

**Critical Area: Extending Understanding of Base-Ten Notation**

**Chapter 1 • Number Concepts • Essential Question:** How do you use place value to find the value of numbers and describe numbers in different ways? • **Domains:** Operations and Algebraic Thinking & Number and Operations in Base-ten

Lesson	Standard	Objective	Strategies/Mathematical Content	Model/Tool	Vocabulary	
1.1	Algebra • Even and Odd Numbers	2.OA.3	Classify numbers up to 20 as even or odd.	Arrange cubes/objects in pairs; shade ten-frames in pairs (even numbers) and with left-overs (odd numbers)	Ten Frames; linker cubes; crayons	even, odd, pairs
1.2	Algebra • Represent Even Numbers	2.OA.3	Write equations with equal addends to represent equal numbers.	Arrange cubes/objects in pairs; write an addition sentences for even numbers (equal addends) and odd numbers (two equal addends +1)	cubes/objects; ten frames, crayons	addition sentence, pairs
1.3	Understand Place Value	2.NBT.3	Use place value to describe the values of digits in 2-digit numbers.	Describe the difference between the <i>name</i> of a digit and a the <i>value</i> of a digit in a 2-digit numbers; understand and describe the <i>placement</i> of digits in the ones place and the tens place	Base-ten blocks; quick pictures; place value chart	digits, place, value
1.4	Expanded Form	2.NBT.3	Write 2-digit numbers in expanded form.	Decompose 2-digit numbers into the number of the tens and number of the ones represented; identify the value of the tens digit and the value of the ones digit; write the 2-digit number as an addition sentence of the value of the tens + the value of the ones (expanded form)	Base-ten blocks; place value chart; quick pictures	tens, ones, expanded form
1.5	Different Ways to Write Numbers	2.NBT.3	Write 2-digit numbers in word form, expanded form, and standard form.	Review of lessons 3 and 4 above; refer to number words chart to write 2-digit numbers in word form	Number names chart	
1.6	Algebra • Different Names for Numbers	2.NBT.3	Apply place value concepts to find equivalent representations of numbers.	Decompose 2-digit numbers into the number of the tens and number of the ones represented; exchange a ten for 10 ones to represent the number in a different/equivalent way and record on place value chart and in expanded form	Base-ten blocks; place value chart; quick pictures	equivalent
1.7	Problem Solving • Tens and Ones	2.NBT.3	Solve problems by finding different combinations of tens and ones to represent 2-digit numbers using the strategy <i>find a pattern</i> .	Find all possible combinations of a decomposed 2-digit number; record in graphic organizer and look for/express (describe) a pattern	Place value graphic organizer; quick pictures	equivalent
1.8	Counting Patterns Within 100	2.NBT.2	Extend counting sequences within 1,000, counting by 1s, 5s and 10s.	Count on by 1's, 5's, and 10's to 100; recognize/explain relationships between adjacent numbers (next to, row above, row below)	100 number chart; skip-count models/frames	counting patterns
1.9	Counting Patterns Within 1,000	2.NBT.2	Extend counting sequences within 1,000, counting by 1s, 5s, 10s, and 100s.	Count on by 1's, 5's, and 10's to 1,000; recognize/explain relationships between adjacent numbers (next to, row above, row below)	400 number chart; skip-count models/frames	counting patterns

Chapter 2 • Numbers to 1,000 • Essential Question: How can you use place value to model, write, and compare 3-digit numbers? • Domains: Operations and Algebraic Thinking & Number and Operations in Base-ten						
Lesson	Standard	Objective	Strategies/Mathematical Content	Model/Tool	Vocabulary	
2.1	Group Tens as Hundreds	2.NBT.1a 2.NBT.1b	Understand that each group of 10 tens is equivalent to 1 hundred.	Group ten tens as a hundred; understand a hundred as 10 tens or as 100 ones; count/write hundreds	Picture models	hundred, tens
2.2	Explore 3-Digit Numbers	2.NBT.1	Write 3-digit numbers that are represented by groups of tens.	Group ten tens as a hundred; recognize a hundred(s) and additional tens as a 3-digit number; write the 3-digit number	Picture models	hundred
2.3	Hands On • Model 3-Digit Numbers	2.NBT.1	Use concrete and pictorial models to represent 3-digit numbers.	Use quick pictures and picture models to show hundreds, tens, and ones; write the 3-digit numbers represented by the pictures/models.	Base-ten blocks, quick pictures	
2.4	Hundreds, Tens, and Ones	2.NBT.1	Apply place value concepts to write 3-digit numbers that are represented by pictorial models.	Draw 3-digit numbers as quick pictures, write the 3-digit number represented by the picture/model in place value chart, write the number in expanded form ("the sum of the values of the digits").	Place value chart, quick pictures, picture models	standard form, expanded form ("the sum of the values of the digits")
2.5	Place Value to 1,000	2.NBT.1	Use place value to describe the values of digits in numbers to 1,000.	Identify the value of each digit in a 3-digit number.	Base-ten blocks, place value chart, picture models	value, thousand, digit
2.6	Number Names	2.NBT.3	Read and write 3-digit numbers in word form.	Read/write 3-digit numbers in words (this is a continuation of lesson 1.5)	Number chart (partial 100 chart) (also suggested: number names chart from lesson 1.5)	
2.7	Different Forms of Numbers	2.NBT.3	Write 3-digit numbers in expanded form and in standard form.	Write 3-digit numbers in three ways: place value notation, expanded form, and standard form.	Picture models of place value cards, quick pictures	hundreds, tens, ones
2.8	Algebra • Different Ways to Show Numbers	2.NBT.3	Apply place value concepts to find equivalent representations of numbers.	Decompose numbers; Show/write 3-digit numbers in different ways by regrouping hundreds, tens, and/or ones; <b>[Example: 365 = 3 hundreds, 6 tens, 5 ones and also 3 hundreds, 5 tens, 15 ones and also 2 hundreds, 60 tens, 5 ones ]</b>	Quick pictures, picture models	hundreds, tens, ones, regroup, equivalent
2.9	Count On and Count Back by 10 and 100	2.NBT.8	Identify 10 more, 10 less, 100 more, or 100 less than a given number.	Show/write 10 more and 10 less, 100 more and 100 less; count on and count back by 10 and 100	Quick pictures, place value chart, picture models	less than, more than
2.10	Algebra • Number Patterns	2.NBT.8	Extend number patterns by counting on by tens or hundreds.	Extend number patterns by counting on by 10's and 100's	800 number chart, picture models, skip-count models/frames	pattern
2.11	Problem Solving • Compare Numbers	2.NBT.4	Solve problems involving number comparisons by using the strategy make a model.	Use base-ten blocks and quick pictures to model 3-digit numbers and compare quantities to solve problems.	base-ten blocks, picture models, quick pictures	more, fewer, greater, less
2.12	Algebra • Compare Numbers	2.NBT.4	Compare 3-digit numbers using the $>$ , $=$ , and $<$ symbols.	Compare 3-digit numbers by comparing the value of the digit in the hundreds place, the tens place, and the ones place; complete a number sentence using $<$ , $>$ , or $=$ ; with a given 3-digit number and a comparison symbol, write a 3-digit number that makes the sentence true.	Quick pictures, picture models, place value models	symbol, compare, = is equal to, $>$ is greater than, $<$ is less than

## Critical Area: Building Fluency with Addition and Subtraction

Chapter 3 • Numbers to 1,000 • Essential Question: How can you use patterns and strategies to find sums and differences for basic facts? • Domain: Operations and Algebraic Thinking

Lesson	Standard	Objective	Strategies/Mathematical Content	Model/Tool	Vocabulary
3.1 Use Doubles Facts	2.OA.2	Use doubles facts as a strategy for finding sums for near doubles facts.	Recognize addition problems where the two addends are only one digit apart from each other (near doubles); re-write the problem as a doubles + 1 or a doubles - 1 [ i.e. $5 + 6 = 5 + 5 + 1$ <i>or</i> $6 + 5 = 6 + 6 - 1$ ]	Quick pictures, number sentence frames	sums, doubles, fact
3.2 Practice Addition Facts	2.OA.2	Recall sums for basic facts using properties and strategies.	Practice basic fact retention/recall by using doubles strategies and commutative property.	Quick pictures, number sentence frames	addends
3.3 Algebra • Make a Ten to Add	2.OA.2	Recall sums for addition facts using the make a ten strategy.	Practice basic fact retention/recall by using the <i>break apart</i> and <i>make-a-ten</i> strategies.	Picture models of ten frames, picture models of break-apart process	break apart
3.4 Algebra • Add Three Addends	2.OA.2	Find sums of three addends by applying the Commutative and Associative Properties of Addition.	Add three addends <i>in more than one way</i> using learned strategies: <i>count on</i> , <i>make a ten</i> , <i>doubles</i> and understanding of commutative and associative properties.	Picture models of break-apart process	addends, break apart
3.5 Algebra • Relate Addition and Subtraction	2.OA.2	Use the inverse relationship of addition and subtraction to recall basic facts.	Add 2 one-digit numbers and solve a related subtraction problem; use the bar model to understand how addition and subtraction are related; use this knowledge to recall/retain basic facts [ $8 + 3 = 11$ ; $11 - 3 = 8$ ; $11 - 8 = 3$ ]	bar models	differences, bar model, part-part-whole
3.6 Practice Subtraction Facts	2.OA.2	Recall differences for basic facts using mental strategies.	Solve subtraction problems using <i>count back</i> and knowledge of addition facts ( <i>find the missing addend</i> )	picture models	sums, differences
3.7 Use Ten to Subtract	2.OA.2	Find differences on a number line to develop the mental strategy of decomposing to simplify facts.	Subtract a one-digit number from a 2-digit number using the <i>break-apart</i> and <i>get to a ten</i> strategies and a number line.	number lines	sums, differences
3.8 Algebra • Use Drawings to Represent Problems	2.OA.1	Use bar model to represent a variety of addition and subtraction situations.	Represent addition, subtraction, and comparison problems with a bar model (part-part-whole); solve problems with unknowns in all positions.	bar models, picture models (table)	bar model, comparison subtraction
3.9 Algebra • Use Equations to Represent Problems	2.OA.1	Write equations to represent and solve a variety of addition and subtraction situations.	Use a bar model to unpack a story problems; write number sentences (equations) for addition and subtraction problems with the unknown in all positions; use a symbol for the unknown.	bar model	
3.10 Problem Solving • Equal Groups	2.OA.4	Solve problems involving equal groups by using the strategy act it out.	The <i>act it out</i> strategy involves the use of counters or other manipulatives to "act out" or represent a problem involving equal groups; <i>act out</i> a number problem, then do a quick picture and solve using skip counting pattern.	2-color counters, quick pictures	
3.11 Algebra • Repeated Addition	2.OA.4	Write equations using repeated addition to find the total number of objects in arrays.	The <i>act it out</i> strategy is used again to represent problems involving equal groups; act it out, or model, identify equal groups, write number sentences to show repeated addition (of rows or columns).	2-color counters, quick pictures, picture models	

Chapter 4 • 2-Digit Addition • Essential Question: How do you use place value to add 2-digit numbers, and what are some different ways to add 2-digit numbers? • Domains: Operations and Algebraic Thinking & Number and Operations in Base-ten						
Lesson	Standard	Objective	Strategies/Mathematical Content	Model/Tool	Vocabulary	
4.1	Break Apart Ones to Add	2.NBT.6	Find a sum by breaking apart a 1-digit addend to make a 2-digit addend a multiple of ten.	Break Apart Strategy; Break apart a 1-digit number, make a 2-digit a multiple of ten	Base-ten blocks; quick pictures;	addend
4.2	Using the Compensation Strategy to Add	2.NBT.6	Use compensation to develop flexible thinking for 2-digit addition	Compensation strategy; adding two 2-digit numbers, counting on by tens	Quick pictures	addend, compensation, place, value, digit, tens, ones
4.3	Break Apart Addends as Tens and Ones	2.NBT.6	Apply place value concepts when using a break-apart strategy for 2-digit addition.	Break apart 2-digit numbers and write in them expanded form; add 2-digit addends by adding the tens first, then the ones, then finding the total sum	Expanded form frames	addend, place, value, digit, tens, ones, expanded form
4.4	Model Regrouping for	2.NBT.6,	Model 2-digit addition with regrouping.	Add two 2-digit addends using models and ten frames; regroup the	Base-ten blocks; ten frames;	regroup, addend, place, value,
4.5	Model and Record 2-Digit Addition	2.NBT.6	Draw quick pictures and record 2-digit addition using the standard algorithm.	Addition of two 2-digit numbers using the traditional algorithm; with two addends displayed in vertical format, draw quick pictures to show ones being re-grouped into a ten and ones, the ten placed in the tens column, and the addition completed	Models and frames will depict the two addends in a vertical format	regroup, addend, place, value, digit, tens, ones, exchange
4.6	2-Digit Addition	2.NBT.6	Record 2-digit addition using the standard algorithm.	Addition of two 2-digit numbers using the traditional algorithm; continued practice of the previous lesson	Quick pictures; place value addition frames	regroup, addend, place, value, digit, tens, ones, exchange
4.7	Practice 2-Digit Addition	2.NBT.5	Practice 2-digit addition with and without regrouping.	Additional practice of 2-digit addition using the traditional algorithm including sums that are 3-digit numbers; regroup tens as a hundred and tens	quick pictures; place value addition frames	regroup, addend, place, value, digit, tens, ones, exchange
4.8	Rewrite 2-Digit Addition	2.NBT.5	Rewrite horizontal addition problems vertically in the standard algorithm format.	re-writing numbers from horizontal to vertical; recognizing and using proper placement of numbers according to place value	place value mats or frames	regroup, addend, place, value, digit, hundreds, tens, ones
4.9	Problem Solving with Addition	2.OA.1	Solve problems involving 2-digit addition using the strategy <i>draw a diagram</i> .	Comprehension of word problems involving addition; placement of data into bar model; writing a number sentence with an unknown in all positions	bar models	bar model, part-part-whole
4.10	Writing Equations (Number Sentences) to Represent Addition	2.OA.1	Represent addition situations with number sentences using a symbol for the unknown number (addend or sum).	Use bar model to assist in writing equations; write math sentences with unknowns in all positions; comparing numbers; estimation	bar models	number sentence (equation), part-part-whole
4.11	Finding Sums for 3 Addends	2.NBT.6	Find sums of three 2-digit numbers.	Addition of three 2-digit numbers using the standard algorithm; use various strategies (make a ten, doubles, doubles + one)	quick pictures	regroup, addend, place, value, digit, hundreds, tens, ones
4.12	Finding Sums for 4 Addends	2.NBT.6	Find sums of four 2-digit numbers.	Addition of four 2-digit numbers using the standard algorithm; use various strategies (make a ten, doubles, doubles + one)	quick pictures	regroup, addend, place, value, digit, hundreds, tens, ones

Chapter 5 • 2-Digit Subtraction • Essential Question: How do you use place value to subtract 2-digit numbers with and without regrouping? • Domains: Operations and Algebraic Thinking & Number and Operations in Base-ten						
Lesson	Standard	Objective	Strategies/Mathematical Content	Model/Tool	Vocabulary	
5.1	Break Apart Ones to Subtract	2.NBT.5	Break apart a 1-digit subtrahend to subtract it from a 2-digit number.	Break apart a one-digit number to subtract it from a 2-digit number; use a number line to subtract	Number lines	subtract, difference, tens, ones, digits
5.2	Break Apart Numbers to Subtract	2.NBT.5	Break apart a 2-digit subtrahend to subtract it from a 2-digit number.	Break apart a 2-digit number to subtract it from another 2-digit number (the break apart strategy will be used twice); use a number line to subtract	Number lines	subtract, difference, tens, ones, digits
5.3	Model Regrouping for Subtraction	2.NBT.5, 2.NBT.9	Model 2-digit subtraction with regrouping.	Conceptual understanding: subtraction with regrouping using models	Base-ten blocks; ten frames; quick pictures	subtract, difference, tens, ones, digits, regroup
5.4	Model and Record 2-Digit Subtraction	2.NBT.5	Draw quick pictures and record 2-digit subtraction using the standard algorithm.	Subtraction of 2-digit numbers using the standard algorithm; re-write numbers above the ones and tens columns to show regrouping	Base-ten blocks; quick pictures	subtract, difference, tens, ones, digits, regroup
5.5	2-Digit Subtraction	2.NBT.5	Record 2-digit subtraction using the standard algorithm.	Subtraction of 2-digit numbers using the standard algorithm; re-write numbers above the ones and tens columns to show regrouping	Quick pictures	subtract, difference, tens, ones, digits, regroup
5.6	Practice 2-Digit Subtraction	2.NBT.5	Practice 2-digit subtraction with and without regrouping.	Subtraction of 2-digit numbers using the standard algorithm	Quick pictures	subtract, difference, tens, ones, digits, regroup
5.7	Rewrite 2-Digit Subtraction	2.NBT.5	Rewrite horizontal subtraction problems vertically in the standard algorithm format.	Subtraction of 2-digit numbers using the standard algorithm	Quick pictures; number lines	subtract, difference, tens, ones, digits, regroup
5.8	Add to Find Differences	2.NBT.5	Use addition to find differences.	Solve subtraction problems using addition using a number line, breaking apart numbers, and using place value understanding	Quick pictures; number lines	sums, differences, addends, counting up/on
5.9	Problem Solving with Subtraction	2.OA.1	Solve problems involving 2-digit subtraction using the strategy <i>draw a diagram</i> ; understand how a diagram is helpful.	Comprehension of word problems involving subtraction; placement of data into bar model; using subtraction to compare numbers; writing number sentences	Bar model diagram	bar model, part-part-whole
5.10	Write Equations (number sentences) to Represent Subtraction; solve problems	2.OA.1	Represent subtraction situations with number sentences using a symbol for the unknown number; solve problems	Comprehension of word problems involving subtraction; write number sentences; use variety of strategies to solve problems	Possible: bar model, quick pictures, number line	number sentence (equation)
5.11	Solve Multi-Step Problems	2.OA.1	Analyze word problems to determine what operations to use to solve multi-step problems.	Comprehension of word problems involving addition and subtraction; placement of data into bar model; using addition/subtraction to compare numbers; writing number sentences; solve problems using a variety of strategies	Bar model diagram	part-part-whole

Chapter 6 • 3-Digit Addition and Subtraction • Essential Question: What are some strategies for adding and subtracting 3-digit numbers? • Domain: Number and Operations in Base-ten						
Lesson	Standard	Objective	Strategies/Mathematical Content	Model/Tool	Vocabulary	
6.1	Draw to represent 3-digit Addition	2.NBT.7	Draw quick pictures to represent 3-digit addition	Draw quick pictures for 3-digit addition and solve	Quick pictures, place value models	hundreds, tens, ones
6.2	Break Apart 3-digit Addends	2.NBT.7	Apply place value concepts when using a break-apart strategy for 3-digit addition.	Break apart 3-digit numbers to write them in expanded form; solve; regroup the ones if necessary		addends, sum
6.3	3-digit Addition: Regroup Ones	2.NBT.7	Record 3-digit addition using the standard algorithm with possible regrouping of ones.	Determine when regrouping of ones is necessary; use quick pictures and place value models to show and solve addition problems with regrouping of ones.	Base-ten blocks, quick pictures; place value models	regroup
6.4	3-digit Addition: Regroup Tens	2.NBT.7	Record 3-digit addition using the standard algorithm with possible regrouping of tens.	Determine when regrouping of tens is necessary; use quick pictures and place value models to show and solve addition problems with regrouping of ones or tens.	Base-ten blocks, quick pictures; place value models	regroup
6.5	Addition: Regroup Ones and Tens	2.NBT.7	Record 3-digit addition using the standard algorithm with possible regrouping of both ones and tens.	Use the standard algorithm to add two 3-digit numbers regrouping both ones and tens as needed.		regroup
6.6	Estimation in 3-digit Addition	2.NBT.7.1	Make reasonable estimations in 3-digit addition problems.	Estimate the sum of 2 two 3-digit numbers by using mental math and adding the digits in the hundreds place		estimate
6.7	Problem Solving; 3-Digit Subtraction	2.NBT.7	Solve problems involving 3-digit subtraction by using the strategy <i>make a model</i> .	Use base-ten blocks and quick pictures to model and solve subtraction with 3-digit numbers, using the models to regroup as necessary	Base-ten blocks, quick pictures; place value models	regroup, difference
6.8	3-Digit Subtraction: Regroup Tens	2.NBT.7	Record 3-digit subtraction using the standard algorithm with possible regrouping of tens and ones.	Use base-ten blocks and quick pictures to model and solve subtraction with 3-digit numbers, using the models to regroup tens and ones.	Base-ten blocks, quick pictures; place value models	regroup, difference
6.9	3-Digit Subtraction: Regroup Hundreds	2.NBT.7	Record 3-digit subtraction using the standard algorithm with possible regrouping of hundreds.	Use base-ten blocks and quick pictures to model and solve subtraction with 3-digit numbers, using the models to regroup hundreds, tens and ones.	Quick pictures; place value models	regroup, difference
6.10	Subtraction: Regroup Hundreds and Tens	2.NBT.7	Record 3-digit subtraction using the standard algorithm with possible regrouping of both hundreds and tens.	Subtract 3-digit numbers using the standard algorithm.		regroup, difference
6.11	Regrouping with Zeroes	2.NBT.7	Record subtraction using the standard algorithm when there are zeroes in the minuend.	Practice recording and solving 3-digit subtraction problems when there are zeroes in the minuend.	Quick pictures	regroup, difference
6.12	Estimation in 3-Digit Subtraction	2.NBT.7.1	Find reasonable estimates for differences in 3-digit subtraction problems.	Estimate differences of 3-digit numbers by using the number line and simplifying the numbers as to the nearest hundred.	Number line	estimate

## Critical Area: Measurement and Data

**Chapter 7 • Money and Time • Essential Question:** How do you use the values of coins and bills to find the total value of a group of money, and how do you read times on digital and analog clocks? • **Domain:** Measurement and Data

Lesson	Standard	Objective	Strategies/Mathematical Content	Model/Tool	Vocabulary	
7.1	Money: Dimes, Nickels, Pennies	2.MD.8	Find the total values of collections of dimes, nickels, and pennies.	Identify, compare, discuss values of dime, nickel, penny; draw coins w/ value identification; skip count on by 10's, 5's, and 1's to find the total value of a group of coins; write values using ¢ sign	Play coins (dimes, nickels, pennies); draw pictures	dime, nickel, penny, cent sign ¢
7.2	Money: Quarters	2.MD.8	Find the total values of collections of quarters, dimes, nickels, and pennies.	Identify, compare, discuss values of quarter, dime, nickel, penny; draw pictures of coins; skip count on by 25's, 10's, 5's, and 1's to find the total value of a group of coins (ordered by decreasing value); write values using ¢ sign	Play coins (quarters, dimes, nickels, pennies); draw pictures	quarter, dime, nickel, penny, cent sign ¢
7.3	Money: Count Collections	2.MD.8	Order coins in a collection by value and then find the total value.	Place coins in order from greatest value to least value; draw pictures of coins in order; skip count on by 25's, 10's, 5's, and 1's to find the total value of a group of coins (ordered by decreasing value); write values using ¢ sign	Play coins (quarters, dimes, nickels, pennies); draw pictures	cent sign ¢
7.4	Money: Hands-on - Show amounts in 2 Ways	2.MD.8	Represent money amounts less than a dollar using two different combinations of coins	Use play coins/draw and label coins to show specific amounts in 2 different ways (different coin combinations)	Play coins (quarters, dimes, nickels, pennies); draw pictures	
7.5	Money: One Dollar	2.MD.8	Show one dollar in a variety of ways.	Draw the \$1.00 equivalent in nickels, dimes, quarters; select coins (from a pictorial collection) to equal \$1.00; write dollar sign and decimal point to denote value of one dollar.	Play dollar bills; draw pictures	dollar, dollar sign \$, decimal point
7.6	Money: Amounts Greater than \$1	2.MD.8	Find and record the total value for money amounts greater than \$1.	Count money amounts greater than one dollar by first recognizing the \$1 and then counting the total amount; write total amounts using dollar sign and decimal	Use/draw pictures	dollar, dollar sign \$, decimal point
7.7	Problem Solving - Money	2.MD.8	Solve word problems involving money by using the strategy act it out.	Act out the process of counting out money to determine total amount, solve problems; order money (bills and coins) from greatest to least in counting	Play coins, play bills; <i>act-it-out</i> strategy; draw pictures	quarter, dime, nickel, penny
7.8	Time to the Hour and Half-Hour	2.MD.7	Tell and write time to the hour and half hour.	Using analog clock models, distinguish hour hand from minute hand; understand direction of hand movement; tell time to hour and 1/2 hour; use phrase " <i>half past</i> "; write time in hour and minutes (i.e. 4:00, 4:30); compare analog and digital clocks	Clock models (pictures)	minutes, half past, hour hand, minute hand
7.9	Time to 5 Minutes	2.MD.7	Tell and write time to the nearest five minutes.	Count by 5's to determine the number of minutes <i>after</i> the hour on an analog clock; write time in hour/minutes; compare analog and digital clocks	Clock models (pictures)	hour hand, minute hand, minutes
7.10	Practice Telling Time	2.MD.7	Practice telling time to the nearest five minutes.	Count by 5's to determine the number of minutes <i>after</i> the hour on an analog clock; write time in hour/minutes; compare analog and digital clocks; use terms <i>quarter past</i> and <i>half past</i>	Clock models (pictures)	quarter past, half past
7.11	A.M. and P.M.	2.MD.7	Tell and write time using A.M. and P.M.	Distinguish activities that occur in a.m. and p.m.; recognize that clock hands do not reflect a.m. and p.m.; write times with a.m. and p.m. designation	Clock models (pictures)	noon, midnight, A.M., P.M.
7.12	Units of time	2.MD.7	Understand the relationships between days, weeks, months, and years.	Read and comprehend the text and numbers on a calendar; distinguish days, weeks, months, year and activities/events that might correspond to those time frames	Calendar models (pictures)	calendar, week, year

Chapter 8 • Length in Customary Units • Essential Question: What are some of the methods and tools that can be used to estimate and measure length? • Domain: Measurement and Data						
Lesson	Standard	Objective	Strategies/Mathematical Content	Model/Tool	Vocabulary	
8.1	Hands On • Measure with Inch Models	2.MD.1	Use concrete models to measure the lengths of objects in inches.	Measure the length of picture models using color tiles	1" color tiles, picture models	inch
8.2	Hands On • Make and Use a Ruler	2.MD.1	Make an inch ruler and use it to measure the lengths of objects.	Make a 6" paper ruler using color tiles; use the ruler to measure picture models	1" color tiles, 8" blank paper strips, crayons	inch, length
8.3	Estimate Lengths in Inches	2.MD.3	Estimate the lengths of objects by mentally partitioning the lengths into inches.	Measure real objects with student-made ruler; use picture models of an object and visualize <i>multiples</i> of that object to estimate the length of a corresponding object (i.e. beads on a string)	Small classroom objects; student-made rulers; picture models; visualization	
8.4	Hands On • Measure with an Inch Ruler	2.MD.1	Measure the lengths of objects to the nearest inch using an inch ruler.	Use rulers to measure objects to the nearest inch	Student-made rulers, picture models	nearest
8.5	Problem Solving • Add and Subtract in Inches	2.MD.5 2.MD.6	Solve addition and subtraction problems involving the lengths of objects by using the strategy draw a diagram.	Add and subtract to solve problems involving measurement in inches	Number lines	
8.6	Hands On • Measure in Inches and Feet	2.MD.2	Measure the lengths of objects in both inches and feet to explore the inverse relationship between size and number of units.	Compare non-standard units of measure; compare inches and feet; measure classroom objects in feet and inches; compare inch/foot measurements; determine which unit of measurement is most efficient in a given situation	Large paper clips, sheets of paper, inch rulers; pre-selected classroom objects larger than one-foot in length/height	foot, inches
8.7	Estimate Lengths in Feet	2.MD.3	Estimate the lengths of objects in feet.	use 12" ruler to visualize multiples of the ruler and estimate lengths of objects in feet.	Collection of objects, inch ruler	feet
8.8	Choose a Tool	2.MD.1	Select appropriate tools for measuring different lengths.	Measure different lengths of straight and curved objects, evaluate the tools to determine the best/most efficient tool for each situation	Yarn pieces, 1 yard in length	measuring tape, yardstick, inch ruler
8.9	Display Measurement Data	2.MD.9	Measure the lengths of objects and use a line plot to display the measurement data.	Measure objects with an inch ruler, collect measurement data, record data using a line plot	Inch rulers; differing lengths of 5 different pencils, books, crayons, pieces of ribbon, etc.	line plot, lengths



Chapter 9 • Length in Metric Units • Essential Question: What are some of the methods and tools that can be used to estimate and measure length in metric units? • Domain: Measurement and Data						
Lesson	Standard	Objective	Strategies/Mathematical Content	Model/Tool	Vocabulary	
9.1	Hands On • Measure with a Centimeter Model	2.MD.1	Use a concrete model to measure the lengths of objects in centimeters.	Measure the length of picture models using unit cubes	Unit cubes, picture models	centimeter
9.2	Estimate Lengths in Centimeters	2.MD.3	Estimate lengths of objects in centimeters by comparing them to known lengths.	Estimate the length of objects using a 10 cm. strip as a comparison tool; compare one object with a <i>known</i> measurement, to reasonably estimate the length of the other object with the <i>unknown</i> measurement	10 cm. paper strips, picture models	centimeters
9.3	Hands On • Measure with a Centimeter Ruler	2.MD.1	Measure lengths of objects to the nearest centimeter using a centimeter ruler.	Measure objects with unit cubes, measure picture models with a centimeter ruler	Unit cubes, small classroom objects, centimeter rulers	centimeters
9.4	Problem Solving • Add and Subtract Lengths	2.MD.5 2.MD.6	Solve problems involving adding and subtracting lengths by using the strategy draw a diagram.	Add and subtract to solve problems involving measurement in centimeters	Number lines	centimeters
9.5	Hands On • Centimeters and Meters	2.MD.2	Measure the lengths of objects in both centimeters and meters to explore the inverse relationship between size and number of units.	Compare non-standard units of measure; compare centimeters and meters; measure classroom objects in meters and centimeters; compare centimeter/meter measurements; determine which unit of measurement is most efficient in a given situation	Making tape, meter-long pieces of yarn, sheets of paper	meter
9.6	Estimate Lengths in Meters	2.MD.3	Estimate the lengths of objects in meters.	use 10 cm and 50 cm strips to visualize multiples of the strips and estimate lengths of objects; understand that 100 cm = 1 meter	Pre-selected classroom objects in the 10 cm range and the 50 cm range in length/height; pre-drawn 10 cm strip and 50 cm strip on display; meter stick ?	meter
9.7	Hands On • Measure and Compare Lengths	2.MD.4	Measure and then find the difference in the lengths of two objects.	Measure and record lengths of picture models in cm; compare objects using subtraction to find differences in lengths	Centimeter rulers	centimeters

Chapter 10 • Data • Essential Question: How do tally charts, picture graphs, and bar graphs help you solve problems? • Domain: Measurement and Data						
Lesson	Standard	Objective	Strategies/Mathematical Content	Model/Tool	Vocabulary	
10.1	Collect Data	2.MD.10	Collect data in a survey and record that data in a tally chart.	Record data with tally marks; add/subtract to compare data	Connecting cubes in 3 colors, small opaque bags	survey, data, tally chart, tally marks
10.2	Read Picture Graphs	2.MD.10	Interpret data in picture graphs and use that information to solve problems.	Record data with picture graph where picture/symbol has a value of 1; add/subtract to compare data	Picture models	picture graph, key
10.3	Make Picture Graphs	2.MD.10	Make picture graphs to represent data.	Create/draw picture graphs where picture/symbol has a value of 1; compare tally charts and picture graphs	Connecting cubes in 4 colors, small opaque bags	
10.4	Read Bar Graphs	2.MD.10	Interpret data in bar graphs and use that information to solve problems.	Read horizontal and vertical bar graphs with quantity increments of 1; add/subtract to compare data	Picture models	bar graph, data
10.5	Make Bar Graphs	2.MD.10	Make bar graphs to represent data.	Create/draw bar graphs with quantity increments of 1; label and title bar graphs; add/subtract to compare data	Picture models	title, label
10.6	Problem Solving • Display Data	2.MD.10	Solve problems involving data by using the strategy make a graph.	Answer questions about data by creating (including titling/labeling) and interpreting a bar graph with quantity increments of 1; use addition/subtraction to answer questions about the data	empty bar graph model	

**Critical Area: Geometry and Fractions**

**Chapter 11** • Geometry and Fraction Concepts • **Essential Question:** What are some two-dimensional shapes and three-dimensional shapes, and how can you show equal parts of shapes?  
 • **Domain:** Geometry

Lesson	Standard	Objective	Strategies/Mathematical Content	Model/Tool	Vocabulary	
11.1	Three-Dimensional Shapes	2.G.1	Identify three-dimensional shapes.	Identify three-dimensional shapes: sphere, cube, rectangular prism, cone, cylinder; describe attributes of each shape, especially flat and curved surfaces; identify real-world objects that match those shapes	Set of three-dimensional shapes, quick pictures, picture models	three-dimensional shape (also solid shape), cube, rectangular prism, sphere, cylinder, cone
11.2	Attributes of Three-Dimensional Shapes	2.G.1	Identify and describe three-dimensional shapes according to the number of faces, edges, and vertices.	Identify and count the edges, faces, and vertices of three-dimensional shapes; draw a three-dimensional shape: <b>cube</b>	Picture models, dot paper	face, edge, vertex, vertices
11.3	Build Three- Dimensional Shapes	2.G.1	Children discuss and model with cubes how you can build a rectangular prism.	Build rectangular prisms and record by drawing the top, front, and side views; students use models and drawings to determine the number of layers, rows and total cubes used in the rectangular prisms	Unit cubes, picture models	face, views (front, top, side), rows, layers
11.4	Two-Dimensional Shapes	2.G.1	Name 3-, 4-, 5-, and 6-sided shapes according to the number of sides and vertices.	Draw shapes with 3, 4, 5, and 6 straight sides; understand that the number of sides equals the number of vertices; name triangle, quadrilateral, pentagon, hexagon	rulers/straightedge, dot paper	two-dimensional shape (also called plane shape), side, vertex, vertices, triangle, quadrilateral, pentagon, hexagon
11.5	Angles in Two- Dimensional Shapes	2.G.1	Identify angles in two-dimensional shapes.	Draw shapes with 3, 4, 5, and 6 straight sides; identify angles; understand that the number of sides and vertices equals the number of angles	rulers/straightedge, dot paper	angle, quadrilateral, pentagon, triangle, rectangle, hexagon
11.6	Sort Two-Dimensional Shapes	2.G.1	Sort two-dimensional shapes according to their attributes.	Sort two-dimensional shapes by attributes: sides, angles <i>(Note: Teachers may wish to delay the Explore part of this lesson and include in Lesson 11.8, "Equal Parts" where there seems to be a tighter fit)</i>	pattern blocks; red, blue, green crayons; picture models	sides, angles
11.7	Hands On • Partition Rectangles	2.G.2	Partition rectangles into equal-size squares and find the total number of these squares.	Partition rectangles into equal parts (using square tiles); count rows, columns, and total number of parts/squares/tiles	color tiles, picture models	rectangle, rows, columns
11.8	Equal Parts	2.G.3	Identify and name equal parts of circles and rectangles as halves, thirds, or fourths.	Divide two-dimensional shapes into 2, 3, and 4 equal parts; identify halves, thirds, and fourths	pattern blocks, picture models	halves, thirds, fourths, equal parts, whole
11.9	Show Equal Parts of a Whole	2.G.3	Partition shapes to show halves, thirds, or fourths.	Draw equal parts of two-dimensional shapes (circles, squares, rectangles); understand that parts must be <i>equal</i> parts; use correct names: halves, thirds, fourths; recognize partitions that are not equal, and therefore not halves, thirds, fourths	picture models	divide, equal parts, whole, halves, thirds, fourths
11.10	Describe Equal Parts	2.G.3	Identify and describe one equal part as a half of, a third of, or a fourth of a whole.	Draw equal parts of two-dimensional shapes (circles, squares, rectangles); color to show a <i>half of</i> , a <i>third of</i> , a <i>fourth of</i> , <i>one quarter of</i> various shapes	picture models, red/green crayons	half of, third of, fourth of, quarter of
11.11	Problem Solving • Equal Shares	2.G.3	Solve problems involving wholes divided into equal shares by using the strategy draw a diagram.	Solve problems by drawing a diagram; draw halves, thirds, fourths	picture models	halves, thirds, fourths