

<b>Suggested Time Line</b> How much time will be spent on this learning	<b>Essential Questions and Content</b> What will be taught?	<b>NJCCC Standards</b> What state standards will be met by these objectives?	<b>Instructional Objectives</b> What will the students know or be able to do as a result of this instruction?	<b>Assessment</b> What evidence will I collect that demonstrate that the students have achieved the objective?	<b>Instructional Domain</b> How will the learning be structured?	<b>Instructional Activities</b> What will the students do to achieve the objective?
Unit 1 Sept. 5 1.1	How do you use the Student Reference Book (SRB)?	4.5 Mathematical Processes. B.1, C.4, F.1	To acquaint students with the content and organization of the (SRB)	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math Message Follow-Up Investigating the SRB Using the SRB Math Boxes Unit 1: Family Letter Enrichment: Reading a Math Story
1.2	What are points, line segments, lines and rays?	4.1 Number and Numerical Operations. A.1 4.2 Geometry and Measurement. A.1, A.2, A.4, B.3, D.2	To introduce tools for geometry; and to review points, line segments, lines and rays	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math Message Follow-Up Discussing the Care of Students' Math Tools, Reviewing, Line Segments, Lines and Rays, Drawing Line Segments, Lines, and Rays, Math Boxes, Going on a Geometry Tour, Making Personal Geometry Posters
1.3	How do you construct angles, triangles, and	4.2 Geometry and Measurement.	To Construct angles, triangles and quadrangles,	Math Boxes Ongoing Assessment: kid	Mental Math and Reflexes, Math Message, Whole-	Math Message Follow-Up, Constructing Geometric Figures with Straws, Constructing,

	quadrangles?	A.2, A.4, 4.4 Data, Analysis, Probability, and Discrete Mathematics. C.2 4.5 Mathematical Processes. A.3	and to classify quadrangles	watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Class Activity, Independent Activity	Drawing, and Naming Angles, Playing Touch and Match It Quadrangles, Connecting Art and 2- Dimensional Shapes
1.4	How do you classify quadrangles based on their properties?	4.1 Number and Numerical Operations. A.1, A.7 4.2 Geometry and Measurement. A.1, A.2, A.4 4.4 Data, Analysis, Probability, and Discrete Mathematics. D.3	To classify quadrangles based on their properties	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole- Class Activity, Independent Activity	Math Message Follow-Up, Developing Definitions of Parallel Lines, Line Segments, and Rays, Exploring the Properties of Parallelograms, Math Boxes, Playing Geometry, Exploring Line Segments with Geobards, Creating a Book of Parallel Line Segments
1.5	How do you use the properties of polygons and distinguish between convex	4.2 Geometry and Measurement. A.2, A.4, B.3, D.1	To identify properties of polygons and distinguish between convex	Math Boxes Ongoing Assessment: kid watching Math Message	Mental Math and Reflexes, Math Message, Whole- Class Activity, Independent	Mental Math Follow-Up, Constructing Convex and Concave Polygons out of Straws, Defining some of the properties of Polygons,

	and nonconvex (concave) polygons; and how to classify a geometric figure based on its definition	4.4 Data, Analysis, Probability, and Discrete Mathematics. B.3, D.2 4.5 Mathematical Processes. B.3	and nonconvex (concave) polygons; and to explore geometric definitions and classifications	Oral and slate assessments Written assessment Alternative assessment options	Activity	Completing a Timed Inventory (Addition and Subtraction) Test, Math Boxes, Connecting Polygons to Literature, Identifying Properties of Kites and Rhombuses, Playing Name that Polygon
1.6	How do you draw circles with a compass?	4.1 Number and Numerical Operations. A.1 4.2 Geometry and Measurement. A.2, 4.4 Data, Analysis, Probability, and Discrete Mathematics. B.3, 4.5 Mathematical Processes. C.4,	To explore regular polygons; and to practice using a compass	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math Message Follow-Up, Drawing circles with a Compass Constructing an inscribed square, Math Boxes, Designing a Compass, Creating Circle Designs
1.7	How do you define a circle; and what can	4.2 Geometry and Measurement.	To define a circle; and to explore designs with	Math Boxes Ongoing Assessment: kid	Mental Math and Reflexes, Math Message, Whole-	Math Message Follow-Up, Practicing Circle Constructions, Drawing and Creating Circle

	you design with circles?	A.2, 4.5 Mathematical Processes. C.4	circles	watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Class Activity, Independent Activity	Designs, Conclusions about Circles, Drawing Tangent Circles
1.8	How do you construct figures with a compass and straightedge	4.2 Geometry and Measurement. A.2, B.3 4.5 Mathematical Processes. A.3, C.4, F.4	To construct figure with a compass and straightedge	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math Message Follow-Up, Making Constructions with a Compass and Straightedge, Math Boxes, Creating 6-Point Designs, Inscribing an Equilateral triangle in a Circle
1.9	Review and assess students' progress on the material covered in Unit 1	4.2 Geometry and Measurement. E.1 4.4 Data, Analysis, Probability, and Discrete Mathematics. B.3	To review and Assess students' progress on the material covered in Unit 1	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math Message Follow-up, Oral and Slate Assessments, Written Assessment, Alternate Assessment – Construct a Kite, Complete a Timed Inventory of Addition and Subtraction Facts

				options		
2.1	How will a visit to Washington D.C. help you understand the various ways in which numbers are used?	4.1 Number and Numerical Operations. A.1, C.2 4.2 Geometry and Measurement. D.1 4.4 Data, Analysis, Probability, and Discrete Mathematics. B.3 4.5 Mathematical Processes. A.2, B.1, C.3, C.4, C.5, C.6, D.1, D.5	To review and find examples of the various ways in which numbers are used; and to introduce the World Tour Project	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math Message follow-up, Introducing the World Tour Project, Examining Numerical Information about Washington, D.C., Find and Using Numerical Information about Washington, D.C., Math Boxes, Using a Map Scale to Find Distances, Finding Additional Facts about Washington, D.C.
2.2	How do you find equivalent names for numbers?	4.1 Number and Numerical Operations. A.1, A.4, A.5 4.4 Data, Analysis, Probability, and Discrete Mathematics.	To find equivalent names for numbers	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math Message Follow-Up, Reviewing the idea that numbers have many names, Playing name that number, Math boxes, Playing name that number with multiples of 10, Completing name collection boxes, Reading a story that illustrates

		D.2 4.5 Mathematical Processes. A.3, C.1, C.2, C.3, E.2		assessment options		equivalent names
2.3	How do you use place value when reading and writing whole numbers?	4.1 Number and Numerical Operations. A.1, A.2, A.3	To name values of digits in numbers up to hundred-millions; and to read and write numbers up to hundred-millions	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math Message Follow-up, Reviewing place value for whole numbers, Writing numbers as sums of ones, tens, and hundreds, Math boxes, Reading about large numbers, reading and writing numbers on a calculator, Reading large numbers
2.4	How do you practice place values using a calculator?	4.1 Number and Numerical Operations. A.1, A.2, 4.4 Data, Analysis, Probability, and Discrete Mathematics. D.2 4.5 Mathematical Processes.	To practice place-value skills through a calculator routine; and to read and write large numbers.	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up, Practicing place-value skills with a calculator, Playing high-number toss, Math boxes, Playing number top-it,

		A.3, B.1, B.3, F.4				
2.5	How do you organize and display data?	4.1 Number and Numerical Operations. C.2 4.4 Data, Analysis, Probability, and Discrete Mathematics. A.1, C.1, D.2 4.5 Mathematical Processes. A.2 B.1, B.3, D.1, D.3, D.4, D.5, F.1, F.2	To organize and display data with a tally chart; and to determine the maximum, minimum, range, and mode of a set of data	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up, Collecting, Organizing and interpreting a set of data, Playing addition top-it, Math boxes, Making a prediction Based on a sample
2.6	What is the median of a set of data?	4.2 Geometry and Measurement. A.1, B.3 4.4 Data, Analysis, Probability, and Discrete Mathematics. A.1, A.2 4.5 Mathematical Processes.	To review how to display a set of data with a line plot; and to review how to find the median of a set of data	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Investigating the sizes of students' families Playing subtraction top-it Math boxes, Building background for mathematics words, Comparing family size data

		B.3, E.3, F.2				
2.7	How do you add multidigit numbers?	4.1 Number and Numerical Operations. B.3, B.4 4.3 Patterns and Algebra. A.1, D.1 4.4 Data, Analysis, Probability, and Discrete Mathematics. D.1 4.5 Mathematical Processes. E.1,	To review the partial-sums method for addition; and to introduce a column-addition method similar to the traditional addition algorithm	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Discussing and practicing the partial sums method for addition Discussing and practicing the column addition method Playing Name that number and High-toss number Math boxes Writing Addition number stories Modeling the partial sums method with base 10 blocks
2.8	How do you display data with a bar graph?	4.1 Number and Numerical Operations. A.1, A.3, B.4 4.2 Geometry and Measurement. D.1, D.2 4.3 Patterns and Algebra. A.1 4.5	To measure length to the nearest $\frac{1}{2}$ cm; and to make and use bar graphs for a asset of collected data	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Collecting and organizing head-size data, Practicing multidigit addition Math boxes, determining the validity of the one size fits all claim Measuring to the nearest $\frac{1}{2}$ cm

		Mathematical Processes. C.6, D.2, E.3, F.1, F.2				
2.9 (Two Days)	How do you subtract multidigit numbers	4.1 Number and Numerical Operations. B.3, B.4 4.4 Data, Analysis, Probability, and Discrete Mathematics. D.1 4.5 Mathematical Processes. A.4	To review the trade-first and counting –up methods for subtraction; and to introduce the partial-differences method for subtraction	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Discussing and practicing the trade-first method for subtraction, Discussing and practicing ht partial difference methods for subtraction, Practicing subtracting by counting up Playing subtraction target practice, Math boxes, Writing subtraction number stories Modeling the trade-first method with base-10 blocks
2.10	To review and assess students' progress on the material covered in Unit 2	4.1 Number and Numerical Operations. B.10	To review and assess students' progress on the material covered in Unit 2	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Oral and slate assessments, Written assessment Describer an addition strategy Describe a subtraction strategy Play name that number

				options		
3.1	How do you learn multiplication facts?	4.1 Number and Numerical Operations. A.5, B.3, B.10, C.2 4.3 Patterns and Algebra. A.1 4.4 Data, Analysis, Probability, and Discrete Mathematics. C.2, D.2 4.5 Mathematical Processes. B.3, D.1, E.2	To review strategies for multiplication facts; and to work toward instant recall of the multiplication facts	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Reviewing the multiplication/division facts table Discussing ways to solve a fact Playing fact triangle sort Math Boxes Reading about multiplication in literature Reviewing multiplication shortcuts Playing factor bingo
3.2	How do you practice your multiplication facts?	4.1 Number and Numerical Operations. B.2 4.5 Mathematical Processes. A.3, B.3	To establish a 50 facts test routine; and to practice multiplication facts	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Administering a multiplication facts practice test Scoring the practiced test Playing baseball multiplication Math Boxes Reviewing baseball terms

3.3	What is a 50 facts multiplication routine?	4.1 Number and Numerical Operations. A.3, B.2, B.3, C.2 4.5 Mathematical Processes. B.3, E.1	To give a 50-facts test and record results; and to practice multiplication facts.	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Administering 50 facts test 2 Recording and graphing individual test results Recording individual one-minute test results on the class graph Playing baseball multiplication Math Boxes Practicing multiplication facts
3.4	How are fractions, multiplication and division related?	4.1 Number and Numerical Operations. B.1, B.2, B.10 4.3 Patterns and Algebra. A.1, D.1 4.4 Data, Analysis, Probability, and Discrete Mathematics. C.2, D.2 4.5 Mathematical Processes. C.1, C.4	To explore the relationship between multiplication and division and between division and fractions; and to practice division facts.	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Exploring the relationship between multiplication and division Using the multiplication/division facts table Practicing division facts with fact triangles Exploring the relationship between division and fractions Math Boxes Playing division arrays
3.5	How will the World Tour to	4.1 Number and	To continue the World Tour	Math Boxes Ongoing	Mental Math and Reflexes, Math	Math message follow-up Examine the list of countries and

	Africa help me understand more about numbers?	Numerical Operations. A.1, B.10 4.3 Patterns and Algebra. A.1, B.1 4.5 Mathematical Processes. C.2, C.3, C.4, C.5, C.6, F.4	Project	Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Message, Whole-Class Activity, Independent Activity	regions Completing the route map and country notes for Egypt Playing multiplication and division facts with fact triangles Math Boxes Using the internet to find country facts
3.6	How do you find air distance?	4.1 Number and Numerical Operations. B.10 4.2 Geometry and Measurement. D.2	To find air distances	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Finding the air distance between cities Practicing finding the air distance between cities Playing baseball multiplication Math Boxes Writing and solving number stories about air distances
3.7	How do you solve number stories	4.1 Number and Numerical Operations. C.1 4.3 Patterns and Algebra. A.1, B.1, C.1 4.4 Data,	To introduce a simplified approach to solving number stories; and to solve number stories	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Solving number stories about air distances Math Boxes Reviewing situation diagrams Solving and writing number stories

		Analysis, Probability, and Discrete Mathematics. A.1, C.2, D.1 4.5 Mathematical Processes. A.2, A.3, A.4, A.5, B.1, B.4, C.4 D.3, E.2, E.3		Alternative assessment options		
3.8	How do you know whether a number sentence is true or false?	4.1 Number and Numerical Operations. B.7, B.8, C.4 4.3 Patterns and Algebra. A.1, B.1, D.2 4.5 Mathematical Processes. C.4	To review the meanings of number sentences; and to determine whether number sentences are true or false	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Exploring the meaning of number sentence Determining whether a number sentence is true or false Practicing with number sentences Solving number stories about elapsed time Math Boxes Reviewing the less than and greater than symbols
3.9	How do you use parentheses in number sentences?	4.1 Number and Numerical Operations. B.3, B.10 4.3 Patterns and Algebra. D.1, D.2	To review the use of parentheses in number sentences	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Determining whether number sentences containing parentheses are true or false Using parentheses in number sentences Practicing multiplication and division facts

		4.4 Data, Analysis, Probability, and Discrete Mathematics. C.2		assessment Alternative assessment options		Math Boxes Noting the parallels between commas and parentheses Playing name that number
3.10	What are open sentences and how do you solve them?	4.3 Patterns and Algebra. C.2 4.5 Mathematical Processes. E.1, F.1	To introduce vocabulary and notation for open sentences; and to solve open sentences	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Exploring the meaning of open sentence Finding the solutions of number sentences Introducing broken calculator Solving broken calculator problems Solving open sentences Math Boxes Solving more broken calculator problems Writing open sentences
3.11	What are logic problems and how do you solve them?	4.2 Geometry and Measurement. A.5, D.2 4.3 Patterns and Algebra. A.1 4.4 Data, Analysis, Probability, and Discrete Mathematics. C.2	To develop reasoning skills	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Using logic grids to solve problems Using a map scale Math Boxes Creating logic puzzles Solving mathematical puzzles

		4.5 Mathematical Processes. A.1, C.3, E.3				
3.12	How will I be assessed on the information in unit 3?	4.1 Number and Numerical Operations. B.7	To review and assess students' progress on the material covered in Unit 3	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Oral and slate assessments Written assessment Take a 50 facts test Write and solve number stories Math Boxes
4.1	What are decimals and how do you represent them?	4.1 Number and Numerical Operations. B.5 4.3 Patterns and Algebra. C.2	To review basic concepts and notation for decimals through hundredths	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Understanding fraction concepts Modeling decimals with base 10 blocks Practicing with tenths and hundredths Math Boxes Finding the value of base 10 blocks Reviewing decimal concepts
4.2	How do you compare and order decimals?	4.1 Number and Numerical Operations.	To compare and order decimals in tenths and hundredths	Math Boxes Ongoing Assessment: kid watching	Mental Math and Reflexes, Math Message, Whole-Class Activity,	Math message follow-up Ordering decimals Practicing multiplication facts Math Boxes

		A.6 4.5 Mathematical Processes. E.1, F.1		Math Message Oral and slate assessments Written assessment Alternative assessment options	Independent Activity	Playing number top it Writing decimal riddles
4.3	How do you estimate with decimals?	4.1 Number and Numerical Operations. C.1, C.2 4.2 Geometry and Measurement. D.4, D.5 4.5 Mathematical Processes. D.1, D.4, D.5	To learn why decimals are useful; and to estimate sums and differences of decimals.	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Discussing why decimals are useful Estimating decimal sums Math Boxes Solving gasoline mileage problems Finding a car's gasoline mileage
4.4	How do you add and subtract decimals?	4.1 Number and Numerical Operations. B.3	To extend methods for whole number addition and subtraction to decimals.	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Adding and subtracting decimals using an algorithm Practicing decimal addition and subtraction Representing decimals on grids Math Boxes Adding and subtracting whole numbers Writing number stories

				options		
4.5	How do you use decimals when representing money?	4.1 Number and Numerical Operations. B.6	To compare balances in a savings account	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Introducing bank accounts Practicing mental arithmetic Maintaining a savings account Practicing addition of decimals Math Boxes Solving hiking trail problems Using money to find totals and make change
4.6	How do you represent thousandths?	4.1 Number and Numerical Operations. A.2 4.5 Mathematical Processes. C.2	To extend basic concepts and notation for decimals to thousandths.	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Modeling decimals with base 10 blocks Practicing reading and writing decimals Practicing with tenths, hundredths, and thousandths Resuming the world tour Math Boxes Playing number top it (decimals) Finding the value of base 10 blocks
4.7	How are metric units of length related?	4.2 Geometry and Measurement. D.1, D.2, D.3	To review the relationships among metric units of length; and o work with metric	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Reviewing metric units of linear measures Practicing conversions among metric units Measuring in centimeters

			measurements	assessments Written assessment Alternative assessment options		Filling in missing numbers Math Boxes Searching for superlatives for metric units of length Converting between meters and centimeters
4.8	How do you establish personal references for metric units of length?	4.1 Number and Numerical Operations. C.3 4.2 Geometry and Measurement. D.3, D.4, E.3 4.5 Mathematical Processes. C.6, D.1, D.5	To establish personal references for metric units of length	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole- Class Activity, Independent Activity	Math message follow-up Introducing personal measurement references Finding personal references for metric units of length Estimating lengths with personal reverences Practicing estimating lengths Math Boxes Designing a measurement scavenger hunt Developing metric unit sense
4.9	How do you measure in millimeters?	4.5 Mathematical Processes. C.2, E.2	To measure lengths to the nearest millimeter; and to convert measurements between millimeters and centimeters	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole- Class Activity, Independent Activity	Math message follow-up Measuring lengths in millimeters and centimeters Measuring invertebrates in metric units Math Boxes Converting measurements to other metric units
4.10	How will using	4.1 Number	To summarize the	Math Boxes	Mental Math and	Math message follow-up

	base ten blocks help me understand decimal place value?	and Numerical Operations. A.2 4.2 Geometry and Measurement. D.1, D.2 4.5 Mathematical Processes. E.1, F.1	concepts presented in this unit by extending the base-ten place-value system to decimals	Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Reflexes, Math Message, Whole-Class Activity, Independent Activity	Reviewing the place value chart for whole numbers and extending it to decimals Practicing reading and writing decimals Solving broken calculator puzzles Math Boxes Writing and solving place value puzzles Making and using a place value flip book
4.11	How will you review and be assessed for Unit 4?	4.4 Data, Analysis, Probability, and Discrete Mathematics. B.3 4.5 Mathematical Processes. A.3, E.2, F.1, F.4	To review and assess students' progress on the material covered in Unit 4	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Oral and slate assessments Written assessment estimate and measure lengths of objects Writing and solve number stories Describe a problem solving strategy Math Boxes
5.1	How do you use the basic multiplication facts to extend your understanding of multiplication?	4.1 Number and Numerical Operations. B.1, B.3, B.4 4.5 Mathematical Processes.	To extend basic multiplication facts to products of ones and tens and products of tens and tens	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Developing a rule for multiplying ones by tens Developing a rule for multiplying tens by tens Playing beat the calculator Finding personal references for customary units of length

		C.4		assessment Alternative assessment options		Math Boxes Solving multiplication division puzzles Writing and solving multiplication number stories with multiples of 10
5.2	How does multiplication wrestling extend your understanding of multiplication?	4.1 Number and Numerical Operations. B.1, B.3, B.4 4.5 Mathematical Processes. E.1	To practice the extended multiplication facts; and to introduce the basic principles of multiplication with multidigit numbers	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Playing multiplication wrestling Reviewing place value in decimals Math Boxes Adding multiples of 10 Practicing extended multiplication facts
5.3	When do you use estimation in addition?	4.1 Number and Numerical Operations. B.3, C.2, C.3, C.4 4.2 Geometry and Measurement. D.4, D.5 4.5 Mathematical Processes. D.1, D.3, D.4,	To examine situations in which it is appropriate to make an estimate; and to estimate sums	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Examine a travel map Planning a trip Solving logic problems Math Boxes Solving number puzzles Solving a raveling salesperson problem

		D.5				
5.4	When do you use estimation in multiplication?	4.1 Number and Numerical Operations. B.1, C.1, C.2, C.3, 4.4 Data, Analysis, Probability, and Discrete Mathematics. A.1, C.1 4.5 Mathematical Processes. D.1, D.4, D.5, D.6	To estimate whether a product is in the tens, hundreds, thousands, or more	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Using the food survey data to make magnitude estimates Estimating averages Playing multiplication wrestling Math Boxes Making predictions from data Rounding whole numbers Estimating answers
5.5	How do you multiply using the partial products algorithm? (Part 1)	4.1 Number and Numerical Operations. C.3 4.2 Geometry and Measurement. D.4 4.5 Mathematical Processes. E.1	To learn and practice the partial products algorithm for 1 digit multipliers	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Finding products mentally Demonstrating the partial products algorithm for 1 digit multipliers Math Boxes Using the partial products algorithm with 1-digit multipliers Estimating lengths using personal references Modeling multiplication with base 10 blocks

5.6	How do you multiply using the partial products algorithm? (Part 2)	4.1 Number and Numerical Operations. B.3 4.5 Mathematical Processes. E.1	To learn and practice the partial products algorithm for 2 digit multipliers	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Estimating products Extending the partial products algorithm to 2 digit multipliers Using the partial products algorithm Math Boxes Modeling multiplication with base 10 blocks Multiplying whole numbers Judging a multiplication wrestling competition
5.7	How do you multiply using the lattice multiplication?	4.1 Number and Numerical Operations. B.1, B.3	To learn and practice the lattice method for multiplication	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Demonstrating the lattice method for 1 digit multipliers Practicing the lattice method for 1 digit multipliers Demonstrating the lattice method for 2 digit multipliers Practicing the lattice method with 2 digit multipliers Reviewing place value in whole numbers Math Boxes Comparing calculation for the partial products and lattice methods
5.8	How do you read, write, and compare large numbers?	4.1 Number and Numerical Operations. A.2, A.3	To read, write and compare large numbers using patterns in the base-ten place	Math Boxes Ongoing Assessment: kid watching Math Message	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent	Math message follow-up Practicing reading and writing big numbers Exploring the relationships among a thousand, a million, and

			value system	Oral and slate assessments Written assessment Alternative assessment options	Activity	a billion Math Boxes Exploring big numbers in literature Estimating the number of dots and the weight of paper needed to fill the classroom Reading and writing large numbers on a calculator
5.9	How do you read the powers of 10?	4.1 Number and Numerical Operations. A.2, A.3 4.3 Patterns and Algebra. D.1	To introduce exponential notation for powers of 10 as a way of naming the values of places in our base-ten system	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Introducing exponential notation for powers of 10 Practicing multiplication algorithms Math Boxes Beginning a big numbers list Building background for mathematics words
5.10	How do you round and report large numbers?	4.1 Number and Numerical Operations. A.3, A.6 4.4 Data, Analysis, Probability, and Discrete Mathematics. A.1,	To discuss sensible ways of reporting a count when a large number of items has been counted	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Reviewing rounding Rounding baseball attendance figures Identifying other number names for powers of 10 Math Boxes Comparing marathon data Representing population counts with dot paper

				options		
5.11	How will the World Tour and traveling to Europe help you compare numerical data?	4.1 Number and Numerical Operations. A.6 4.2 Geometry and Measurement. D.1, E.1 4.5 Mathematical Processes. C.2, C.4, C.5, C.6, D.2, F.1	To look up and compare numerical data, including geographical measurements	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Looking up and comparing data about countries in Europe Updating the world tour Math Boxes Understanding geographical measurements Playing high number toss of number top it
5.12	How will you review and be assessed for Unit 5?	4.1 Number and Numerical Operations. B.7 4.5 Mathematical Processes. B.2, D.1, D.2, D.3	To review and assess students' progress on the material covered in Unit 5	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Oral and slate assessments Written assessment solve computation tile problems Describe a multiplication strategy estimation problems Math Boxes
6.1	How do you use multiples of 10 as a strategy for division?	4.1 Number and Numerical Operations. B.3	To solve equal-grouping division stories by using a multiples of 10 strategy	Math Boxes Ongoing Assessment: kid watching Math Message	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent	Math message follow-up Demonstrating a multiples of 10 strategy for division Practicing a multiples of 10 strategy for division

		4.3 Patterns and Algebra. D.1 4.5 Mathematical Processes. A.1, A.2		Oral and slate assessments Written assessment Alternative assessment options	Activity	Finding products and quotients involving multiples of 10, 100, and 1,000 Math Boxes Solving broken calculator problems Using counters to solve equal grouping problems
6.2	How do you use the partial quotients division algorithm?	4.1 Number and Numerical Operations. B.3, B.7, B.8, C.4 4.4 Data, Analysis, Probability, and Discrete Mathematics. B.3, D.2 4.5 Mathematical Processes. A.3, F.4	To introduce and practice a “low stress” division algorithm	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Introducing the partial quotients algorithm Using the partial quotient algorithm Finding products and quotients involving multiples of 10, 100, and 1000 Math Boxes Playing division dash
6.3	How do you solve multiplication and division	4.5 Mathematical Processes. A.2, E.1	To solve multiplication and division number stories, using diagrams to organize information	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Solving multiplication and division number stories Math Boxes Using counters to solve equal sharing problems Taking the calculator challenge

				assessment Alternative assessment options		
6.4	How do you express and interpret remainders?	4.1 Number and Numerical Operations. B.3 4.3 Patterns and Algebra. A.1,	To express remainders in division as fractions or decimals and answers as mixed numbers or decimals; and to interpret remainders in problem contexts	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Expressing remainders as fractions Interpreting remainders in problem contexts Making up and solving multiplication and division number stories Math Boxes Exploring remainders in literature
6.5	How do you use and read rectangular coordinate grids for maps?	4.1 Number and Numerical Operations. C.3 4.2 Geometry and Measurement. C.1, C.2 4.5 Mathematical Processes. C.6, D.1, D.5	To use letter-number pairs and ordered pairs of numbers to locate points on a rectangular grid; and to use a map scale	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Using ordered pairs to locate points on a map Estimating distances on a map Expressing remainders as fractions Math Boxes Playing grid search
6.6	How do you rotate and measure angles?	4.1 Number and Numerical	To review rotations; and to make and use a	Math Boxes Ongoing Assessment: kid	Mental Math and Reflexes, Math Message, Whole-	Math message follow-up Investigating the relationship between rotations and degree

		Operations. A.1 4.2 Geometry and Measurement. A.1, A.4, B.2 4.5 Mathematical Processes. C.4	circular protractor	watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Class Activity, Independent Activity	measures Forming angles of given measures Measuring elapsed time in degrees Math Boxes Playing robot Building background for mathematics words Solving elapsed time problems
6.7	How do you use a circular protractor?	4.2 Geometry and Measurement. A.4, B.2, C.1, C.2, D.1	To use a circular protractor to measure and draw angles less than 360 degrees	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Demonstrating angles and rotations Using an angle measurer Drawing an angle Drawing angles Plotting and naming points on a coordinate grid Math Boxes Comparing angles
6.8	How do you use and measure with a half-circle protractor?	4.2 Geometry and Measurement. A.4, D.1 4.5 Mathematical Processes. C.4, C.5	To classify angles as acute, right, obtuse, straight, and reflex; and to use a half-circle protractor to measure angles.	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Introducing the half circle protractor Measuring angles with a half circle protractor Measuring angles in triangles world tour option: Visiting Europe Math Boxes

				Alternative assessment options		Modeling angles Building background for mathematics words
6.9	What is the global grid system?	4.5 Mathematical Processes. C.2, C.3, C.4	To introduce the partitioning of the globe using circles of latitude and semicircles of longitude; and to use a half-circle protractor to draw angles	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Studying a world globe Drawing angles with a half circle protractor Math Boxes Making a model of a world globe
6.10	How do you use longitude and latitude to identify places on earth?	4.2 Geometry and Measurement. C.1, C.2 4.5 Mathematical Processes. C.3, C.4	To find the latitude and longitude of given places using a globe and a map; and to identify places for which the latitude and longitude are given	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Introducing the system for locating places on the globe Locating places on a world map Locating places on regional maps Math Boxes Practicing latitude and longitude skills with a globe and a world map
6.11	How will you review and be assessed for Unit 6?	4.5 Mathematical Processes. B.2, D.1, D.2, D.3	To review and assess students' progress on the material covered in Unit 6	Math Boxes Ongoing Assessment: kid watching Math Message	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent	Math message follow-up Oral and slate assessments Written assessment Write and solve multiplication and division number stories

				<p>Oral and slate assessments</p> <p>Written assessment</p> <p>Alternative assessment options</p>	<p>Activity</p>	<p>Describe a division strategy</p> <p>Measure angles with a circular and half circle protractor</p> <p>Midyear assessment</p> <p>Math Boxes</p>
7.1	<p>What are the basics of fractions?</p>	<p>4.1 Number and Numerical Operations. B.5, B.9</p> <p>4.2 Geometry and Measurement. B.1</p> <p>4.5 Mathematical Processes. C.4</p>	<p>To review fractions as parts of a whole (one), fractions on number lines and uses of fractions</p>	<p>Math Boxes</p> <p>Ongoing Assessment: kid watching</p> <p>Math Message</p> <p>Oral and slate assessments</p> <p>Written assessment</p> <p>Alternative assessment options</p>	<p>Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity</p>	<p>Math message follow-up</p> <p>Reviewing fraction ideas and notation</p> <p>Identifying fraction parts of pattern block shapes</p> <p>Identifying fractional parts of number lines</p> <p>Math boxes</p> <p>Dividing shapes into equal parts</p> <p>Constructing an equilateral triangle</p> <p>Creating fraction art</p>
7.2	<p>How do you find fractions of sets?</p>	<p>4.1 Number and Numerical Operations. A.1, B.5, B.9</p> <p>4.5 Mathematical Processes. C.4, C.5</p>	<p>To find fractional parts of sets.</p>	<p>Math Boxes</p> <p>Ongoing Assessment: kid watching</p> <p>Math Message</p> <p>Oral and slate assessments</p> <p>Written assessment</p> <p>Alternative assessment options</p>	<p>Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity</p>	<p>Math message follow-up</p> <p>Modeling fraction of problems with pennies</p> <p>Solving fraction of problems</p> <p>Continue with world tour</p> <p>Math boxes</p> <p>Matching collection words with names of things</p> <p>Writing and solving fraction of number stories</p>

7.3	How do you find fractions of pattern blocks?	4.1 Number and Numerical Operations. A.1, B.5, B.9 4.5 Mathematical Processes. C.1	To find fractional parts of polygonal regions	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Exploring fractional parts of regions with pattern blocks Solving problems about shape A Solving problems about shape B Solving problems about shape C Math boxes Exploring tangrams
7.4	How do you add and subtract fractions?	4.1 Number and Numerical Operations. B.3	To use pattern blocks to help add and subtract fractions	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Modeling fractions sums with pattern blocks Modeling fraction differences with pattern blocks Solving fraction addition and subtraction problems Preparing fraction cards for lesson 7.6 Math boxes Drawing and comparing line segments
7.5	How does a clock help you understand fractions?	4.1 Number and Numerical Operations. B.3, B.5, B.9	To model fractions on a clock face; and to use a clock face to help add and subtract fractions	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Representing fractions on a clock face Modeling fraction addition on a clock face Modeling fraction subtraction on a clock face Representing, adding, and

				assessment Alternative assessment options		subtracting fractions on a clock face Math boxes  Modeling fractions with other denominators on a clock face
7.6	How do you identify equivalent fractions?	4.1 Number and Numerical Operations. A.1, A.4, A.5 4.5 Mathematical Processes. C.6, E.2	To identify equivalent fractions	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole- Class Activity, Independent Activity	Math message follow-up Starting a collection of fraction names Continuing a collection of fraction names Picturing fractions Math boxes Playing name that number
7.7	How do you create equivalent fractions?	4.1 Number and Numerical Operations. A.5, B.3 4.4 Data, Analysis, Probability, and Discrete Mathematics. D.1 4.5 Mathematical Processes.	To develop and use a rule for generating equivalent fraction	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole- Class Activity, Independent Activity	Math message follow-up Developing a rule for finding equivalent fractions Generating equivalent fractions Solving fraction of problems Math boxes Playing musical name collection boxes

		B.3				
7.8	How are fractions and decimals related?	4.1 Number and Numerical Operations. B.1	To rename fractions as decimals and decimals as fractions; and to explore the relationship between fractions and division	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Renaming fractions as decimals and decimals as fractions Discussing fractions and division Using fraction name collection boxes Math boxes  Creating base 10 block designs
7.9	How do you compare fractions?	4.1 Number and Numerical Operations. A.6 4.4 Data, Analysis, Probability, and Discrete Mathematics. B.3	To order sets of fractions	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Ordering fractions Comparing fractions with $\frac{1}{2}$ Ordering fractions Solving fraction problems Math boxes Using digits to create fractions
7.10	How do you find the whole or one when given a fraction?	4.1 Number and Numerical Operations. B.5, B.9 4.5 Mathematical	To find the whole, or ONE, for given fractions	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Using pattern blocks to find the one Using counters to find the one Solving “what is the one?” problems Playing fractions top it

		Processes. C.4		Written assessment Alternative assessment options		Math boxes Naming fractional parts of a region
7.11	How do you use a spinner to help you learn about probability and fractions?	4.4 Data, Analysis, Probability, and Discrete Mathematics. A.1, A.2, B.1, B.2 4.5 Mathematical Processes. A.2, A.5, C.2, D.6	To review basic ideas of probability, including fairness and expected results; and o apply knowledge of fractions to spinners	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Spinning a spinner Doing spinner experiments Designing spinners Identifying fractions on number lines Math boxes  Judging the likelihood of events Building background for mathematics words Reading about chance events
7.12	How will a cube drop experiment help you learn about predicted and actual results with random outcomes?	4.4 Data, Analysis, Probability, and Discrete Mathematics. A.2, B.1, B.2, B.3 4.5 Mathematical Processes. D.6	To compare predicted and actual results from an experiment with random outcomes	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Predicting ht results on an experiment Performing a cube drop experiment Comparing actual and e4xpecteded results Finding fractions of sets and wholes Math boxes Comparing actual and expected results of 1000 cube drops
7.13	How will you	4.1 Number	To review and	Math Boxes	Mental Math and	Math message follow-up

	review and be assessed for Unit 7?	and Numerical Operations. A.5	assess students' progress on the material covered in Unit 7	Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Reflexes, Math Message, Whole-Class Activity, Independent Activity	Oral and slate assessments Written assessments Describe a fraction addition of r subtraction strategy Collect fraction names Math boxes
8.1	How will laying out a kitchen help you understand landmarks and perimeter?	4.2 Geometry and Measurement. D.2, D.5 4.4 Data, Analysis, Probability, and Discrete Mathematics. A.2 4.5 Mathematical Processes. C.5	To measure and add distances in feet and inches	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Rating the efficiency of a kitchen Analyzing kitchen arrangements Sketching work triangles of given perimeters Math boxes Investigating perimeters on a geoboard
8.2	How will scale drawings help you learn about measurement?	4.2 Geometry and Measurement. D.2	To measure distances to the nearest foot; and to use measurements and a given scale to create a scale to	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Making a rough floor plan of a classroom Making the scale drawing Finding the perimeter of figures Math boxes Building background for

			create a scale drawing on a grid	Written assessment Alternative assessment options		mathematics words Making a scale drawing of your bedroom
8.3	What is area, how do I estimate and how do I solve for area?	4.2 Geometry and Measurement. D.2, E.1 4.4 Data, Analysis, Probability, and Discrete Mathematics. B.2 4.5 Mathematical Processes. D.1, D.5, D.6	To review basic area concepts; to estimate the area of a polygon by counting unit squares; and to use a scale drawing to find area	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Estimating areas of polygons by counting squares Estimating the area of the classroom flower Solving probability problems Math boxes Comparing unit squares Investigating geoboard areas
8.4	How will finding the area of my skin help me learn about estimating area?	4.2 Geometry and Measurement. D.2, D.3, D.4, E.1 4.5 Mathematical Processes. C.4, C.5, C.6	To estimate the area of a surface having a curved boundary; and to convert measurements from one unit to another	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Estimating the area of your skin Sharing the results of the experiment World Tour: Visiting South America Math boxes Converting square inches to square feet Estimating areas of irregular regions
8.5	How will a	4.1 Number	To develop and	Math Boxes	Mental Math and	Math message follow-up

	formula help you learn the area of a rectangle?	and Numerical Operations. B.3 4.2 Geometry and Measurement. A.2, D.2	use a formula for the area of a rectangle	Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Reflexes, Math Message, Whole-Class Activity, Independent Activity	Developing a formula for the area of a rectangle Using a formula to find the area of rectangles Drawing to scale Math boxes Finding the area of rectangles
8.6	How will a formula help you learn the area of a parallelogram?	4.1 Number and Numerical Operations. B.3 4.2 Geometry and Measurement. A.2, D.2, E.1	To review the properties of parallelograms; and to develop and use a formula for the area of a parallelogram	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Reviewing the properties of parallelograms Developing a formula for finding the area of a parallelogram Solving area problems Building a fence Math boxes Constructing figures with a compass and straightedge
8.7	How will a formula help you learn the area of a triangle?	4.1 Number and Numerical Operations. B.3 4.2 Geometry and Measurement. A.2, E.1	To develop and use a formula for the area of a triangle	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Developing a formula for finding the area of a triangle Solving area problems Solving perimeter and area problems Math boxes Comparing areas

				Alternative assessment options		
8.8	How are geographical areas measured?	4.2 Geometry and Measurement. C.1, C.2, D.2, E.1 4.5 Mathematical Processes. C.2, C.3	To examine how geographical areas are measured; and to use division to compare two quantities with like units	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Comparing country areas Math boxes Using division to compare numbers of mammal species
8.9	How will you review and be assessed for Unit 8?	4.2 Geometry and Measurement. E.1	To review and assess students' progress on the material covered in Unit 8	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Oral and slate assessments Written assessments Finding the area and perimeter of an irregular figure Making enlargements Solve perimeter and area problems Math boxes
9.1	How are fractions, percents, and decimals related?	4.1 Number and Numerical Operations. B.5, B.9	To use percents to describe real-life situations; and to practice naming equivalencies	Math Boxes Ongoing Assessment: kid watching Math Message	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent	Math message follow-up Making up equivalent names for percents Math Boxes Making a percent booklet or

		4.5 Mathematical Processes. A.1	among fractions, decimals and percents	Oral and slate assessments Written assessment Alternative assessment options	Activity	poster Creating base 10 block designs
9.2	How do you convert “easy” fractions to decimals and percents?	4.1 Number and Numerical Operations. B.5, B.9	To rename “easy” fractions (fourths, fifths, and tenths) as decimals, and percents; and to solve percent problems by using equivalent fractions	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole- Class Activity, Independent Activity	Math message follow-up Finding equivalent names for other easy fractions Multiplying whole numbers Math Boxes Finding equivalent names for easy fractions Memorizing equivalent names for easy facts Writing and solving percent of numbers stories
9.3	How do you use a calculator to convert fractions to decimals?	4.1 Number and Numerical Operations. B.5, B.9 4.4 Data, Analysis, Probability, and Discrete Mathematics. D.2 4.5 Mathematical	To rename any fraction as a decimal by using a calculator; and to memorize fraction/percent equivalencies for “easy” fractions (fourths, fifths, and tenths)	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole- Class Activity, Independent Activity	Math message follow-up Using a calculator to rename easy fractions as decimals Using a calculator to rename any fraction as a decimal Playing fraction/per cent concentration Math Boxes Finding fraction equivalencies in literature Finding fraction, decimal, percent equivalencies Playing getting to one

		Processes. A.3, B.3, F.1, F.4				
9.4	How do you use a calculator to convert fractions to percents	4.1 Number and Numerical Operations. C.2, C.3, C.4 4.5 Mathematical Processes. A.3, E.3, F.1, F.4	To rename fractions as percents using a calculator; and to solve number stories involving discounts expressed as percents	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Solving number stories involving discounts Playing fraction/percent concentration Math Boxes Solving challenging discount number stories Estimating what percent of a circle graph is shaded Building background for mathematics words
9.5	How do you do conversions among fractions, decimals and percents?	4.1 Number and Numerical Operations. A.5, B.3, B.5, B.9	To look up and record numerical data; to rename fractions as percents using a calculator; and to rename decimals as percents	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Flying to Beijing, China Completing the equivalent names for a fraction table Updating the world tour Math Boxes Using a calculator to rename fractions as percents
9.6	How do you compare the results of a survey?	4.1 Number and Numerical Operations. A.5	To organize and tabulate survey data; and to use percents to compare	Math Boxes Ongoing Assessment: kid watching Math Message	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent	Math message follow-up Making a prediction based on individual survey data Tabulating survey results for the whole class

		4.3 Patterns and Algebra. D.1 4.4 Data, Analysis, Probability, and Discrete Mathematics. A.1, A.2 4.5 Mathematical Processes. A.2, E.3, F.1	quantities expressed as fractions with unlike denominators	Oral and slate assessments Written assessment Alternative assessment options	Activity	Analyzing the survey results Dividing whole numbers Math Boxes Graphing survey results Reading about comparisons
9.7	How do you compare population data?	4.1 Number and Numerical Operations. A.5 4.4 Data, Analysis, Probability, and Discrete Mathematics. A.2 4.5 Mathematical Processes. C.4, D.2	To rank and compare data that are reported as percents; and to display ranked data by coloring maps	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Discussing a table of population data Ranking countries and coloring maps to display population data Interpreting the maps Math Boxes Ranking countries and coloring a map to show literacy data
9.8	How do you multiply decimals?	4.1 Number and Numerical Operations.	To multiply decimals by whole numbers and to practice the partial	Math Boxes Ongoing Assessment: kid watching	Mental Math and Reflexes, Math Message, Whole-Class Activity,	Math message follow-up Estimating products of decimals Multiplying decimals Playing fraction/percent

		B.3	products and lattice methods for multiplication	Math Message Oral and slate assessments Written assessment Alternative assessment options	Independent Activity	concentration Math Boxes Using the lattice method to position decimal point Multiplying whole numbers
9.9	How do you divide decimals?	4.1 Number and Numerical Operations. B.3, B.5, B.9 4.3 Patterns and Algebra. D.1	To divide decimals by whole numbers; and to practice the partial quotients division algorithm introduced in Unit 6	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Estimating quotients of decimals Dividing decimals Reviewing unit 9 Math Boxes Writing and solving division number stores with decimals Dividing whole numbers
9.10	How will you review and be assessed for Unit 9?	4.1 Number and Numerical Operations. B.7 4.5 Mathematical Processes. B.2, D.1, D.2, D.3	To review and assess students' progress on the material covered in Unit 9	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Oral and slate assessments Written assessment Find the fraction of and percent of a design Describe a decimal division strategy Describe a decimal multiplication strategy Math Boxes

10.1	How will a transparent mirror help you learn about reflections?	4.2 Geometry and Measurement. A.2, A.3	To explore reflections of 2-dimensional figures	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Using a transparent mirror to move shapes Using the transparent mirror to move reflected images Using the transparent mirror to draw images Multiplying and dividing with decimals Math Boxes Reviewing polygons Exploring reflected images and symmetry in literature
10.2	What are lines of reflections and how do you identify them?	4.2 Geometry and Measurement. A.3 4.4 Data, Analysis, Probability, and Discrete Mathematics. D.2 4.5 Mathematical Processes. A.3, B.3, C.4	To explore reflections and to identify lines of reflection	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Playing games that involve reflections Introducing the concept of reflection Interpreting a data table Math Boxes Building background for mathematics words Creating a paint reflection
10.3	What are the basic properties of reflections?	4.2 Geometry and Measurement. A.3	To discover basic properties of reflections	Math Boxes Ongoing Assessment: kid watching	Mental Math and Reflexes, Math Message, Whole-Class Activity,	Math message follow-up Examining relationships between an object and its reflected image Folding paper to draw reflected

		4.5 Mathematical Processes. C.4, C.5, D.2		Math Message Oral and slate assessments Written assessment Alternative assessment options	Independent Activity	images World tour: traveling to a second country in region 4 Math Boxes Exploring reflections of 3- dimensional figures Researching the reflecting pool in Washington, C.C.
10.4	What is the connection between reflections and line symmetry?	4.1 Number and Numerical Operations. A.3 4.5 Mathematical Processes. A.3	To explore the connection between reflections and line symmetry	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole- Class Activity, Independent Activity	Math message follow-up Completing symmetric pictures Finding lines of symmetry Exploring lines of symmetry of polygons Math Boxes  Displaying picture of symmetric objects Exploring turn symmetry
10.5	What are frieze patterns?	4.2 Geometry and Measurement. A.4, B.1, B.2 4.3 Patterns and Algebra. A.1 4.5 Mathematical Processes. C.1, C.4	To explore an application of reflections, rotations, and translations	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole- Class Activity, Independent Activity	Math message follow-up Introducing frieze patterns Drawing frieze patterns Multiplying and dividing with decimals Math Boxes Finding patterns Creating frieze patterns

10.6	How do you add positive and negative whole numbers (integers)?	4.4 Data, Analysis, Probability, and Discrete Mathematics. D.2 4.5 Mathematical Processes. A.3, C.4	To explore addition of integers	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up using credits and debits to practice addition of positive and negative numbers Playing the credits/debits game Math Boxes Solving a temperature number story Building background for mathematics words Using a number line to add positive and negative numbers
10.7	How will you review and be assessed for Unit 10?	4.1 Number and Numerical Operations. B.7 4.5 Mathematical Processes. B.2, D.1, D.2	To review and assess students' progress on the material covered in Unit 10	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Oral and slate assessments Written assessment Create reflections with pattern blocks or centimeter cubes Interpret a cartoon Math Boxes
11.1	How do you estimate and use grams and ounces as units of weight?	4.2 Geometry and Measurement. D.2, D.3, E.3 4.4 Data, Analysis, Probability, and Discrete	To review grams and ounces as units of weight; and to estimate and measure weights in grams and ounces	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Setting up a gram and ounce museum Estimating weights Converting between metric and customary weights Updating the world tour Math Boxes

		Mathematics. C.2, D.2 4.5 Mathematical Processes. C.4, C.5, E.3		assessment Alternative assessment options		Playing what's my weight Comparing mammal's weights
11.2	What are geometric solids?	4.2 Geometry and Measurement. A.2	To review properties of common geometric solids	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole- Class Activity, Independent Activity	Math message follow-up Reviewing vocabulary for geometric solids Modeling geometric solids Making a 1-ounce weight Math Boxes Reviewing 2-dimensional shapes Comparing geometric solids Creating a word wall
11.3	How do you construct geometric solids?	4.2 Geometry and Measurement. A.2 4.5 Mathematical Processes. C.4	To identify geometric solids, given their properties; and to construct polyhedrons with straws and twist ties	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole- Class Activity, Independent Activity	Math message follow-up Solving geometry riddles Using straws and twist ties to model polyhedrons Playing credits/debits game Math Boxes Writing and solving "what am I?" riddles Drawing a cube Making a model of a tetrahedron
11.4	What is volume?	4.2 Geometry and	To review concepts and units	Math Boxes Ongoing	Mental Math and Reflexes, Math	Math message follow-up Visualizing metric cubic units

		Measurement. D.2, D.3, E.3	of volume.	Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Message, Whole-Class Activity, Independent Activity	Using cubes to find the volume of a rectangular prism Solving problems about the world's largest foods Math Boxes Building background for mathematics words Visualizing U.S. customary cubic units
11.5	How will knowing the formula for the volume of rectangular prisms help you learn about volume?	4.1 Number and Numerical Operations. B.3 4.2 Geometry and Measurement. D.2, E.3 4.4 Data, Analysis, Probability, and Discrete Mathematics. B.3	To derive and use a formula for the volume of a rectangular prism	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Solving cube-stacking problems Deriving a formula for the volume of a rectangular prism Finding volume Playing the credits/debits game Math Boxes Exploring volume by building prisms Estimating the volume of a sheet of paper
11.6	How do you add and subtract positive and negative integers?	4.1 Number and Numerical Operations. A.7 4.4 Data, Analysis,	To add and subtract positive and negative integers	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Using credits and debits to practice subtraction of positive and negative numbers Playing the credits/debits game Summarizing the gram and ounce museum

		Probability, and Discrete Mathematics. D.2 4.5 Mathematical Processes. B.3		Written assessment Alternative assessment options		Math Boxes Using a number line to add and subtract positive and negative numbers
11.7	What is capacity and weight?	4.2 Geometry and Measurement. D.2 4.5 Mathematical Processes. C.4	T review customary units of capacity?	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole- Class Activity, Independent Activity	Math message follow-up Finding the weight of a cup of rice Solving problems involving units of weight and capacity Math Boxes Modeling the capacity of annual rice consumption Doubling grains of rice
11.8	How will you review and be assessed for Unit 11?	4.5 Mathematical Processes. B.2, D.2	To review and assess students' progress on the material covered in Unit 11	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole- Class Activity, Independent Activity	Math message follow-up Oral and slate assessments Written assessment Solve a record rainfall problem Math Boxes

12.1	What are rates?	4.3 Patterns and Algebra. C.1 4.4 Data, Analysis, Probability, and Discrete Mathematics. A.2, B.1, B.3 4.5 Mathematical Processes. C.4	To introduce rates; and to collect and compare rate data	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Collecting Eye Blinking Data Comparing Eye Blinking Rates Math Boxes Collecting Follow up data on eye blinking rates Using the language of rates Using multiplication/division diagrams to solve rate problems
12.2	How do you solve rate problems?	4.3 Patterns and Algebra. B.1 4.4 Data, Analysis, Probability, and Discrete Mathematics. C.2 4.5 Mathematical Processes. A.2, E.3	To use a rate table to record rate information; and to solve rate problems	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Introducing rate tables Solving rate problems Practicing with rate problems Playing the credits/debits game (advanced version) Mat boxes Solving more rate problems Solving mammal speeds problems
12.3	How do you convert between rates?	4.1 Number and Numerical Operations. B.3 4.4 Data,	To check the validity of data by converting them to more accessible rates	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Exploring methods for checking data Checking whether data make sense Collecting unit price information

		Analysis, Probability, and Discrete Mathematics. A.1 4.5 Mathematical Processes. B.2, C.4, D.2		assessments Written assessment Alternative assessment options		Math boxes Solving mammal heart rates problems Analyzing data
12.4	How do you comparison shop (part 1)?	4.1 Number and Numerical Operations. A.6	To calculate the unit price for a product; to compare unit prices; and to identify information needed for comparison shopping	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Calculating and comparing unit prices Solving rate problems Math boxes testing products with Zillions magazine
12.5	How do you comparison shop (part 2)?	4.1 Number and Numerical Operations. A.6	To calculate and compare unit prices that involve fractions of cents	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Discussing unit price labels Solving problems involving unit pricing Calculating prices without a calculator Math boxes Calculating unit prices Comparing prices

				options		
12.6	How did the World Tour help you learn about numbers?	4.5 Mathematical Processes. B.1, B.2, B.4, C.4, C.5, C.6, D.2, E.1	To reflect on this year's World Tour experiences.	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Reflecting on the world tour Solving rate problems Math boxes Exploring the culture geography and history of countries through numbers
12.7	How will you review and be assessed for Unit 12?	4.3 Patterns and Algebra. C.1 4.5 Mathematical Processes. D.1, D.2, D.3	To review and assess students' progress on the material covered in Unit 12	Math Boxes Ongoing Assessment: kid watching Math Message Oral and slate assessments Written assessment Alternative assessment options	Mental Math and Reflexes, Math Message, Whole-Class Activity, Independent Activity	Math message follow-up Oral and slate assessments Written assessments Solve multi step problems involving rates End of year assessment Math boxes Family letter