention,** *Skill 35* **Math Jingle CD 5-6**
19.5 Problem Solving Strategy: *Solve a Simpler Problem* pp. 412-413 **Objective** To use the problem solving strategy *solve a simpler problem*	**1, 6, 7, 8, 9**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge 19.5 Worksheets Transparency 19.5 Scaffolded Instruction Transparency 19 Problem Solving Think Along, p. TR1 **Intervention-Problem Solving,** *Strategy/Skill 19*

Chapter 20 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
20.1 Lines and Angles pp. 428-431 **Objective** To identify different kinds of angles and line relationships	**1, 3, 6, 8, 9, 10**	2 Days (20.1 & 20.2)	**point, line, ray, line segment, plane, angle, parallel lines, intersecting lines, perpendicular lines, degree**	ruler, polygons worksheet	Re-teach, Practice, Problem Solving, Challenge 20.1 Worksheets Transparency 20.1 **Harcourt Mega Math Ice Station Exploration,** *Polar Planes*
20.2 Hands On: Measure and Draw Angles pp. 432-433 **Objective** To use a protractor to measure angles	**3, 4, 6, 7, 8, 9, 10**		**protractor**	protractor	Re-teach, Practice, Problem Solving, Challenge 20.2 Worksheets Transparency 20.2
20.3 Angles and Polygons pp. 434-437 **Objective** To use angles to classify and measure polygons	**1, 3, 6, 7, 8, 9, 10**	1 Day	**polygon** **regular polygon**	dot paper, ruler	Re-teach, Practice, Problem Solving, Challenge 20.3 Worksheets Transparency 20.3
20.4 Circles pp. 438-441 **Objective** To draw a circle, and identify and measure its parts	**1, 3, 6, 8, 9, 10**	1 Day	**circle, radius, cord, diameter, compass, central angle**	Centimeter ruler, compass, protractor	Re-teach, Practice, Challenge, Problem Solving 20.4 Worksheets Transparency 20.4
20.5 Congruent and Similar Figures pp. 442-445 **Objective** To identify similar and congruent figures	**3, 4, 6, 7, 8, 9**	1 Day	**congruent** **similar** **corresponding angles, sides**	Centimeter Grid paper, protractor, centimeter ruler	Re-teach, Practice, Problem Solving, Challenge 20.5 Worksheets Transparency 20.5 **Math Jingle CD 5-6**
20.6 Symmetric Figures pp. 446-447 **Objective To identify line and symmetry**	**3, 6, 8, 9, 10**	1 Day	**line symmetry** **rotational symmetry**	Grid paper, scissors, pencil	Re-teach, Practice, Problem Solving, Challenge 20.6 Worksheets Transparency 20.6

20.7 Problem Solving Strategy: *Find a Pattern* pp. 448-449 **Objective** To use the strategy *find a pattern* to solve problems	**1, 3, 6, 8, 9**	1 Day			Re-teach, Practice, Reading Strategy, Challenge 20.7 Worksheets Transparency 20.7 Scaffolded Instruction Transparency 20 Problem Solving Think Along, p. TR1 **Harcourt Mega Math The Number Games,** *Tiny's Think Tank* **Math Jingles CD 5-6**

Chapter 21 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
21.1 Triangles pp. 456-459 **Objective** To classify triangles by the lengths of their sides and by the measures of their angles	**1, 2, 3, 4, 6, 7, 8, 9, 10**	1 Day	**isosceles triangle** **scalene triangle** **equilateral triangle** **hypotenuse** **leg**	*For each student* ruler, protractor	Re-teach, Practice, Problem Solving, Challenge 22.1 Worksheets Transparency 22.1 **Harcourt Mega Math Ice Station Exploration,** *Polar Planes* **Math Jingles CD 5-6**
21.2 Quadrilaterals pp. 460-461 **Objective** To classify quadrilaterals	**1, 3, 6, 7, 8, 9, 10**	1 Day	**trapezoid** **parallelogram** **rhombus** *Review* congruent parallel		Re-teach, Practice, Problem Solving, Challenge 21.2 Worksheets Transparency 21.2 **Harcourt Mega Math Ice Station Exploration,** *Polar Planes*
21.3 Transformations and Tessellations pp. 462-465 **Objective** To transform a figure and to determine whether a figure or pair of figures will tessellate	**3, 6, 7, 8, 9, 10**	1 Day	**transformation** **translation** **reflection** **rotation** **tessellation**	*For each student* coordinate planes, straight edge, scissors, color pencils	Re-teach, Practice, Problem Solving, Challenge 21.3 Worksheets Transparency 21.3 **Harcourt Mega Math Ice Station Exploration,** *Polar Planes* **Math Jingles CD 5-6**
21.4 Solid Figures pp. 466-469 **Objective** To identify solid figures	**2, 3, 6, 7, 8, 9, 10**	2 Days (For Lessons 21.4 & 21.5)	**polyhedron** **prism** **base** **pyramid**		Re-teach, Practice, Problem Solving, Challenge 21.4 Worksheets Transparency 21.4 Scaffolded Instruction Transparency 21 **Math Jingles CD 5-6**
21.5 Hands On: Draw Solid Figures from Different Views pp. 470-471 **Objective** To identify and draw solid figures from different views	**3, 6, 8, 9, 10**			*For each group* connecting cubes, grid paper	Re-teach, Practice, Problem Solving, Challenge 21.5 Worksheets Transparency 21.5 **Harcourt Mega Math Ice Station Exploration,** *Frozen Solids*

21.6 Problem Solving Strategy: *Make a Model* pp. 472-473 **Objective** To solve problems by using the strategy *make a model*	**1, 3, 6, 7, 8, 9, 10**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge 21.6 Worksheets Transparency 21.6 Problem Solving Think Along, p. TR1 **Intervention-Problem Solving,** *Strategy/Skill 21*

Chapter 22 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
22.1 Understand integers pp. 480-483 **Objective** To use a number line to find opposite and absolute values of integers	**1, 2, 6, 7, 8, 9, 10**	1 Day	**integers** **positive integers** **negative integers** **absolute value** **opposites**		Re-teach, Practice, Problem Solving, Challenge 22.1 Worksheets Transparency 22.1 **Intervention,** *Skill 43* **Math Jingles CD 5-6** **Harcourt Mega Math Fraction Action,** *Number Line Mine,* **The Number Games,** *Tiny's Think Tank*
22.2 Compare and Order Integers pp. 484-485 **Objective** To use a number line to compare and order integers	**1, 2, 5, 6, 7, 8, 9, 10**	1 Day			Re-teach, Practice, Problem Solving, Challenge 22.2 Worksheets Transparency 22.2 **Intervention,** *Skill 43* **Harcourt Mega Fraction Action,** *Number Line Mine*
22.3 Addition and Subtraction of Integers pp. 486-489 **Objective** To use two-color counters to add and subtract integers	**1, 2, 5, 6, 7, 8, 9, 10**	2 Day		*For each student* two-color counters	Re-teach, Practice, Problem Solving, Challenge 22.3 Worksheets Transparency 22.3 **Intervention,** *Skill43* **Harcourt Mega Math Fraction Action,** *Number Line Mine*
22.4 Problem Solving Strategy: *Draw a Diagram* pp. 490-491 **Objective** To use the problem solving strategy *draw a diagram*	**1, 5, 6, 7, 8, 9, 10**	1 Day			Re-teach, Practice, Reading Strategy, Challenge 22.4 Worksheets Transparency 22.4 Problem Solving Think Along, p.TR1 Scaffolded Instruction Transparency 22 **Intervention – Problem Solving,** *Strategy/Skill 22*

Chapter 23 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
23.1 Graph Relationships pp. 498-499 **Objective** To graph a relationship shown in a table	**1, 2, 3, 6, 8, 10**	1 Day	**x-axis** **y-axis**		Re-teach, Practice, Problem Solving, Challenge 23.1 Worksheets Transparency 23.1 **Intervention,** *Skills 63* (CD or Book) **Harcourt Mega Math The Number Game,** *ArachnaGraph* Scaffolded Instruction Transparency 23 **Math Jingles CD 5-6**
23.2 Graph Integers on the Coordinate Plane pp. 500-503 **Objective** To identify and graph integers on the coordinate plane	**2, 3, 6, 8, 9, 10**	1 Day	**coordinate plane** **coordinate origin**	*For each student* Coordinate plane	Re-teach, Practice, Problem Solving, Challenge 23.2 Worksheets Transparency 23.2 **Intervention,** *Skill 63* **Harcourt Mega Math The Number Games,** *ArachnaGraph*
23.3 Hands On: Transformation on the Coordinate Plane pp. 504-505 **Objective** To transform a figure on a coordinate plane and predict the results of a transformation	**1, 3, 6, 7, 8, 10**	1 Day		*For each student* coordinate planes, straight-edge, scissors, color pencils	Re-teach, Practice, Problem Solving, Challenge 23.3 Worksheets Transparency 23.3 **Intervention,** *Skill 57*
23.4 Problem Solving Skill: ***Relevant or Irrelevant Information*** pp. 506-507 **Objective** To identify *relevant or irrelevant information* in order to solve a problem	**3, 6, 7, 8, 10**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge 23.4 Worksheets Transparency 23.4 Problem Solving Think Along, p. TR1 **Intervention-Problem Solving,** *Strategy/Skill 23* **Harcourt Mega Math Ice Station Exploration,** *Polar Planes*
Chapter 24 Planer					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
24.1 Customary Length pp. 522-525 **Objective** To measure length to the nearest eighth of an inch	**4, 6, 8, 9, 10**	2 Days	**precision**	*For each group* paper clips, string, customary measuring tools	Re-teach, Practice, Problem Solving, Challenge 24.1 Worksheets Transparency 24.1 **Harcourt Mega Math Ice Station Exploration,** *Linear Lab*

24.2 Hands On: Metric Length pp. 526-527 **Objective** To measure length in metric units	**3, 4, 6, 7, 8, 9**	1 Day	**centimeter (cm)** **millimeter (mm)** **meter (m)** **kilometer (km)**	*For each group* metric measuring tools, paper clips	Re-teach, Practice, Problem Solving, Challenge 24.2 Worksheets Transparency 24.2 **Harcourt Mega Math Ice Station Exploration,** *Linear Lab*
24.3 Change Linear Units pp. 528-531 **Objective** To change linear units of measure by multiplying or dividing	**1, 2, 4, 6, 7, 8, 9**	2 Days		Calculator	Re-teach, Practice, Problem Solving, Challenge 24.3 Worksheets Transparency 24.3
24.4 Customary Capacity and Weight pp. 532-533 **Objective** To change units of capacity and weight	**1, 4, 5, 6, 8, 9**				Re-teach, Practice, Problem Solving, Challenge 24.4 Worksheets Transparency 24.4
24.5 Metric Capacity and Mass pp. 534-535 **Objective** To measure with metric units of capacity and mass	**1, 4, 6, 8, 9, 10**	1 Day (For Lessons 24.4 & 24.5)			Re-teach, Practice, Problem Solving, Challenge 24.5 Worksheet Transparency 24.5 **Harcourt Mega Math The Number Games,** *Tiny's Think Tank* **Math Jingles CD 5-6**
24.6 Time and Temperature pp. 536-539 **Objective** To measure elapsed time and change in temperature	**1, 4, 6, 8, 9**	1 Day	**Fahrenheit (°F)** **Celsius (°C)**		Re-teach, Practice, Problem Solving, Challenge 24.6 Worksheet Transparency 24.6 **Harcourt Mega Math Ice Station Exploration,** *Linear Lab*
24.7 Problem Solving Skill: ***Estimate or Actual Measurement*** pp. 540-541 **Objective** To decide whether an estimate or actual measurement is needed to solve problems	**1, 4, 6, 8, 9**	1 Day			Re-teach, Practice, Problem Solving, Challenge 24.7 Worksheets Transparency 24.7 Problem Solving Think Along, p. TR1 **Intervention-Problem Solving,** *Strategy/Skill 24*

Chapter 25 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
25.1 Hands On: Estimate Perimeter pp. 548-549 **Objective** To estimate perimeter	**1, 4, 6, 8, 9, 10**	1 Day		*For each student* metric and customary rulers, string	Re-teach, Practice, Problem Solving, Challenge 25.1 Worksheets Transparency 25.1
25.2 Algebra: Find a Perimeter pp. 550-551 **Objective** To find the perimeter of polygons	**1, 2, 4, 5, 6, 7, 8, 10**	1 Day (For Lessons 25.1 & 25.2)		*For each student* metric ruler	Re-teach, Practice, Problem Solving, Challenge 25.2 Worksheets Transparency 25.2 **Intervention,** *Skill 50* (CD or Book)

25.3 Problem Solving Skill: *Make Generalizations* pp. 552-553 **Objective** To use the problem solving skill *make generalizations* to solve problems	**1, 3, 5, 6, 7, 8, 9, 10**	1 Day			Re-teach, Practice, Reading Strategy, Challenge 25.3 Worksheets Transparency 25.3 **Intervention-Problem Solving,** *Strategy/Skill 25* Problem Solving Think Along, p. TR1
25.4 Hands On: Algebra-Circumference pp. 554-555 **Objective** To find the circumference of a circle	**1, 2, 4, 6, 7, 8, 10**	1 Day	**Circumference**	*For each group* metric ruler, string, cans	Re-teach, Practice, Reading Strategy, Challenge 25.4 Worksheets Transparency 25.4 Scaffolded Instruction Transparency 25 **Intervention,** *Skill 42*

Chapter 26 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
26.1 Estimate Area pp. 562-563 **Objective** To estimate the area of irregular figures	**1, 4, 6, 7, 8, 10**	1 Day	**Area**	*For each student* grid paper	Re-teach, Practice, Problem Solving, Challenge 26.1 Worksheets Transparency 26.1
26.2 Algebra: Area of Squares and Rectangles pp. 564-567 **Objective** To find the area of squares and rectangles	**1, 2, 4, 6, 7, 8, 10**	1 Day		*For each student* grid paper	Re-teach, Practice, Problem Solving, Challenge 26.2 Worksheets Transparency 26.2 **Intervention,** *Skills 12, 15, 42, 51* **Harcourt Mega Math Ice Station Exploration,** *Polar Planes,* Level R
26.3 Relate Perimeter and Area pp. 568-571 **Objective** To identify how perimeter and area relate	**1, 2, 4, 6, 7, 8, 9, 10**	1 Day		*For each student* geo-board, string, square tiles, grid paper	Re-teach, Practice, Problem Solving, Challenge 26.3 Worksheets Transparency 26.3 **Intervention,** *Skills 12, 15, 42, 51* **Harcourt Mega Math Ice Station Exploration,** *Polar Planes,* Level 5
26.4 Algebra: Area of Triangles pp. 572-575 **Objective** To find the area of triangles	**1, 2, 4, 5, 6, 7, 8, 9, 10**	2 Days	**height** **base**	*For each student* grid paper	Re-teach, Practice, Problem Solving, Challenge 26.4 Worksheets Transparency 26.4 **Intervention,** *Skills 12, 15, 42, 51*
26.5 Algebra: Area of Parallelograms pp. 576-579 **Objective** To find the area of parallelograms	**1, 2, 4, 6, 7, 8, 9, 10**	2 Days	*Review* parallelograms rhombus	*For each student* grid paper, scissors	Re-teach, Practice, Problem Solving, Challenge 26.5 Worksheet Transparency 26.5 **Intervention,** *Skill 12, 15, 42, 51*

26.6 Problem Solving Strategy: *Solve a Simpler Problem* pp. 580-581 **Objective** To solve a problem by *solving a simpler problem*	**1, 2, 4, 6, 7, 8, 9, 10**	1 Day			Re-teach, Practice, Reading Strategy, Challenge 26.6 Worksheets Transparency 26.6 Scaffolded Instruction Transparency 26 Problem Solving Think Along, p. TR1 **Intervention-Problem Solving,** *Strategy/Skill 26*

Chapter 27 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
27.1 Nets for Solid Figures pp. 588-589 **Objective** To recognize a 2-dimensional pattern for a 3-dimenional solid	**3, 6, 7, 8, 9, 10**	1 Day	**net**	*For each student* grid paper, scissors, tape	Re-teach, Practice, Problem Solving, Challenge 27.1 Worksheets Transparency 27.1 **Intervention**, *Skill 56* (CD or Book) **Harcourt Mega Math Ice Station Exploration**, *Frozen Solids*
27.2 Surface Area pp. 590-591 **Objective** To find the surface area of a rectangular prism	**1, 3, 4, 6, 8, 10**	1 Day	**surface areas**	*For each student* centimeter grid, paper, scissors, tape	Re-teach, Practice, Problem Solving, Challenge 27.2 Worksheet Transparency 27.2 **Intervention**, *Skill 56* (CD or Book)
27.3 Algebra: Estimate and Find Volume pp. 592-595 **Objective** To estimate and find the volume of a rectangular prism	**1, 2, 3, 4, 6, 7, 8, 9**	2 Days	**volume**	*For each group* centimeter cubes, calculator	Re-teach, Practice, Problem Solving, Challenge 27.3 Worksheets Transparency 27.3 **Intervention,** *Skill 60* **Harcourt Mega Math Ice Station Exploration**, *Frozen Solids*
27.4 Measure Perimeter, Area, and Volume pp. 596-597 **Objective** To identify the appropriate units of measure for perimeter, area, and volume	**1, 3, 4, 6, 8, 9**	1 Day		*For each group* cm grid paper, cm ruler, cm cubes	Re-teach, Practice, Problem Solving, Challenge 27.4 Worksheets Transparency 27.4 **Intervention**, *Skill 56, 60* **Math Jingles CD 5-6**
27.5 Problem Solving Skill: *Use a Formula* pp. 598-599 **Objective** To use the problem solving skill *use a formula* to solve problems	**1, 3, 4, 6, 8, 9**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge 27.5 Worksheets Transparency 27.5 Scaffolded Instruction Transparency 27 Problem Solving Think Along, p. TR1 **Intervention-Problem Solving,** *Strategy/Skill 27*

Chapter 28					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
28.1 Hands On: Understand Ratios pp. 614-615 **Objective** To use two-color counters to show a relationship between two quantities	**1, 3, 5, 6, 8, 9, 10**		**ratio**	*For each group* two-color counters	Re-teach, Practice, Problem Solving, Challenge 28.1 Worksheets Transparency 28.1 **Intervention,** *Skills 26*
28.2 Express Ratios pp. 616-617 **Objective** To express ratios in three ways	**1, 2, 5, 6, 7, 8, 9, 10**	1 Day (For Lessons 28.1 & 28.2)			Re-teach, Practice, Problem Solving, Challenge 28.2 Worksheets Transparency 28.2 **Intervention,** *Skill 26*
28.3 Ratios and Proportions pp. 618-621 **Objective** To identify and make equivalent ratios and to determine whether two ratios form a proportion	**1, 2, 6, 7, 8, 9**	1 Day	**equivalent ratios** **proportion** *Review* equivalent fractions		Re-teach, Practice, Problem Solving, Challenge 28.3 Worksheets Transparency 28.3 **Intervention,** *Skill 29, 30*
28.4 Scale Drawings pp. 622-623 **Objective** To use ratios to interpret scale drawings	**1, 3, 4, 5, 6, 7, 8, 9, 10**	1 Day	**scale drawing** **map scale**		Re-teach, Practice, Problem Solving, Challenge 28.4 Worksheets Transparency 28.4 Scaffolded Instruction Transparency 28 **Intervention,** *Skill 30*
28.5 Problem Solving Skill: *Too Much/Too Little Information* pp. 624-625 **Objective** To use the skill *too much/too little information* to decide what information is necessary to solve a problem	**1, 5, 6, 7, 8, 9**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge 28.5 Worksheets Transparency 28.5 Problem Solving Think Along, p. TR1 **Intervention-Problem Solving,** *Strategy/Skill 28*
Chapter 29 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
29.1 Hands On: Understand Percent pp.632-633 **Objective** To represent percent as part of a hundred	**1, 6, 7, 8, 9, 10**		**percent**	*For each student* 10X10 grid paper, color pencil	Re-teach, Practice, Problem Solving, Challenge 29.1 Worksheets Transparency 29.1

29.2 Relate Decimals and Percents pp. 634-635 **Objective** To write a percent as a decimal and a decimal as a percent	**1, 5, 6, 7, 8, 9, 10**	1 Day (For Lessons 29.1 & 29.2)			Re-teach, Practice, Problem Solving, Challenge 29.2 Worksheets Transparency 29.2 **Intervention,** *Skills 37*
29.3 Fraction, Decimals, and Percents pp. 636-639 **Objective** To write percents as a fraction and decimals, and to write fraction and decimals as percents	**1, 5, 6, 7, 8, 9, 10**	2 Days			Re-teach, Practice, Problem Solving, Challenge 29.3 Worksheets Transparency 29.3 **Intervention,** *Skills 37, 41* **Math Jingles CD 5-6**
29.4 Compare Fractions, Decimals, and Percents pp. 640-641 **Objective** To compare and order fractions, decimals, and percents	**1, 6, 7, 8, 9, 10**	1 Day			Re-teach, Practice, Problem Solving, Challenge 29.4 Worksheets Transparency 29.4 **Intervention,** *Skills 48*
29.5 Find a Percent of a Number pp. 642-645 **Objective** To find a percent of a number	**1, 5, 6, 7, 8, 9, 10**	1 Day		*For each student* index cards, calculator	Re-teach, Practice, Problem Solving, Challenge 29.5 Worksheets Transparency 29.5 Scaffolded Instruction Transparency 11 **Intervention,** *Skills 37, 41* **Harcourt Mega Math The Number Games,** *Buggy Bargains*
29.6 Problem Solving Strategy: *Make a Graph* pp. 646-647 **Objective** To use the problem solving strategy *make a graph* to solve problems	**1, 4, 5, 6, 7, 8, 9, 10**	1 Day		Calculator	Re-teach, Practice, Reading Strategy, Challenge 29.6 Worksheets Transparency 29.6 **Intervention-Problem Solving,** *Strategy/Skill 29*

Chapter 30 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
30.1 Hands On: Probability Experiments pp. 654-655 **Objective** To predict and record results of probability experiments	**1, 5, 6, 8, 9**		**probability**	*For each group* color tiles, paper bag	Re-teach, Practice, Problem Solving, Challenge 30.1 Worksheets Transparency 30.1 **Harcourt Mega Math Fraction Action,** *Last Chance Canyon*

30.2 Probability Expressed as a Fraction pp. 656-657 **Objective** To express the probability of an event as a fraction	**5, 6, 7, 8, 9**	1 Day (For Lessons 30.1 & 30.2)	**equally likely** **possible outcomes** **sample space** **theoretical probability**		Re-teach, Practice, Problem Solving, Challenge 30.2 Worksheets Transparency 30.2 **Harcourt Mega Math Fraction Action**, *Last Chance Canyon* **Math Jingles CD 5-6** **Intervention,** *Skills 67, 25*
30.3 Probability and Predictions pp. 658-659 **Objective** To use experimental probability to predict future events	**1, 5, 6, 7, 8**	1 Day	**experimental probability**		Re-teach, Practice, Problem Solving, Challenge 30.3 Worksheets Transparency 30.3 **Intervention,** *Skill 25* **Harcourt Mega Math Fraction Action**, *Last Chance Canyon*
30.4 Tree Diagrams pp. 660-601 **Objective** To organize possible outcomes by making a tree diagram	**2, 5, 6, 8, 9, 10**	1 Day	**tree diagram**		Re-teach, Practice, Problem Solving, Challenge 30.4 Worksheets Transparency 30.4 **Math Jingles CD 5-6**
30.5 Arrangements and Combinations pp. 662-663 **Objective** To find the number of possible arrangements and combinations of a group of items	**1, 5, 6, 7, 8, 9**	1 Day	**arrangement** **combination**		Re-teach, Practice, Problem Solving, Challenge 30.5 Worksheets Transparency 30.5
30.6 Problem Solving Strategy: *Make an Organized List* pp. 664-665 **Objective** To use the strategy *make an organized list*	**5, 6, 7, 8, 9, 10**	1 Day			Re-teach, Practice, Reading Strategy, Challenge 30.6 Worksheets Transparency 30.6 Problem Solving Think Along, p. TR1 Scaffolded Instruction Transparency 30 **Intervention-Problem Solving,** *Strategy/Skill 30* (CD or Book)

Subject Area: Math Unit 1 **Length of Unit:** 6 Weeks

Instructor: 5th Grade Teacher Graf/Alvis **Topic:** 1

Standard 1: Content Problem Solving

Benchmarks:
1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
1.3 Understand the concept of place value for numbers from the thousands place to the hundred million
1.4 Check reasonability of answers by performing operations & rounding

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
1.3	Chapter 1	Understand the concept of place value for numbers from the thousands place to the million	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
1.4	Chapter 1 thru 4	**Check reasonability of answers and verifies results** **Understand the concept of rounding numbers expressed through the millions**	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
1.1	Chapter 3	Add and subtract decimals	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math Unit 2 **Length of Unit:** 3 Weeks

Instructor: 5th Grade Teacher Graf/Alvis **Topic:** 2

Standard 5: Probability Statistics
Benchmarks: 5.1 Apply probability concepts and counting rules to determine probability of simple events
5.2 Read and interpret simple tables & graphs to determine understanding and application of measures of central tendency and variability

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
5.1	Chapter 5	Draw conclusions and make predictions from sets of data	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
5.2	Chapter 6	Read and interpret tables, graphs, and charts	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math Unit 3 & 4 **Length of Unit:** 9 Weeks

Instructor: 5th Grade Teacher Graf/Alvis **Topic:** 3 & 4

Standard 2: Algebra
Benchmarks: 2.4 Understand and explore numerical patterns

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
2.4	Chapters 7 thru 12	**Understand appropriate operation and method of calculation to solve problems and to check the reasonableness of results**	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math Unit 5&6 **Length of Unit:** 9 Weeks

Instructor: 5th Grade Teacher Graf/Alvis **Topic:** 5&6

Standard: There is no standards and benchmarks for these units.
Benchmarks:

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
	Chapters 13 thru 19	These chapters must be covered for continuity into the sixth grade curriculum	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math Unit 7 **Length of Unit:** 9 Weeks

Instructor: 5th Grade Teacher Graf/Alvis **Topic:** 7

Standard 3: Algebra
Benchmarks: 3.2 Describe geometric properties, patterns and relationships (trapezoids, parallelograms, cube, sphere, and polygon)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
3.2	Chapter 20	Understand the characteristics of and relationships among points, lines, line segments, rays, and planes	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math Unit 8 **Length of Unit:** 9 Weeks

Instructor: 5th Grade Teacher Graf/Alvis **Topic:** 8

Standard 4: Measurement
Benchmarks: 4.1 Identify and use appropriate units of measurement (metric, US)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
4.1	Chapter 24	Knows approximate size of basic standards and metric units and relationships between them	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math Unit 9 **Length of Unit:** 9 Weeks

Instructor: 5th Grade Teacher Graf/Alvis **Topic:** 9

Standard 5: Probability Statistics
Benchmarks: 5.1 Apply probability concepts and counting rules to determine probability of simple events

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
5.1	Chapter 30	Use the basic measures of central tendency (i.e., mode, median, mean) to describe data	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

6th
MATH STANDARDS & BENCHMARKS
GRADE LEVEL INDICATORS
***To provide for more continuity, these additions will be introduced but not tested.**

1. CONTENT PROBLEM SOLVING

1.1. COUNT, READ, WRITE, REPRESENT, COMPARE AND ORDER NUMBERS IN REGULAR, EXPANDED AND EXPONENTIAL FORMAT

6 – REPRESENT PROBLEM SITUATIONS IN AND TRANSLATE AMONG ORAL, WRITTEN, CONCRETE, PICTORIAL, AND GRAPHICAL FORMS
*6 – Counts, reads, and writes numbers 1 – 1,000,000,000 and decimals to hundred-thousandths place

1.2. DESCRIBE AND APPLY PROPERTIES OF WHOLE NUMBERS AND FRACTIONS IN PHYSICAL, VERBAL AND SYMBOLIC REPRESENTATIONS.

6 – UNDERSTAND THE CONCEPT OF EQUIVALENT FRACTIONS (E.G., FOR HALVES, THIRDS, FOURTHS, EIGHTHS, TENTHS, SIXTEENTHS)
*6 – equivalent fractions are introduced in fifth grade

1.3. CLASSIFY NUMBERS BY DIVISIBILITY (MULTIPLY, DIVIDE & CLASSIFY WHOLE NUMBERS WITH & WITHOUT REMAINDERS) ORDER OF MAGNITUDE.

6 – UNDERSTAND THE CONCEPT OF PLACE VALUE FOR NUMBERS FROM THE THOUSANDS PLACE TO THE HUNDRED MILLIONS PLACE
6 – UNDERSTAND THE RELATIONSHIPS AMONG FACTORS, MULTIPLES, DIVISORS, AND PRODUCTS (E.G., PRIME FACTORIZATION, GREATEST COMMON FACTOR, AND LEAST COMMON MULTIPLE; RULES OF DIVISIBILITY FOR 2, 3, 5, AND 10)
*6 – relationships among factors is introduced in fifth grade

1.4. CHECK REASONABILITY OF ANSWERS BY PERFORMING OPERATIONS & ROUNDING.

6 – USE ESTIMATION STRATEGIES TO SOLVE AND TO CHECK THE REASONABLENESS OF RESULTS

2. ALGEBRA

2.2. SOLVE EQUATIONS AND INEQUALITIES

6- UNDERSTANDS BASIC FEATURES OF COORDINATES

2.4. UNDERSTAND AND EXPLORE NUMERICAL PATTERNS

6 – UNDERSTAND AND APPLY BASIC AND ADVANCED PROPERTIES OF THE CONCEPTS OF NUMBERS

3. GEOMETRY

3.1. IDENTIFY, CLASSIFY, AND COMPARE GEOMETRIC FIGURES KNOWING BASIC GEOMETRIC LANGUAGE FOR SHAPES.

6 – UNDERSTAND SIMILARITIES AND DIFFERENCES AMONG VARIOUS POLYGONS AND SOLID FIGURES

3.2. DESCRIBE GEOMETRIC PROPERTIES, PATTERNS AND RELATIONSHIPS (TRAPEZOIDS, PARALLELOGRAMS, CUBE, SPHERE, AND POLYGON)

6 – UNDERSTAND THE MATHEMATICAL CONCEPTS OF SIMILARITY (E.G., SCALE, PROPORTION) CONGRUENCY (E.G., CONGRUENT PARTS OF FIGURES), AND SYMMETRY (E.G., POINTS, LINES OF SYMMETRY)

3.3. APPLY CONCEPTS OF PERIMETER, AREA, AND VOLUME

6 – SOLVE PROBLEMS INVOLVING PERIMETER (CIRCUMFERENCE) AND AREA OF VARIOUS SHAPES (E.G., PARALLELOGRAMS, TRIANGLES, CIRCLES) AND VOLUME

4. MEASUREMENT

4.1. IDENTIFY AND USE APPROPRIATE UNITS OF MEASUREMENT (METRIC, US)

6 – USE APPROPRIATE MEASUREMENT UNITS AND TOOLS (METRIC AND U.S. CUSTOMARY)

5. PROBABILITY STATISTICS

5.1. APPLY PROBABILITY CONCEPTS AND COUNTING RULES TO DETERMINE PROBABILITY OF SIMPLE EVENTS.

6 – USE THE BASIC MEASURES OF CENTRAL TENDENCY (I.E., MODE, MEDIAN, MEAN) TO DESCRIBE DATA

5.2. READ AND INTERPRET SIMPLE TABLES & GRAPHS TO DEMONSTRATE UNDERSTANDING AND APPLICATION OF MEASURES OF CENTRAL TENDENCY AND VARIABILITY.

6 – READ, INTERPRET, AND DESIGN TABLES, GRAPHS (E.G., STACKED BAR, DOUBLE-LINE, HISTOGRAM), AND CHARTS

Course Outline – Grade 6

(numbers in outline indicate chapter numbers)

Unit 1 Number Sense and Operations

1. Whole Number Applications
2. Operation Sense
3. Decimal Concepts
4. Decimal Operations

Unit 2. Statistics and Graphing

5. Collect and Organize Data
6. Graph Data

Unit 3. Fraction Concepts and Operations

7. Number Theory
8. Fraction Concepts
9. Add and Subtract Fractions and Mixed Numbers
10. Multiply and Divide Fractions and Mixed Numbers

Unit 4. Algebra: Expressions, Equations, and Patterns

11. Algebra: Expressions
12. Algebra: Addition and Subtraction Equations
13. Algebra: Multiplication and Division Equations
14. Algebra: Patterns

Unit 5. Geometry and Plane Figures

15. Geometric Figures
16. Plane Figures
17. Congruence and Similarity
18. Geometry and Motion

Unit 6. Measurement: One and Two Dimensions

19. Units of Measure
20. Length and Perimeter
21. Area of Plane Figures

Unit 7. Solid Figures and Measurement

22. Solid Figures
23. Measures Solid Figures

Unit 8. Ratio, Proportion, Percent, and Probability

24. Ratio and Proportion
25. Percent and Change
26. Probability of Simple Events
27. Probability of Compound Events

Unit 9. Algebra: Integers and Graphing

28. Algebra: Number Relationships
29. Operations with Integers
30. Graph Relationships

6th Grade

NCTM Standards 2000	
1. Number and Operations	6. Problem Solving
2. Algebra	7. Reasoning and Proof
3. Geometry	8. Communication
4. Measurement	9. Connections
5. Data Analysis and Probability	10. Representation

Chapter 1 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
1.1 Place Value pp. 16-17 **Objective** To use place value to express, compare, and order whole numbers	**1, 6, 8, 9**	1 Day			Re-teach, Practice, Challenge, Problem Solving 1.1 Worksheets Transparency 1.1 **Harcourt Mega Math the Number Games**, *Tiny's Think Tank*
1.2 Estimate with Whole Numbers pp. 18-21 **Objective** To use estimation strategies to find sums, differences, products, and quotients of whole numbers	**1, 5, 6, 8**	1 Day	**clustering** **underestimate** **overestimate** *Review* compatible numbers		Re-teach, Practice, Challenge, Problem Solving 1.2 Worksheets Transparency 1.2 **Intervention**, *Skill 2* (CD or Book)
1.3 Addition and Subtraction pp. 22-23 **Objective** To use addition and subtraction of whole numbers to solve real-life problems	**1, 5, 6, 8**	1 Day			Re-teach, Practice, Challenge, Problem Solving 1.3 Worksheets Scaffolded Instruction Transparency 1.3 **Intervention**, *Skill 2* (CD or Book) **Harcourt Mega Math The Number Games**, *Tiny's Think Tank*
1.4 Multiplication and Division pp. 24-27 **Objective** To use multiplication and division of whole numbers to solve real-life problems	**1, 6, 8, 9**	1 Day		Calculator	Re-teach, Practice, Challenge, Problem Solving 1.4 Worksheets Transparency 1.4 Reading Transparency 1 **Intervention**, *Skill 6, 9* (CD or Book) **Harcourt Mega Math the Number Games**, *Up, Up, and Array* **Harcourt Mega Math the Number Games**, *Tiny's Think Tank* **Math Jingles CD 5-6**
1.5 Problem Solving Strategy: *Predict and Test* pp. 28-29 **Objective** To use the strategy *predict and test* to solve addition, subtraction, multiplication, and division problems with	**1, 6, 7**	1 Day			Re-teach, Practice, Challenge, Reading Strategy 1.5 Worksheets Transparency 1.5 Reading Transparency 2 **Intervention – Problem Solving**, *Strategy/Skill 1* (CD or Book)

whole numbers					

Chapter 2 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
2.1 Algebra: Expressions pp. 36-37 **Objective** To identify, write, and evaluate numerical and algebraic expressions involving whole numbers	**1, 2, 6, 7, 8**	1 Day	**numerical expression variable algebraic expression evaluate**		Re-teach, Practice, Challenge, Problem Solving 2.1 Worksheets Transparency 2.1 **Math Jingles CD 5-6**
2.2 Algebra: Mental Math and Equations pp.38-39 **Objectives** To solve equations with whole numbers by using mental math and substitution	**1, 2, 6, 8**	1 Day	**equation solution** *Review* variable		Re-teach, Practice, Challenge, Problem Solving 2.2 Worksheets Transparency 2.2
2.3 Algebra: Properties pp. 40-41 **Objective** To identify and apply the Commutative, Associative, Distributive, and Identify Properties of addition and multiplication	**1, 2, 6, 7, 8, 9**	1 Day	**commutative property associative property distributive property identify property of addition identify property of multiplication**		Re-teach, Practice, Challenge, Problem Solving 2.3 Worksheets Transparency 2.3 **Intervention**, *Skill 42* (CD or Book)
2.4 Mental Math: Use the Properties pp. 42-45 **Objective** To use properties and mental math to find sums, differences, products, and quotients	**1, 6, 8**	2 Days	**compensation** *Review* commutative property associative property distributive property		Re-teach, Practice, Challenge, Problem Solving 2.4 Worksheets Transparency 2.4 Scaffolded Instruction Transparency 2 **Intervention**, *Skill 42* (CD or Book)
2.5 Exponents pp. 46-47 **Objectives** To represent numbers by using exponents	**1, 2, 6, 8**	1 Day	**exponent base** *Review* factor		Re-teach, Practice, Challenge, Problem solving 2.5 Worksheets Transparency 2.5 **Harcourt Mega Math Ice Station Exploration**, *Arctic Algebra* **Math Jingles CD 5-6**
2.6 Order of Operations pp. 48-51 **Objective** To use the order of operations	**1, 2, 6, 8**	1 Day	**order of operations algebraic operating systems (AOS)**	Calculator	Re-teach, Practice, Challenge, Problem Solving 2,6 Worksheets Transparency 2.6 **Math Jingles CD 5-6**
2.7 Problem Solving Skill: Multi-step Problems pp. 52-53 **Objective** To solve multi-step problems	**1, 2, 6, 7, 8, 9**	1 Day			Re-teach, Practice, Challenge, Reading Strategy 2.7 Worksheets Transparency 2.7 Reading Transparency 3

Chapter 3 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
3.1 Represent, Compare, and Order Decimals pp. 60-63 **Objective** To use place value to express, compare, and order decimals	**1, 6, 8**	1 Day		*For Thinker's Corner* 10-section spinner, place-value chart	Re-teach, Practice, challenge, Problem Solving 3.1 Worksheets Transparency 3.1 **Intervention**, *Skill 19* (CD or Book) **Harcourt Mega Math Fraction Action**, *Number Line Mine*
3.2 Problem Solving Strategy: *Make a Table* pp. 64-65 **Objective** To use the strategy *make a table* to solve problems	**1, 6, 7, 10**	1 Day		Calculator	Re-teach, Practice, Challenge, Reading Strategy 3.2 Worksheets Transparency 3.2 Scaffolded Instruction Transparency 3 Reading Transparency 4 **Intervention – Problem Solving**, *Strategy/Skill 3* (CD or Book)
3.3 Estimate with Decimals pp. 66-67 **Objective** To estimate decimal sums, differences, products, and quotients	**1, 6, 8**	1 Day			Re-teach, Practice, Challenge, Problem Solving 3.3 Worksheets Transparency 3.3 **Intervention,** *Skill 20* (CD or Book)
3.4 Decimals and Percents pp. 68-69 **Objective** To write a decimal as a percent and a percent as a decimal	**1, 6, 8, 10**	1 Day	**percent**	*For each student* 10X10 grids (decimal squares)	Re-teach, Practice, Challenge, Problem Solving 3.4 Worksheets Transparency 3.4

Chapter 4 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
4.1 Add and Subtract Decimals pp. 76-79 **Objective** To add and subtract decimals	**1, 2, 6, 8, 9**	1 Day			Re-teach, Practice, Challenge, Problem Solving 4.1 Worksheets Transparency 4.1 **Harcourt Mega Math The Number Games**, *Tiny's Think Tank* and *Buggy Bargains*
4.2 Multiply Decimals pp. 80-83 **Objective** To multiply decimals	**1, 6, 8, 10**	1 Day		*For each student* decimal squares, colored pencils	Re-teach, Practice, Challenge, Problem Solving 4.2 Worksheets Transparency 4.2 **Harcourt Mega Math The Number Games**, *Tiny's Think Tank*
4.3 Math Lab: Explore Division of Decimals pp. 84-85 **Objective** To use a model to divide decimals	**1, 8, 10**			*For each student* decimal squares, colored pencils, scissors	**Intervention**, Skill 9 (CD or Book)

4.4 Divide Decimals by Whole Numbers pp. 86-87 **Objective** To divide a decimal by a whole number	**1, 6, 8, 9, 10**	2 Days (For Lessons 4.3 & 4.4)	*Review* compatible numbers		Re-teach, Practice, Challenge, Problem Solving 4.4 Worksheets Transparency 4.4
4.5 Divide Decimals by Decimals pp. 88-91 **Objective** To divide a decimal by a decimal	**1, 6, 8**	1 Day		Calculator	Re-teach, Practice, Challenge, Problem Solving 4.5 Worksheets Transparency 4.5 **Math Jingles CD 5-6**
4.6 Problem Solving Skill: *Interpret the Remainder* pp. 92-93 **Objective** To solve problems by using the skill *interpret the remainder*	**1, 6, 8**	1 Day			Re-teach, Practice, Challenge, Reading Strategy 4.6 Worksheets Transparency 4.6 Reading Transparency 5 Scaffolded Instruction Transparency 4
4.7 Algebra: Decimal Expressions and Equations pp. 94-95 **Objective** To evaluate expressions with decimals and to use mental math and substitution to solve equations with decimals	**1, 2, 6, 8**	1 Day			Re-teach, Practice, Challenge, Problem Solving 4.7 Worksheets Transparency 4.7 Math Jingles CD 5-6

Chapter 5 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
5.1 Samples pp. 110-111 **Objective** To identify populations and random samples	**5, 6, 8, 9**	1 Day (For Lessons 5.1 & 5.2)	**survey population sample random sample**		Re-teach, Practice, Challenge, Problem Solving 5.1 Worksheets Transparency 5.1
5.2 Bias in Surveys pp. 112-113 **Objective** To determine whether a sample or a question in a survey is biased	**5, 6, 7, 8,**		**unbiased sample biased sample biased question**		Re-teach, Practice, Challenge, Problem Solving 5.2 Worksheets Transparency 5.2
5.3 Frequency Tables and Line Plots pp. 114-117 **Objective** To record and organize data collected in a survey	**5, 6, 7, 8, 9, 10**	2 Days	**cumulative frequency relative frequency** *Review* range frequency table		Re-teach, Practice, Challenge, Problem Solving 5.3 Worksheets Transparency 5.3 **Intervention,** *Skill 60* (CD or Book)
5.4 Mean, Median, and Mode pp. 118-121 **Objective** To find the mean, median, and mode of a set of data and decide which best describes the set of data	**2, 5, 6, 8, 10**	1 Day	*Review* mean median mode	Calculator	Re-teach, Practice, Challenge, Problem Solving 5.4 Worksheets Transparency 5.4 **Intervention,** *Skills 61, 62* (CD of Book) **Math Jingles CD 5-6**

5.5 Data and Conclusion pp. 122-125 **Objective** To draw conclusions by analyzing data in tables and graphs	**5, 6, 8**	2 Days			Re-teach, Practice, Challenge, Problem Solving 5.5 Worksheets Transparency 5.5 Scaffolded Instruction Transparency 5 **Intervention**, *Skill 60, 62* (CD or Book)
5.6 Math Lab: Take a Survey pp. 1216-127 **Objective** To design and take a survey	**5, 6, 8, 10**	1 Day			**Intervention**, *Skills 60, 62* (CD or Book)

Chapter 6 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
6.1 Problem Solving Strategy: Make a Graph pp. 134-135 **Objective** To use the strategy *make a graph* to solve problems	**5, 6, 10**	1 Day		Calculator	Re-teach, Practice, Challenge, Reading Strategy 6.1 Worksheets Transparency 6.1 Reading Transparency 6 **Intervention – Problem Solving,** *Strategy/skill 5* (CD or Book)
6.2 Making and Analyze Graphs pp. 136-139 **Objective** To display and analyze data in bar graphs, line graphs, and circle graphs	**5, 6, 7, 8, 9, 10**	1 Day	**multiple-bar graph** **multiple-line graph**		Re-teach, Practice, Challenge, Problem Solving 6.2 Worksheets Transparency 6.2 Scaffolded Instruction Transparency 6 **Intervention**, *Skill 63* (CD or Book) **Harcourt Mega Math The Number Games,** *ArachnaGraph*
6.3 Stem-and-Leaf Plots and Histograms pp. 140-142 **Objective** To display and analyze data in stem-and-leaf plots and histograms	**5, 6, 7, 8, 10**	1 Day	**stem-and-leaf plot** **histogram**		Re-teach, Practice, Challenge, Problem Solving 6.3 Worksheets Transparency 6.3 **Intervention**, *Skill 64* (CD or Book)
6.4 Math Lab: Explore Box-and-Whisker Graphs pp. 143 **Objective** To make a box-and-whisker graphs and understand its parts	**5, 8, 10**		**box-and-whisker graph** **lower extreme** **upper extreme** **lower quartile** **upper quartile**	*For each pair* at least eleven 3X5 in. index cards, marker	
6.5 Box-and-Whisker Graphs pp. 144-145 **Objective** To analyze a box-and-whisker graph	**5, 6, 8**	1 Day (For Lessons 6.4 & 6.5)			Re-teach, Practice, Challenge, Problem Solving 6.5 Worksheets Transparency 6.5

6.6 Misleading Graphs pp. 146-149 **Objective** To analyze data displays and determine how results and conclusions may have been influenced	**5, 6, 7, 8, 10**	2 Days			Re-teach, Practice, Challenge, Problem Solving 6.6 Worksheets Transparency 6.6 Reading Transparency 7 **Intervention**, *Skill 63* (CD or Book)

Chapter 7

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
7.1 Divisibility pp. 164-165 **Objective** To use divisibility rules	**1, 6, 7, 8**	1 Day	*Review* divisible		Re-teach, Practice, Challenge, Problem Solving 7.1 Worksheets Transparency 7.1 **Intervention**, *Skill 8* (CD or Book) **Harcourt Mega Math Ice Station Exploration**, *Arctic Algebra* **Math Jingles CD 5-6**
7.2 Prime and Composite Numbers pp. 166-167 **Objective** To identify prime and composite numbers	**1, 2, 6, 7, 8, 9, 10**	1 Day	**prime number** **composite number**		Re-teach, Practice, Challenge, Problem Solving 7.2 Worksheets Transparency 7.2 **Intervention**, *Skill 7* (CD or Book)
7.3 Prime Factorization pp. 168-169 **Objective** To write a composite number as the product of prime factors	**1, 6, 7, 8**	1 Day	**prime factorization**		Re-teach, Practice, Challenge, Problem Solving 7.3 Worksheets Transparency 7.3 **Intervention**, *Skill 7* (CD or Book) **Harcourt Mega Math Ice Station Exploration**, *Arctic Algebra*
7.4 Least Common Multiple and Greatest Common Factor pp. 170-173 **Objective** To find the least common multiple and greatest common factor of numbers and use them to solve problems	**1, 6, 8, 9**	2 Days	**least common multiple (LCM)** **greatest common factor (GCF)**		Re-teach, Practice, Challenge, Problem Solving 7.4 Worksheets Transparency 7.4 **Intervention,** *Skill 7* (CD or Book)
7.5 Problem Solving Strategy: *Make an Organized List* pp. 174-175 **Objective** to solve problems by using the strategy *make an organized list*	**1, 6, 10**	1 Day		Calculator	Re-teach, Practice, Challenge, Reading Strategy 7.5 Worksheets Transparency 7.5 Scaffolded Instruction Transparency 7 Reading Transparency 8 **Intervention – Problem Solving,** *Strategy/Skill 6* (CD or Book) **Intervention,** *Skill 7* (CD or Book)

Chapter 8 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
8.1 Equivalent Fractions and Simplest Form pp. 182-185 **Objective** To identify and write equivalent fractions and to write fractions in simplest form	**1, 5, 6, 8, 10**	2 Days	**equivalent fractions** **simplest form**	*For each group* fraction bars or fraction strips	Re-teach, Practice, Challenge, Problem Solving 8.1 Worksheets Transparency 8.1 **Harcourt Mega Math Fraction Action,** *Fraction Flare-up* Scaffolded Instruction Transparency 8
8.2 Mixed Numbers and Fractions pp. 186-187 **Objective** To write fractions as mixed numbers and mixed numbers as fractions	**1, 5, 6, 8, 9**	1 Day	**mixed numbers**		Re-teach, Practice, Challenge, Problem Solving 8.2 Worksheets Transparency 8.2
8.3 Compare and Order pp. 188-189 **Objective** To compare and order fractions and mixed numbers	**1, 6, 7, 8**	1 Day			Re-teach, Practice, Challenge, Problem Solving 8.3 Worksheets **Harcourt Mega Math Fraction Action,** *Number Line Mine*
8.4 Math Lab: Explore Fractions and Decimals pp. 190 **Objective** To convert fractions to decimals	**1, 8**			*For each Student* graph paper, scissors, colored pencils	**Harcourt Mega Math Fraction Action,** *Number Line Mine*
8.5 Fractions, Decimals, and Percents pp. 191-193 **Objective** To convert fractions to decimals, decimals to fractions, and fractions to percents	**1, 5, 6, 8**	1 Day (For Lessons 8.4 & 8.5)	**terminating decimals** **repeating decimals** *Review* percent	Calculator	Re-teach, Practice, Challenge, Problem Solving 8.5 Worksheets Transparency 8.5
Chapter 9 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
91. Estimate Sums and Differences pp. 200-203 **Objective** To estimate sums and difference of fractions and mixed numbers	**1, 5, 6, 8**	1 Day	*Review* mixed numbers		Re-teach, Practice, Challenge, Problem Solving 9.1 Worksheets Transparency 9.1 **Intervention,** *Skill 22* (CD or Book)
9.2 Math Lab: Model Addition and Subtraction pp. 204-205 **Objective** To use fraction bars to ass and subtract fractions with unlike denominators	**1, 8, 10**		**unlike fractions**	*For each group* fraction bars or fraction strips	**Intervention,** *Skill 22* (CD or Book)

9.3 Add and Subtract Fractions pp. 206-209 **Objective** To add and subtract fractions	**1, 6, 7, 8, 9,10**	2 Days (For Lessons 9.2 & 9.3)	**least common denominator (LCD)**		Re-teach, Practice, Challenge, Problem Solving 9.3 Worksheets Transparency 9.3 **Intervention**, *Skills 13, 22* (CD or Book) **Harcourt Mega Math Fraction Action**, *Fraction Flare-Up* **Math Jingles CD 5-6**
9.4 Add and Subtract Mixed Numbers pp. 210-213 **Objective** To add and subtract mixed numbers	**1, 5, 6, 8, 9, 10**	1 Day	*Review* mixed number		Re-teach, Practice, Challenge, Problem Solving 9.4 worksheets Transparency 9.4 Reading Transparency 9 **Intervention**, *Skills 13, 22* (CD or Book) **Harcourt Mega Math The Number Games**, *Tiny's Think Tank*
9.5 Subtract Mixed Numbers pp. 214-217 **Objective** To subtract mixed numbers involving renaming	**1, 5, 6, 8**	1 Day		*For each group* fraction bars or fraction strips	Re-teach, Practice, Challenge, Problem Solving 9.5 Worksheets Transparency 9.5
9.6 Problem Solving Strategy: *Draw a diagram* pp. 218-219 **Objective** To use the strategy *draw a diagram to solve problems*	**1, 4, 6, 8, 10**	1 Day		Calculator	Re-teach, Practice, Challenge, Reading Strategy 9.6 Worksheets Transparency 9.6 Reading Transparency 10 **Intervention – Problem Solving**, *Strategy/Skill 7* (CD or Book) Scaffolded Instruction Transparency 9

Chapter 10 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
10.1 Estimate Products and Quotients pp. 226-227 **Objective** To estimate products and quotients of fractions and mixed numbers	**1, 6, 8**	1 Day			Re-teach, Practice, Challenge, Problem Solving 10.1 Worksheets Transparency 10.1 **Intervention**, *Skill 16* (CD or Book)
10.2 Multiply Fractions pp. 228-231 **Objective** To multiply fractions	**1, 6, 7, 8, 10**	1 Day			Re-teach, Practice, Challenge, Problem solving 10.2 Worksheets Transparency 10.2 **Harcourt Mega Math Fraction Action**, *Fraction Flare-Up* Scaffolded Instruction Transparency 10
10.3 Multiply Mixed Numbers pp. 232-233 **Objective** To multiply mixed numbers	**1, 6, 8**	1 Day			Re-teach, Practice, Challenge, Problem solving 10.3 Worksheets Transparency 10.3

10.4 Math Lab: Divide Fractions pp. 234-235 **Objective** To model division of fractions	**1, 2, 8**		**reciprocal**	*For each student* fraction circles	**Harcourt Mega Math Fraction Action**, *Fraction Flare-Up* **Math Jingles CD 5-6**
10.5 Divide Fractions and Mixed Numbers pp. 236-239 **Objective** To divide with fractions and mixed numbers	**1, 2, 6, 8, 9**	2 Days (For Lessons 10.4 & 10.5)			Re-teach, Practice, Challenge, Problem Solving 10.5 Worksheets Transparency 10.5
10.6 Problem Solving Skill: *Choose the Operation* pp. 240-241 **Objective** To choose the operation to solve a problem	**1, 6, 8**	1 Day		Calculator	Re-teach, Practice, Challenge, Reading Strategy 10.6 Worksheets Transparency 10.6 Reading Transparency 11 **Intervention – Problem Solving,** *Strategy/Skill 8* (CD or Book)
10.7 Choose the Method pp. 242-243 **Objective** To choose mental math, paper and pencil, or a calculator to find products and quotients of fractions and mixed numbers	**1, 6, 8**	1 Day		Calculator	Re-teach, Practice, Challenge, Problem Solving 10.7 Worksheets Transparency 10.7 **Intervention**, *Skill 14* (CD of Book)

Chapter 11 Planer

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
11.1 Write Expressions pp. 258-259 **Objective** To write algebraic expressions	**1, 2, 6, 8**	1 Day	*Review* expression		Re-teach, Practice, Challenge, Problem Solving 11.1 Worksheets Transparency 11.1 **Math Jingles CD 5-6**
11.2 Evaluate Expressions pp. 260-263 **Objective** To evaluate Algebraic expressions	**1, 2, 6, 8, 9**	1 Day	**terms like terms**		Re-teach, Practice, Challenge, Problem Solving 11.2 Worksheets Transparency 11.2 **Intervention,** *Skills 45, 47* **Harcourt Mega Math Ice Station Exploration,** *Arctic Algebra*
11.3 Math Lab: Squares and Square Roots pp. 264-265 **Objective** To use a model to find squares and square roots	**1, 8, 10**		**square square root**	*For each student* square tiles, Calculator	**Intervention**, *Skill 44*
11.4 Expressions with Square and Square Roots pp. 266-267 **Objective** To evaluate expressions with square and square roots	**1, 2, 6, 7, 8, 10**	1 Day (For Lessons 11.3 & 11.4)			Re-teach, Practice, Challenge, Problem Solving 11.4 Worksheets Transparency 11.4 Scaffolded Instruction Transparency 11 **Intervention,** *Skills 45, 47*

Chapter 12 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
12.1 Words and Equations pp. 274-275 **Objective** To translate words into numbers, variables, and operations	**1, 2, 6, 8, 9**	1 Day	*Review* equation variable		Re-teach, Practice, Challenge, Problem Solving 12.1 Worksheets Transparency 12.1 Scaffolded Instruction Transparency 12 **Intervention,** *Skill 49* **Math Jingles CD 5-6**
12.2 Math Lab: Model and Solve One-Step Equations pp. 276 **Objective** To model the solutions to one-step equations	**1, 2, 8, 10**			*For each student* algebra tiles or green paper rectangles and yellow squares	**Intervention,** *Skill 46*
12.3 Solve Addition Equations pp. 277-279 **Objective** To solve addition equations	**1, 2, 6, 7, 8**	2 Days (For Lessons 12.2 & 12.3)	**Subtraction property of equality** *Review* identify property of Zero		Re-teach, Practice, Challenge, Problem Solving 12.3 Worksheets Transparency 12.3 **Intervention,** *Skill 46* **Harcourt Mega Math Ice Station Exploration,** *Arctic Algebra*
12.4 Solve Subtraction Equations pp. 280-281 **Objective** To solve subtraction equations	**1, 2, 5, 6, 7, 8**	1 Day	**addition property of equality**		Re-teach, Practice, Challenge, Problem Solving 12.4 Worksheets Transparency 12.4 **Intervention,** *Skill 46* **Harcourt Mega Math Ice Station Exploration,** *Arctic Algebra*
12.5 Problem Solving Strategy: *Write an equation* pp. 282-283 **Objective** To solve problems by writing and using equations	**1, 2, 5, 6, 7, 8, 10**	1 Day			Re-teach, Practice, Challenge, Reading Strategy 12.5 Worksheets Transparency 12.5 **Intervention – Problem Solving,** *Strategy/Skill 9*
Chapter 13 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
13.1 Math Lab: Model Multiplication Equations pp. 290 **Objective** To model the solutions of multiplication equations	**1, 2, 7, 8**	1 Day		*For each student* algebra tiles or paper rectangles and squares	
13.2 Solve Multiplication and Division Equations pp. 291-293 **Objective** To solve multiplication and division equations	**1, 2, 6, 8**	1 Day	**division property of equality** **multiplication property of equality**		Re-teach, Practice, Challenge, Problem Solving 13.2 Worksheets Transparency 13.2 **Intervention,** *Skill 51* **Harcourt Mega Math Ice Station Exploration,** *Arctic Algebra*

13.3 Use Formulas pp. 294-297 **Objective** To use formulas to solve problems	**1, 2, 4, 5, 6, 8, 9, 10**	1 Day	*Review* formula		Re-teach, Practice, Challenge, Problem Solving 13.3 Worksheets Transparency 13.3 Scaffolded Instruction Transparency 13 **Intervention,** *Skill 50*
13.4 Problem Solving Strategy: Work Backward pp. 298-299 **Objective** To use the strategy *work backward* to solve problems	**1, 2, 6**	1 Day		Calculator	Re-teach, Practice, Challenge, Reading Strategy 13.4 Worksheets Transparency 13.4 Problem Solving Think Along, p. TR1 **Intervention – Problem Solving,** *Strategy/Skill 10*
13.5 Inequalities pp. 300-303 **Objectives** To use inequality symbols and to solve inequalities	**1, 2, 4, 6, 8**	1 Day	**inequality**	*For each student* algebra tiles or paper rectangles and squares	Re-teach, Practice, Challenge, Problem Solving 13.5 Worksheets Transparency 13.5

Chapter 14 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
14.1 Problem Solving Strategy: *Find a Pattern* pp. 310-311 **Objective** To solve problems by using the strategy *find a pattern*	**1, 2, 6**	1 Day	*Review* pattern	Calculator	Re-teach, Practice, Challenge, Read Strategy 14.1 Worksheets Transparency 14.1 Problem Solving Think Along, p. TR1 Scaffolded Instruction Transparency 14 **Intervention Skills – Problem Solving,** *Strategy/Skill 11*
14.2 Patterns in Sequences pp. 312-314 **Objective** To recognize, describe, and extend patterns in sequences	**1, 2, 3, 6, 7, 8**	1 Day	**triangular number sequence term**		Re-teach, Practice, Challenge, Problem Solving 14.2 Worksheets Transparency 14.2 **Intervention,** *Skill 3* **Harcourt Mega Math The Number Games,** *Tiny's Think Tank* **Math Jingles CD 5-6**
14.3 Number Patterns and Functions pp. 315-318 **Objective** To write an equation to represent a function	**1, 2, 6, 7, 8**	1 Day	**function**		Re-teach, Practice, Challenge, Problem Solving 14.3 Worksheets Transparency 14.3 **Intervention,** *Skill 54*
14.4 Geometric Patterns pp. 319-321 **Objective** To recognize, describe, and extend patterns of geometric figures	**3, 6, 8**	1 Day	**fractal iteration**		Re-teach, Practice, Challenge, Problem Solving 14.4 Worksheets Transparency 14.4 **Harcourt Mega Math The Number Games,** *Tiny's Think Tank*

Chapter 15 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
15.1 Points, Lines, and Planes pp. 336-337 **Objective** To describe figures by using the terms of geometry	**3, 6, 8**	1 Day	**line segment** **ray**		Re-teach, Practice, Challenge, Problem Solving 15.1 Worksheets Transparency 15.1
15.2 Math Lab: Angles pp. 338-339 **Objective** To name, measure, and draw angles	**3, 4, 8**		**vertex** *Review* angle	*For each student* protractor, straight-edge, scissors	**Intervention,** *Skill 32*
15.3 Angle Relationships pp. 340-343 **Objective** To understand the relationships of angles	**3, 4, 6, 7, 8**	2 Days (For Lessons 15.2 & 15.3)	**vertical angles** **congruent** **adjacent angles** **complementary angles** **supplementary angles**		Re-teach, Practice, Challenge, Problem Solving 15.3 Worksheets Transparency 15.3 Scaffolded Instruction Transparency 15 **Intervention,** *Skill 32*
15.4 Lines and Angles pp. 344-347 **Objective** To classify pairs of lines and pairs of angles	**3, 6, 8, 9**	1 Day	**parallel lines** **intersecting lines** **perpendicular lines** **skew lines** **transversal** **interior angles** **alternate exterior angles** **corresponding angles**		Re-teach, Practice, Challenge, Problem Solving 15.4 Worksheets Transparency 15.4 **Intervention,** *Skill 32*
Chapter 16 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
16.1 Polygons pp. 354-355 **Objective** To name and classify polygons	**1, 3, 6, 7, 8, 9**	1 Day	**polygon** **vertex** **decagon** ***n*-gon**		Re-teach, Practice, Challenge, Problem Solving 16.1 Worksheets Transparency 16.1 **Intervention,** *Skill 34*
16.2 Triangles pp. 356-359 **Objective** To classify triangles and solve problems involving the angle measures of triangles	**1, 2, 3, 6, 7, 8**	2 Day	**acute triangle** **obtuse triangle** **right triangle** **equilateral triangle** **isosceles triangle** **scalene triangle**		Re-teach, Practice, Challenge, Problem Solving 16.2 Worksheets Transparency 16.2 **Math Jingles CD 5-6** **Intervention,** *Skills 34, 48* **Harcourt Mega Math Ice Station Exploration,** *Polar Planes*
16.3 Problem Solving Strategy: ***Find a Pattern*** pp. 360-361 **Objective** To use the strategy *find a pattern* to solve problems	**1, 3, 6, 7, 8**	1 Day	**regular polygon**		Re-teach, Practice, Challenge, Reading Strategy 16.3 Worksheets Transparency 16.3 Problem Solving Think Along, p. TR1 Intervention-Problem Solving, *Strategy/Skill 12* **Intervention,** *Skill 34*

16.4 Quadrilaterals pp. 362-365 **Objective** To identify, classify, and compare quadrilaterals	**1, 3, 6, 7, 8, 9**	1 Day	*Review* quadrilateral		Re-teach, Practice, Challenge, Problem Solving 16.4 Worksheets Transparency 16.4 **Intervention,** *Skill 34* **Harcourt Mega Math Ice Station Exploration,** *Polar Planes*
16.5 Draw Plane Figures pp. 366-367 **Objective** To draw plane geometric figures	**3, 6, 7, 8**	1 Day	*Review* isosceles triangle	*For each student* square dot paper, isometric dot paper	Re-teach, Practice, Challenge, Problem Solving 16.5 Worksheets Transparency 16.5 **Intervention,** *Skill 34*
16.6 Circles pp. 368-369 **Objective** To identify and draw parts of circles	**1, 3, 4, 6, 7, 8, 10**	1 Day	**radius** **diameter** **chord**	*For each student* compass, straight-edge	Re-teach, Practice, Challenge, Problem Solving 16.6 Worksheets Transparency 16.6 Scaffolded Instruction Transparency 16

Chapter 17 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
17.1 Congruent Segments and Angles pp. 376-379 **Objective** To identify and construct congruent line segments and angles	**3, 4, 6, 8, 9, 10**	1 Day	**congruent**	*For each student* compass, straight-edge, and protractor	Re-teach, Practice, Challenge, Problem Solving 17.1 Worksheets Transparency 17.1
17.2 Bisect Line Segments and Angles pp. 380-382 **Objective** To bisect line segments and angles	**3, 4, 6, 8**	1 Day	**bisect** **midpoint** **perpendicular bisector**	*For each Student* compass and straight-edge	Re-teach, Practice, Challenge, Problem Solving 17.2 Worksheets Transparency 17.2 Scaffolded Instruction Transparency 17
17.3 Math Lab: Construct Parallel Lines pp. 383 **Objective** To construct parallel lines	**3, 8, 9**	1 Day		*For each student* compass and straight-edge	
17.4 Similar and Congruent Figures pp. 384-387 **Objective** To identify and construct similar and congruent figures	**3, 6, 7, 8**	1 Day	**similar figures**	*For each student* congruent paper squares, ruler, scissors, grid paper	Re-teach, Practice, Challenge, Problem Solving 17.4 Worksheets Transparency 17.4 **Intervention,** *Skill 35* **Harcourt Mega Math Ice Station Exploration,** *Polar Planes* **Math Jingles CD 5-6**

Chapter 18 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
18.1 Transformation of Planes and Figures pp. 394-396 **Objective** To use translations, rotations, and reflections to transform geometric shapes	**3, 6, 7, 8, 9, 10**	1 Day	**transformation** **translation** **rotation** **reflection**		Re-teach, Practice, Challenge, Problem Solving 18.1 Worksheets Transparency 18.1 **Intervention,** *Skill 38* **Math Jingles CD 5-6**
18.2 Tessellations pp. 397-399 **Objective** To use polygons to make tessellations and to make figures for tessellations	**3, 6, 7, 8, 10**	1 Day	**tessellation**	*For each student* pattern blocks, colored pencils or markers, paper, scissors, tape	Re-teach, Practice, Challenge, Problem Solving 18.2 Worksheets Transparency 18.2 **Intervention,** *Skill 38* **Harcourt Mega Math Ice Station Exploration,** *Polar Planes*
18.3 Problem Solving Strategy: ***Make a Model*** pp. 400-401 **Objective** To use the strategy *make a model* to solve problems that involve transformations	**3, 4, 5, 6, 7, 8, 10**	1 Day	*Review* transformation rotation reflection translation congruent	Calculator	Re-teach, Practice, Challenge Reading Strategy 18.3 Worksheets Transparency 18.3 Scaffolded Instruction Transparency 18 Problem Solving-Think Along, p. TR1 **Intervention – Problem Solving,** *Strategy/Skill 38* **Math Jingles CD 5-6**
18.4 Symmetry pp. 402-405 **Objective** To identify line symmetry and rotational symmetry	**3, 6, 7, 8, 9, 10**	2 Days	**line symmetry** **line of symmetry** **rotational symmetry** **point of rotation** *Review* regular polygons		Re-teach, Practice, Challenge, Problem Solving 18.4 Worksheets Transparency 18.4 **Intervention,** Skill 37 **Harcourt Mega Math Ice Station Exploration,** *Polar Planes*
Chapter 19 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
19.1 Algebra: Customary Measurements pp. 420-422 **Objective** To convert between customary units of measure	**1, 2, 4, 6, 8**	1 Day			Re-teach, Practice, Challenge, Problem Solving 19.1 Worksheets Transparency 19.1 Scaffolded Instruction Transparency 19 **Intervention,** *Skill 52* **Harcourt Mega Math The Number Games,** *Tiny's Think Tank*
19.2 Algebra: Metric Measurements pp. 423-425 **Objective** To convert between metric units of measure	**1, 2, 4, 6, 7, 8, 10**	1 Day			Re-teach, Practice, Challenge, Problem Solving 19.2 Worksheets Transparency 19.2 **Intervention,** *Skill 21* **Harcourt Mega Math The Number Games,** *Tiny's Think Tank* **Math Jingles CD 5-6**

19.3 Relate Customary and Metric pp. 426-427 **Objective** To estimate conversions between metric and customary units of measurement	**1, 2, 4, 6, 8**	1 Day			Re-teach, Practice, Challenge, Problem Solving 19.3 Worksheets Transparency 19.3
19.4 Appropriate Tools and Units pp. 428-431 **Objective** To measure to a give degree of precision by using the appropriate mathematical tools and units of measure	**1, 4, 5, 6, 7, 8**	1 Day	**precision**		Re-teach, Practice, Challenge, Problem Solving 19.4 Worksheets Transparency 19.4 **Harcourt Mega Math Ice Station Exploration,** *Linear Lab*
19.5 Math Lab: Compare Measurements pp. 432-433 **Objective** To measure objects and compare the measurements	**4, 5, 8, 9**	1 Day		*For each group* pen, pencil, eraser, chalk, 2 different sized containers, customary and metric ruler, spring scale, balance, customary and metric measuring cups, rice	Re-teach, Practice, Challenge, Problem Solving 19.5 Worksheets Transparency 19.5 **Intervention,** *Skills 1, 15, 23*
19.6 Problem Solving Skill: *Estimate or Find Exact Answer* pp. 434-435 **Objective** To decided when to estimate and when to find an exact answer	**1, 4, 5, 6, 7**	1 Day		Calculator	Re-teach, Practice, Challenge, Reading Strategy 19.6 Worksheets Transparency 19.6 **Intervention-Problem Solving,** *Strategy/Skill 14* Problem Solving Think Along, p. TR1

Chapter 20 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
20.1 Math Lab: Estimate Perimeter pp. 442 **Objective** To estimate perimeter	**1, 4, 7, 8**			*For each student* metric ruler, string, perimeter map	**Intervention,** *Skill 28*
20.2 Perimeter pp. 443-445 **Objective** To find the perimeter of a polygon	**1, 2, 3, 4, 6, 8**	2 Days (For Lessens 20.1 & 20.2)		Calculator	Re-teach, Practice, Challenge, Problem Solving 20.2 Worksheets Transparency 20.2 **Intervention,** *Skill 28*
20.3 Problem Solving Strategy: *Draw a Diagram* pp. 446-447 **Objective** To use the strategy *draw a diagram* to solve problems	**2, 6, 10**	1 Day		Calculator	Re-teach, Practice, Challenge, Reading Strategy 20.3 Worksheets Transparency 20.3 Scaffolded Instruction Transparency 20 **Intervention-Problem Solving,** *Strategy/Skill 15* Problem Solving Think Along p. TR1

20.4 Circumference pp. 448-451 **Objective** To find the circumference of a circle	**1, 2, 3, 4, 6, 7, 8, 9**	1 Day	**circumference** **pi** *Review* diameter radius	Calculator	Re-teach, Practice, Challenge, Problem Solving 20.4 Worksheets Transparency 20.4 **Intervention,** *Skill 18, 25*

Chapter 21 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
21.1 Estimate and Find Area pp. 458-461 **Objective** To estimate and find the areas of rectangles and triangles	**1, 2, 3, 4, 6, 7, 8**	1 Day	**area**		Re-teach, Practice, Challenge, Problem Solving 22.1 Worksheets Transparency 22.1 Scaffolded Instruction Transparency 21 **Intervention,** *Skill 17, 50* **Harcourt Mega Math Ice Station Exploration,** *Artic Algebra*
21.2 Algebra: Areas of Parallelograms and Trapezoids pp. 462-464 **Objective** To find the areas of parallelogram and trapezoids	**1, 2, 3, 4, 6, 7, 8, 10**	1 Day		*For each student* scissors, graph paper	Re-teach, Practice, Challenge, Problem Solving 21.2 Worksheets Transparency 21.2 **Intervention,** *Skills 17, 50*
21.3 Math Lab: Area of a Circle p. 465 **Objective** To find the area of a circle	**1, 2, 3, 4, 8, 10**			*For each student* compass, scissors	**Intervention,** *Skills 17, 50*
21.4 Algebra: Areas of Circles pp. 466-467 **Objective** To use a formula to find the area of a circle	**1, 2, 3, 4, 6, 8**				
21.5 Changing Dimensions pp. 468-471 **Objective** To show how the perimeter and areas of figures change as the dimensions change	**1, 2, 3, 6, 8, 9, 10**	1 Day		*For each student* rectangular sheet of paper, ruler, large paper isosceles triangle, scissors	Re-teach, Practice, Challenge, Problem Solving 21.5 Worksheets Transparency 21.5 Intervention, Skill 50

Chapter 22 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
22.1 Types of Solid Figures pp. 486-488 **Objective** To name solid figures	**3, 6, 7, 8**	1 Day	**polyhedron** **lateral faces** **bases** **vertex** *Review* pyramid	*For each student* isometric dot paper, colored pencils	Re-teach, Practice, Challenge, Problem Solving 22.1 Worksheets Transparency 22.1 **Intervention,** *Skill 41* **Harcourt Mega Math Ice Station Exploration,** *Frozen Solids* **Math Jingles CD 5-6**

22.2 View of Solid Figures pp. 489-491 **Objective** To draw and identify different views of a solid	**3, 6, 8**	2 Days (For Lessons 22.2 & 22.3)		*For each student* cylinder, centimeter cubes, centimeter graph paper	Re-teach, Practice, Challenge, Problem Solving 22.2 Worksheets Transparency 22.2 **Intervention,** *Skill 41* **Harcourt Mega Math Ice Station Exploration,** *Frozen Solids*
22.3 Math Lab: Models of Solid Figures pp. 492-493	**3, 8**		**net**	*For each student* 4X6" index cards, inch ruler, tape, scissors, protractor, patterns for cylinder and cone, graph paper	**Intervention,** *Skill 41* **Harcourt Mega Math Ice Station Exploration,** *Frozen Solids*
22.4 Problem Solving Strategy: ***Solve a Simpler Problem*** pp. 494-495 **Objective** To use strategy *solve a simpler problem* to solve problems	**1, 2, 3, 5, 6, 8**	1 Day			Re-teach, Practice, Challenge, Reading Strategy 22.4 Worksheets Transparency 22.4 Scaffolded Instruction Transparency 22 Problem Solving Think Along p. TR1 **Intervention – Problem Solving,** *Strategy/Skill 16* **Intervention,** *Skill 40*

Chapter 23 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
23.1 Algebra: Surface Area pp. 502-505 **Objective** To find the surface areas of prisms, pyramids, and cylinders	**1, 2, 3, 4, 6, 7, 8**	1 Day	**surface area** *Review* cylinder		Re-teach, Practice, Challenge, Problem Solving 23.1 Worksheets Transparency 23.1 **Intervention,** *Skills 29, 30*
23.2 Estimate and Find pp. 506-509 **Objective** To estimate and find the volume of rectangular prisms and triangular prisms	**1, 2, 3, 4, 6, 7, 8, 9**	1 Day	**volume**	*For each student* rectangular prisms net, scissors, tape, 30 centimeter cubes	Re-teach, Practice, Challenge, Problem Solving 23.2 Worksheets Transparency 23.2 **Intervention,** *Skill 29* **Harcourt Mega Math Ice Station Exploration,** *Artic Algebra*
23.3 Problem Solving Strategy: ***Make a Model*** pp. 510-511 **Objective** To use the strategy *make a model* to solve problems	**1, 6, 10**	1 Day		Calculator	Re-teach, Practice, Challenge, Reading Strategy 23.3 Worksheets Transparency 23.3 Problem Solving Think Along, p. TR1 **Intervention-Problem Solving,** *Strategy/Skill 17*
23.4 Algebra: Volumes of Pyramids pp. 512-513 **Objective** To use a formula to find the volumes of pyramids	**1, 2, 3, 4, 6, 8**	1 Day		*For each student* open prism, open pyramid pattern, tape, rice	Re-teach, Practice, Challenge, Problem Solving 23.4 Worksheets Transparency 23.4 Scaffolded Instruction Transparency 23 **Intervention,** *Skill 29*

23.5 Math Lab: Volume of a Cylinder pp. 514 **Objective** To use manipulatives to find the volume of a cylinder	**4, 8**			*For each student* 2 sheets of centimeter graph paper, scissors, tape	
23.6 Algebra: Volumes of Cylinders pp. 515-517 **Objective** To find the volume of a cylinder	**1, 2, 4, 6, 8**	2 Days (For Lessons 23.5 & 23.6)			Re-teach, Practice, Challenge, Problem Solving 23.6 Worksheets Transparency 23.6 **Intervention**, *Skill 30*

Chapter 24 Planer

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
24.1 Ratios and Rates pp. 532-534 **Objective** To write ratios and rates and to find unit rates	**1, 2, 6, 7, 8**	1 Day	**ratio** **equivalent ratios** **rate** **unit rate**		Re-teach, Practice, Challenge, Problem Solving 24.1 Worksheets Transparency 24.1 **Intervention**, *Skill 11*
24.2 Math Lab: Algebra-Explore Proportions pp. 535 **Objective** To find equivalent ratios to form a proportion	**1, 2, 5, 8, 10**		**proportion**	*For each group* two-color counters	**Intervention,** *Skill 11*
24.3 Algebra: Solve Proportions pp. 536-537 **Objective** To write and solve proportions	**1, 2, 10**	1 Day (For Lessons 24.2 & 24.3)	*Review* proportion	Calculator	Re-teach, Practice, Challenge, Problem Solving 24.3 Worksheets Transparency 24.3 **Intervention**, *Skill 54*
24.4 Algebra: Ratios and Similar Figures pp. 538-541 **Objective** To use ratios to identify similar figures	**1, 2, 3, 4, 6, 7, 8, 9, 10**	1 Day	**corresponding sides** **corresponding angles** *Review* similar figures	*For each student* metric ruler	Re-teach, Practice, Challenge, Problem Solving 24.4 Worksheets Transparency 24.4 **Intervention,** *Skills 36, 54*
24.5 Algebra: Proportions and Similar Figures pp. 542-544 **Objective** To use proportions and similar figures to find unknown measures	**1, 2, 3, 4, 6, 7, 8, 9, 10**	1 Day	**indirect measurement** *Review* proportion		Re-teach, Practice, Challenge, Problem Solving 24.5 Worksheet Transparency 24.5 **Intervention**, *Skill 54*
24.6 Algebra: Scare Drawings pp. 545-547 **Objective** To use scale to find the dimensions for a drawing or the actual dimensions of an object	**1, 2, 3, 4, 6, 8, 9, 10**	1 Day	**scale drawing** **scale**	*For each student* centimeter graph paper, metric ruler	Re-teach, Practice, Challenge, Problem Solving 24.6 Worksheet Transparency 24.6 Scaffolded Instruction Transparency 21 **Intervention,** *Skill 54*
24.7 Algebra: Maps pp. 548-549 **Objective** To read and use map scales	**1, 2, 4, 6, 7, 8, 10**	1 Day			Re-teach, Practice, Challenge, Problem Solving 24.7 Worksheets Transparency 24.7 **Intervention**, *Skill 54*

Chapter 25 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
25.1 Percent pp. 556-557 **Objective** To write ratios as percents and express parts of a whole area as percents	**1, 2, 6, 8**	1 Day			Re-teach, Practice, Challenge, Problem Solving 25.1 Worksheets Transparency 25.1
25.2 Percent, Decimals, and Fractions pp. 558-561 **Objective** To convert among percents, decimals, and fractions	**1, 6, 8**	1 Day	*Review* percent	Calculator	Re-teach, Practice, Challenge, Problem Solving 25.2 Worksheets Transparency 25.2 **Intervention,** *Skill 24* **Math Jingles CD 5-6**
25.3 Estimate and Find Percent of a Number pp. 562-565 **Objective** To estimate and find a percent of a number	**1, 2, 6, 7, 8, 9**	2 Days (For Lessons 25.3 & 25.4)		*For each group* two-color counter or colored paper squares	Re-teach, Practice, Challenge, Problem Solving 25.3 Worksheets Transparency 25.3 **Intervention,** *Skill 24*
25.4 Math Lab: Construct Circle Graphs pp. 566-567 **Objective** To construct circle graphs	**1, 2, 5, 8**			*For each student* compass, protractor, straight-edge	
25.5 Discount and Sales Tax pp. 568-571 **Objective** To solve problems involving discounts and sales tax	**1, 2, 6, 7, 8**	1 Day	**discount** **sales tax**		Re-teach, Practice, Challenge, Problem Solving 25.5 Worksheets Transparency 25.5 **Harcourt Mega Math The Number Games,** *Buggy Bargains* Scaffolded Instruction Transparency 25
25.6 Simple Interest pp. 572-573 **Objective** To find simple interest	**1, 4, 6, 7, 8**	1 Day	**principal** **simple interest**	*For each group* 12 index cards	Re-teach, Practice, Challenge, Problem Solving 25.6 Worksheets Transparency 25.6 **Intervention,** *Skill 24*
Chapter 26 Planner					
Lesson	**NCTM standards**	**Pacing**	**Vocabulary**	**Materials**	**Resources and technology**
26.1 Theoretical Probability pp. 580-583 **Objective** To find the theoretical probability of an event	**1, 5, 6, 7, 8**	1 Day	**outcome** **sample space** **theoretical probability**		Re-teach, Practice, Challenge, Problem Solving 26.1 Worksheets Transparency 26.1 **Intervention, Skills** *13, 27, 65* **Harcourt Mega Math Fraction Action,** *Last Chance Canyon* **Math Jingles CD 5-6**

26.2 Problem Solving Skill: *Too Much or Too Little Information* pp. 584-585 **Objective** To use the skill *too much or too little information* to solve problems	**1, 5, 6**	1 Day		Calculator	Re-teach, Practice, Challenge, Reading Strategy 26.2 Worksheets Transparency 26.2 Scaffolded Instruction Transparency 26 **Intervention-Problem Solving,** *Strategy/Skill 18* Problem Solving Think Along, p. TR1
26.3 Odds pp. 586-587 **Objective** To find the odds in favor of an event and the odds against an event	**1, 5, 6, 7, 10**	1 Day	**odds in favor of an event** **odds against an event**		Re-teach, Practice, Challenge, Problem Solving 26.3 Worksheets Transparency 26.1
26.4 Math Lab: Simulations pp. 58-589 **Objective** To use a simulation to model an experiment	**1, 5, 8**			*For each pair* 5-section spinner, calculator	**Intervention,** *Skill 13*
26.5 Experimental Probability pp. 590-593 **Objective** To find the experimental probability of an event	**1, 5, 6, 8, 9**	1 Day (For Lessons 26.4 & 26.5)	**experimental probability**		Re-teach, Practice, Challenge, Problem Solving 26.5 Worksheet Transparency 26.5 **Intervention,** *Skill 13, 27* **Harcourt Mega Math Fraction Action,** *Last Chance Canyon*

Chapter 27 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
27.1 Problem Solving Strategy: *Make an Organized List* pp. 600-601 **Objective** To use the strategy *make an organized list* to solve problems	**5, 6, 8, 10**	1 Day		Calculator	Re-teach, Practice, Challenge, Reading Strategy 27.1 Worksheets Transparency 27.1 **Intervention – Problem Solving,** *Strategy/Skill 19* Problem Solving Think Along, p. TR1
27.2 Compound Events pp. 602-604 **Objective** To find all possible outcomes for compound events	**5, 6, 8, 10**	1 Day	**compound event** **tree diagram** **fundamental counting principle**		Re-teach, Practice, Challenge, Problem Solving 27.2 Worksheet Transparency 27.2 Scaffolded Instruction Transparency 27 **Harcourt Mega Math Fraction Action,** *Last Chance Canyon*
27.3 Permutations and Combinations pp. 605-607 **Objective** To find the number of permutations and combinations of a set of items	**5, 6, 8, 10**	1 Day	**permutation** **combination**		Re-teach, Practice, Challenge, Problem Solving 27.3 Worksheets Transparency 27.3

27.4 Independent and Dependent Events pp. 608-611 **Objective** To identify and find probabilities of dependent and independent events	**1, 5, 6, 7, 8, 10**		**independent events** **dependent events**		Re-teach, Practice, Challenge, Problem Solving 27.4 Worksheets Transparency 27.4 **Intervention**, *Skill 18* **Harcourt Mega Math** **Fraction Action**, *Last Chance Canyon*
27.5 Make Predictions pp. 612-613 **Objective** To use sample data to make predictions about a population	**1, 2, 5, 6, 8**	1 Day (For Lessons 27.4 & 27.5)	*Review* population sample		Re-teach, Practice, Challenge, Problem Solving 27.5 Worksheets Transparency 27.5 **Intervention**, *Skill 55* **Harcourt Mega Math** **Fraction Action**, *Last Chance Canyon*

Chapter 28

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
28.1 Understand Integers pp. 628-629 **Objective** To identify integers and to find absolute value	**1, 2, 6, 7, 8**	1 Day	**integers** **opposites** **positive integers** **negative integers** **absolute value** *Review* negative		Re-teach, Practice, Challenge, Problem Solving 28.1 Worksheets Transparency 28.1 Scaffolded Instruction Transparency 28 **Intervention,** *Skills 31, 56* **Math Jingles CD 5-6**
28.2 Rational Numbers pp. 630-633 **Objective** To classify rational numbers and to find another rational number between two rational numbers	**1, 2, 6, 8**	2 Days	**rational number** **Venn diagram**		Re-teach, Practice, Challenge, Problem Solving 28.2 Worksheets Transparency 28.2 **Harcourt Mega Math** **Fraction Action,** *Number Line Mine*
28.3 Compare and Order Rational Numbers pp. 634-635 **Objective** To compare and order rational numbers	**1, 2, 6, 8**	1 Day			Re-teach, Practice, Challenge, Problem Solving 28.3 Worksheets Transparency 28.3 **Intervention,** *Skill 15*
28.4 Problem Solving Strategy: *Use logical Reasoning* pp. 636-637 **Objective** To solve problems by using *logical reasoning*	**1, 6, 7**	1 Day			Re-teach, Practice, Challenge, Reading Strategy 28.4 Worksheets Transparency 28.4 Problem Solving Think Along. p. TR1 **Intervention-Problem Solving,** *Strategy/Skill 20*

Chapter 29 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
29.1 Math Lab: Model Addition of Integers pp.644-645 **Objective** To use two-color counters to add integers	**1, 2, 8, 10**		**additive inverse**	*For each pair*15 two-color counters	**Intervention**, *Skills 57, 58*

29.2 Add Integers pp. 646-649 **Objective** To add integers	**1, 2, 6, 8**	2 Days (For Lessons 29.1 and 29.2)	*Review* integer absolute value		Re-teach, Practice, Challenge, Problem Solving 29.2 Worksheets Transparency 29.2 **Intervention,** *Skills 57, 58* **Harcourt Mega Math** **Fraction Action,** *Number Line Mine* **Math Jingles CD 5-6**
29.3 Math Lab: Model Subtraction of Integers pp. 650-651 **Objective** To use two-color counters to subtract integers	**1, 2, 8, 10**			*For each group* 25 two-color counters	**Intervention,** *Skills 57,58* **Harcourt Mega Math** **Fraction Action,** *Number Line Mine*
29.4 Subtract Integers pp. 652-653 **Objective** To subtract integers	**1, 2, 6, 8**	1 Day (For Lessons 29.3 & 29.4)			Re-teach, Practice, Challenge, Problem Solving 29.4 Worksheets Transparency 29.4 **Intervention,** *Skills 57, 58* **Harcourt Mega Math** **Fraction Action,** *Number Line Mine* **Math Jingles CD 5-6**
29.5 Multiply and Divide Integers pp. 654-657 **Objective** To multiply and divide integers	**1, 2, 6, 8**	1 Day		*For each group* 12 two-color counters	Re-teach, Practice, Challenge, Problem Solving 29.5 Worksheets Transparency 29.5 Scaffolded Instruction Transparency 29 **Intervention,** *Skill 5* **Harcourt Mega Math** **Fraction Action,** *Number Line Mine*
29.6 Explore Operations with Rational Numbers pp. 658-661 **Objective** To add, subtract, multiply, and divide with rational numbers	**1, 2, 6, 7, 8, 9, 10**	1 Day			Re-teach, Practice, Challenge, Problem Solving 29.6 Worksheets Transparency 29.6 **Intervention,** *Skill 5*

Chapter 30 Planner

Lesson	NCTM standards	Pacing	Vocabulary	Materials	Resources and technology
30.1 Graph on the Coordinate Plane pp. 668-671 **Objective** To use an ordered pair to describe a location on the coordinate plane	**2, 3, 6, 8, 9**	1 Day	**coordinate plane** **x-axis** **y-axis** **axes** **quadrants** **origin** **ordered pairs**		Re-teach, Practice, Challenge, Problem Solving 30.1 Worksheets Transparency 30.1 **Intervention,** *Skill 59* **Harcourt Mega Math The Number Games,** *ArachnaGraph* **Math Jingles CD 5-6**

30.2 Graph Functions pp. 672-675 **Objective** To represent functions with ordered pairs, graphs, and equations	**2, 6, 8**	1 Day			Re-teach, Practice, Challenge, Problem Solving 30.2 Worksheets Transparency 30.2 **Intervention,** *Skill 59* **Harcourt Mega Math The Number Games,** *ArachnaGraph*
30.3 Problem Solving Skill: ***Make Generalizations*** pp. 676-677 **Objective** To solve problems by *making generalizations*	**2, 6, 7**	1 Day		Calculator	Re-teach, Practice, Challenge, Reading Strategy 30.3 Worksheets Transparency 30.3 Scaffolded Instruction Transparency 30 **Intervention-Problem Solving,** *Strategy/Skill 21* **Harcourt Mega Math The Number Games,** *ArachnaGraph* Problem Solving Think Along, p. TR1
30.4 Math Lab: Explore Linear and Nonlinear Relationships pp. 678-679 **Objective** To explore linear and nonlinear relationships	**2, 5, 8, 10**	1 Day		*For each student* Square tiles or paper squares, graph paper	**Intervention,** *Skill 59*
30.5 Graph Transformations pp. 680-683 **Objective** To use transformations to change positions of figures on a coordinate plane	**2, 3, 6, 8**	2 Days	*Review* transformation	*For each student* graph paper, scissors	Re-teach, Practice, Challenge, Problem Solving 30.5 Worksheets Transparency 30.5 **Intervention,** *Skill 39* **Harcourt Mega Math Ice Station Exploration,** *Polar Planes* **Math Jingles CD 5-6**

Subject Area: Math Unit 1 **Length of Unit:** 5 Weeks

Instructor: 6th Grade Teacher Graf/Alvis **Topic:** 1

Standard 1: Content Problem Solving

Benchmarks:
1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
1.3 Understand the concept of place value for numbers from the thousands place to the hundred million
1.4 Check reasonability of answers by performing operations & rounding

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
1.1	Chapters 1 thru 4	Represent problem situations in and translate among oral, written, concrete, pictorial, and graphical forms	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
1.3	Chapter 1	Understand the concept of place value for numbers from the thousands place to the hundred million	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
1.4	Chapters 1 thru 4	**Check reasonability of answers by performing operations & rounding**	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math Unit 2 **Length of Unit:** 3 Weeks

Instructor: 6th Grade Teacher Graf/Alvis **Topic:** 2

Standard 5: Probability Statistics

Benchmarks:
5.1 Apply probability concepts and counting rules to determine probability of simple events
5.2 Read and interpret simple tables & graphs to demonstrate understanding and application of measures of central tendency and variability

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
5.1	Chapter 5	Use the basic measures of central tendency (i.e., mode, median, mean) to describe data	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
5.2	Chapter 6	Read, interpret, and design tables, graphs (e.g., stacked bar, double-lines, histogram), and charts	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math Unit 3 **Length of Unit:** 5 Weeks

Instructor: 6th Grade Teacher Graf/Alvis **Topic:** 3

Standard 1: Content Problem Solving

Benchmarks:
1.1 Count, read, write, represent, compare and order numbers in regular, expanded and exponential format
1.2 Understand the concept of equivalent fractions (e.g., for halves, thirds, fourths, eighths, tenths, sixteenths)
1.2 Understand the relationship among factors, multiples, divisors, and products (e.g., prime factorization, greatest common factor, and least common multiple; rules of divisibility for 2, 3, 5, and 10)
1.4 Check reasonability of answers by performing operations & rounding

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
1.1	Chapters 7 thru 10	Represent problem situations in and translate among oral, written, concrete, pictorial, and graphical forms	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
1.2	Chapter 7 thru 10	Understand the concept of equivalent fractions (e.g., for halves, thirds, fourths, eights, tenths, sixteenths) Understand the relationship among factors, multiples, divisors, and products (e.g., prime factorization, greatest common factor, and least common multiple; rules of divisibility for 2, 3, 5, and 10	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
1.4	Chapters 7 thru 10	**Check reasonability of answers by performing operations & rounding**	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math Unit 4 **Length of Unit:** 5 Weeks

Instructor: 6th Grade Teacher Graf/Alvis **Topic:** 4

Standard 2: Algebra
Benchmarks: 2.4 Understand and explore numerical patterns

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
2.4	Chapters 11 thru 14	Understand and apply basic and advanced properties of the concepts of numbers	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math Unit 5 **Length of Unit:** 5 Weeks

Instructor: 6th Grade Teacher Graf/Alvis **Topic:** 5

Standard : Algebra
Benchmarks: 3.1 Identify, classify, and compare geometric figures knowing basic geometric language for shapes
3.2 Describe geometric properties, patterns and relationships (trapezoids, parallelograms, cubes, sphere, and polygon)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
3.1	Chapters 15 thru 16	Understand similarities and differences among various polygons and solid figures	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
3.2	Chapters 17 thru 18	Understand the mathematical concepts of similarity (e.g., scale, proportion) congruency (e.g., points, lines of symmetry)	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math Unit 6 **Length of Unit:** 4 Weeks

Instructor: 6th Grade Teacher Graf/Alvis **Topic:** 6

Standard : Geometry Measurement
Benchmarks: 3.2 Describe geometric properties, patterns and relationships (trapezoids, parallelograms, cubes, sphere, and polygon)
4.1 Identify and use appropriate units of measurement (metric, US)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
3.2	Chapters 20 thru 21	Solve problems involving perimeter (circumference) and area of various shapes (e.g., parallelograms, triangles, circles) and volume	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
4.1	Chapter 19	Use appropriate measurement units and tools (metric and U.S. customary)	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math Unit 7 **Length of Unit:** 3 Weeks

Instructor: 6th Grade Teacher Graf/Alvis **Topic:** 7

Standard : Geometry

Benchmarks:
3.1 Identify, classify, and compare geometric figures knowing basic geometric language for shapes
3.2 Describe geometric properties, patterns and relationships (trapezoids, parallelograms, cubes, sphere, and polygon)
3.3 Apply concepts of perimeter, area, and volume

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
3.1	Chapter 22	Understand similarities and differences among various polygons and solid figures	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
3.2	Chapter 23	Solve problems involving perimeter (circumference) and area of various shapes (e.g., parallelograms, triangles, circles) and volume	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math Unit 8 **Length of Unit:** 2 Weeks

Instructor: 6th Grade Teacher Graf/Alvis **Topic:** 8

Standard 3: Geometry
Benchmarks: 3.2 Describe geometric properties, patterns and relationships (trapezoids, parallelograms, cubes, sphere, and polygon)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
3.2	Chapter 24	Understand the mathematical concepts of similarity (e.g., scale, proportion) congruency (e.g., points, lines of symmetry)	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

Subject Area: Math Unit 9 **Length of Unit:** 3 Weeks

Instructor: 6th Grade Teacher Graf/Alvis **Topic:** 9

Standard 2: Algebra
Benchmarks: 2.2 Solve equations and inequalities
2.4 Understand and explore numerical pattern

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusion/ Provisions
2.2	Chapter 30	Understands basic features of coordinates	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH
2.4	Chapters 28-29	Understand and apply basic and advanced properties of the concepts of numbers	Chapter Test Accelerated Math Alternative Assessments	HOTS, MEDIA, MCGF, GUILD, CS, GS, HGD, CE, SPECIAL, AR, TAG, TECH

Higher Order Thinking Skills (HOTS); Special Education (SPECIAL); Media Information Skills (MEDIA); Technology (TECH); Multi-Cultural Gender Fair (MCGF); Guidance (GUID); Talented and Gifted (TAG); Learning Skills (LS); Communication Skills (CS); Global Studies (GS); Human Growth and Development (HGD); Career Education (CE)

6th Grade
Curriculum Base Measurement
Title I

Standard # 1 Content Problem Solving

1.1. Count, read, write, represent, compare and order numbers in regular, expanded, and exponential format.

1. Coach Martinez brought 18 basketballs for $288. If you bought 5 basketballs at the same price per basketball, what would the total cost be?

A) $16 B) $80 C) $30 D) $90

2. The more a package weighs, the more it costs to mail it. Which of the following weights would cost the <u>most</u> to mail?

A) 30 kilograms B) 300 grams C) 3,000 D) 300 decigrams

3. Evaluate the expression 5

A) 25 B) 10 C) 30 D) 100

4. Which choice is the correct expanded form for 45,679?

A) 4,000 + 5,000 + 600 + 7 + 9
B) 40,000 + 5,000 + 600 + 70 + 9
C) 400,000 + 50,000 + 600 + 70 + 9
D) 4,000 + 500 + 600 + 70 + 9

1.2. Understand the concept of equivalent fractions

1. $\frac{5}{8}$ is equivalent to which of the following fractions?

A) $\frac{5}{10}$ B) $\frac{10}{32}$ C) $\frac{15}{24}$ D) $\frac{1}{2}$

2. $\frac{12}{?} = \frac{1}{3}$

A) 4 B) 24 C) 12 D) 36

3. 3/8 is equivalent to which of the following fractions?

A) 6/ 8 B) 6/ 16 C) 3/ 16 D) 1/4

4. $\frac{2}{6} = \frac{1}{?}$

A) 3 B) 2 C) 4 D) 12

1.3. Classify Numbers by divisibility, order of magnitude.

1. What is the value of the underlined number? 3<u>1</u>,402,674

A) 1 million B) 1 thousand C) 10 million D) 1 millionths

2. Use <, >, or = to make this statement true.

529,387 ____ 529,391

3. Use <, >, or = to make this statement true.

35,943 ____ 35,843

4. What is the value of the underlined number? 345,7<u>6</u>2,898

A) hundreds B) tens C) ten thousands D) ten millions

1.4. Check reasonability of answers by performing operations & rounding.

Estimate the sum or difference by rounding the front digit.

1. 667,184 A) 400,000 B) 500,000 C) 600,000
- <u>249,650</u>

2. 43,643
+ 84,211

A) 120,000 B) 140,000 C) 130,000 D) 150,000

3. 456
x 3

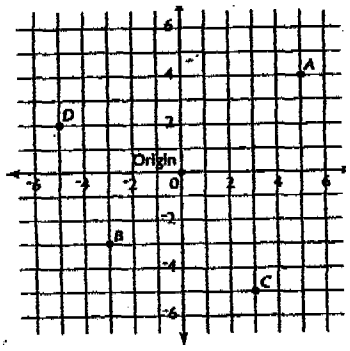
A) 1200 B) 1300 C) 1500 D) 150

4. 1,356
x 41

A) 40,000 B) 50,000 C) 30,000 D) 20,000

Standard 2: Algebra

2.2 Solve equations and inequalities



1. Write the ordered pair for point A. ( )
2. Write the ordered pair for point B. ( )
3. Write the ordered pair for point C. ( )
4. Write the ordered pair for point D. ( )

2.4. Understand and explore numerical patterns

Evaluate the following expressions.

1. $10y - 8y + 22 = ?$ $y = 6$

   A) 34 B) 24 C) 97 D) 20

2. $x - 6 = 10$

   A) 4 B) 16 C) 12 D) 26

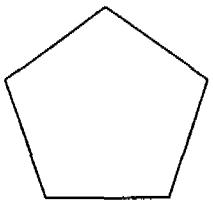
3. d = 44 km t = 2.2 hrs what would be the rate? Use the formula d = r times t.

4. $45 + y = ?$ when Y = 6

   A) 39 B) 50 C) 51 D) 40

#3 Geometry

3.1 Identify, classify, and compare geometric figures knowing basic geometric language for shapes.



1. Classify this geometric shape:

   A) trapezoid B) hexagon C) pentagon D) reptile

2. How many sides, angles, and vertices does a octagon have?

   A) 6 B) 8 C) 5 D) 9

3. How many sides, angles, and vertices does a hexagon have?

   A) 6 B) 8 C) 5 D) 9

4. How many sides, angles, and vertices does a trapezoid have?

   A) 6 B) 8 C) 4 D) 3

2. 4 yards = _____ inches?

A) 144 inches B) 124 inches C) 12 inches D) 4 inches

3. 50 mm = _____ cm?

A) 500 B) 5000 C) 5 D) 0.5

4. 5000 meter = _____km?

A) 1 km B) 50 km C) 5 km D) 500 km

Standard 5: Probability and Statistics

5.1. Apply probability concepts and counting rules to determine probability of simple events.

Using this set of data answer the following questions.

11, 15, 11, 15, 13, 10, 15

1. What is the mean? _____

2. What is the median? _____

3. What is the mode? _____

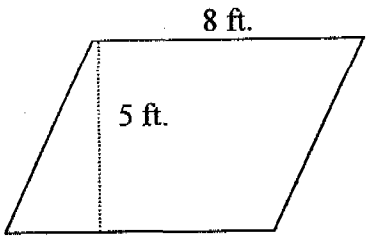
4. What is the range? _____

3.3. Apply concepts of perimeter, area, and volume.

1. What is the perimeter of a square with sides of 3.1 ft?

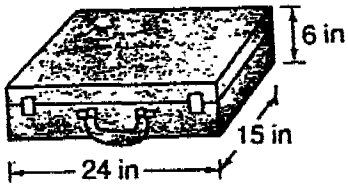
A) 12.4 ft B) 10 ft C) 6.2 ft D) 9.3ft

2. Find the area of this parallelogram. Use formula A = b x h.



A) 48 ft B) 30 ft C) 40 ft D) 240 ft

3. What is the volume of this suitcase?



A) 45 B) 2000 C) 2060 D) 125.6

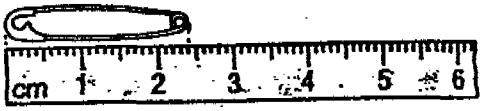
4. What is the perimeter of a rectangle with length of 12 cm and width of 3 cm?

A) 24 cm B) 30cm C) 36cm D) 15cm

#4 Measurement

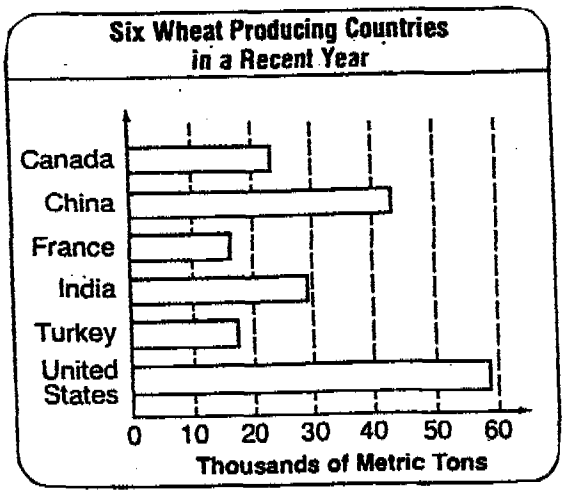
4.1 Identify and use appropriate units of measurement (metric, US)

1. How many centimeters long is this safety pin?



A) 2.4 B) 2.6 C) 1.9 D) 3.4

5.2 Read and interpret simple tables and graphs to demonstrate understanding and application of measures of central tendency and variability.



1. Which country produced about 23,000 metric tons of wheat?

   A) France B) Turkey C) China D) Canada

2. Which country produced about half as much wheat as the United States?

   A) China B) Turkey C) India D) France

3. What two countries produced about the same amount?

   A) Canada, China B) France, India C) France, Turkey

4. How many tons did Russia produce?

   A) 10 tons B) 60 tons C) 40 tons D) not enough information