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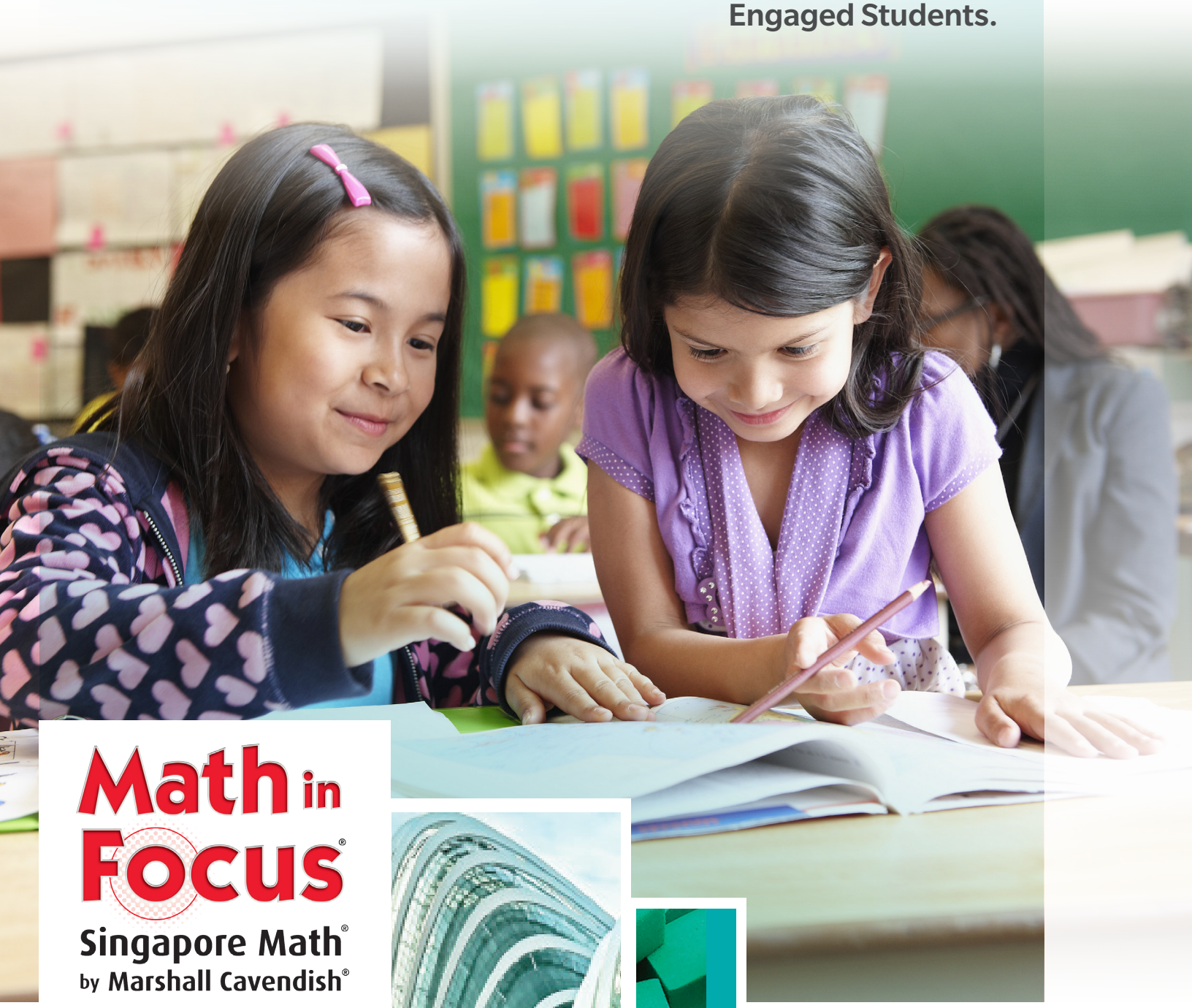
Scope and Sequence

GRADES K–5

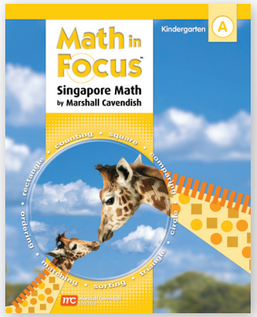
International Results. Proven Pedagogy.
Engaged Students.



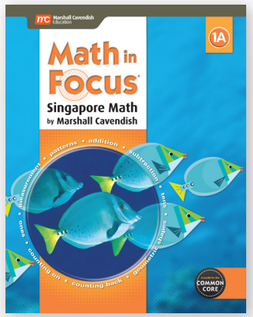
Math in Focus®

Singapore Math® by Marshall Cavendish®

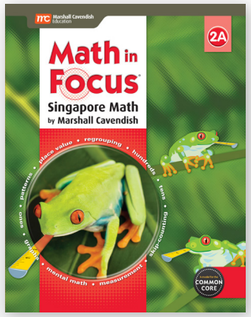
Marshall Cavendish Education



Grade K



Grade 1



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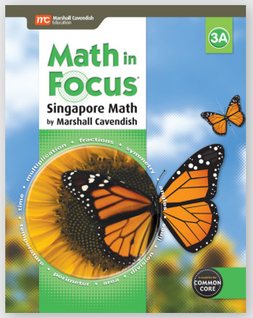

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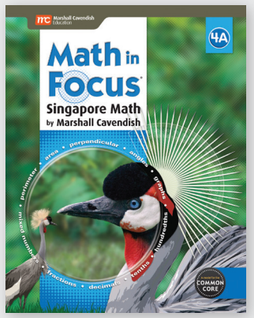
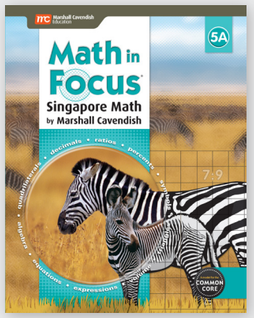


Grade 4



Grade 5

Math in Focus®: Singapore Math® by Marshall Cavendish® is the U.S. Edition of Singapore's most widely used math program.

Key Differences
and Distinguishing Characteristics

Articulated Sequence

Math in Focus answers the call for a coherent sequence of topics giving students time to master foundational topics, so that little repetition is required the next year. Thus, each grade level covers fewer topics but in more depth, and you won't find all topics in every grade level.

- **"Missing topics"** When a topic appears to be "missing," you can be assured that it is found in either an earlier or later grade level. For example you will find calendar concepts in Grades K and 1, but not repeated in Grade 2.
- **More advanced** As a result of not repeating topics year after year, students who use *Math in Focus* will advance faster than students in other programs. As a result, you may find topics that seem to be "too advanced." However, you will find your students easily able to handle the challenge as long as they have had the appropriate preliminary instruction.

Preparation for Algebra

Math in Focus answers the call to prepare students for algebra. As recommended by the National Math Panel, the *Math in Focus* sequence of topics emphasizes:

- **Number sense, basic facts, and computation** An early understanding of composition and decomposition of numbers is developed in tandem with mastery of basic facts and computation algorithms in Grades K–2.
- **Fractions and proportional reasoning** Significant time is allocated for in-depth work with fractions in Grades 3–5.
- **Problem solving** Challenging problem solving is built into each chapter in every grade level.

Developmental Continuum

Kindergarten

Foundational concepts through songs, rhymes, and hands-on activities

- counting
- sorting
- number sense

Grades 1–2

Concept and skill development through hands-on instruction and practice

- basic facts
- place value
- mental math
- geometry concepts

View the complete K–5 Scope and Sequence at **hmhco.com/mathinfocus**

Grades 3–5

Emphasis on problem solving, skill consolidation, and a deep understanding in preparation for algebra

- fractions
- decimals
- ratios
- model drawing
- expressions, equations, and inequalities

Scope and Sequence Grades K–5

Number and Operations

	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Sets and Numbers	Use concrete models and pictures to create sets with given numbers of objects to 20. Use cardinal and ordinal numbers.	Use concrete and pictorial models to create a set with a given number of objects (up to 120). Group objects and numbers up to 120 in tens and ones. Use cardinal numbers up to 120 and ordinal numbers up to 10th.	Use concrete and pictorial models to create a set with a given number of objects (up to 1,000). Group objects and numbers up to 1,000 into hundreds, tens, and ones. Group objects into equal sized groups.			Understand negative numbers in context.
Number Representation	Use numbers to represent quantities to 20. Write numerals to represent numbers 0 to 20.	Use number bonds to represent number combinations. Represent numbers to 100 on a number line.	Use place value models to create equivalent representations of numbers. Represent numbers to 1,000 on a number line.	Represent numbers to 10,000 in different equivalent forms.	Represent numbers to 100,000 in various contexts.	Understand place value concepts through millions.
Count	Explore count sequence and number names to 100. Count on and back from a given number. Realize that, when counting, the last number named tells how many. While counting objects, say one number name per item. Count numbers of items in sets from different starting points; count sets accurately regardless of arrangements of objects. Relate each successive number name to a quantity that is one greater. Count up to 20 objects in a set. Count on and back to 20. Count by 2s and 5s up to 20; count by tens to 100.	Count within 120. Count by 1s, 2s, 5s, and 10s forward and backward to 100.	Count within 1,000. Count by multiples of ones, tens, and hundreds.	Count within 10,000. Count by hundreds and thousands.	Count by thousands and ten thousands.	Count by hundred thousands and millions.

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2
Number and Operations (continued)			
Compare and Order	Compare and order sets and numbers up to 20 using counting and matching strategies.	Compare and order whole numbers to 100. Compare and order using the terms same, more, fewer, greater than, less than, equal to, greatest, and least.	Compare and order whole numbers to 1,000. Use <, >, and = to compare two two-digit numbers.
Compose and Decompose Numbers	Compose and decompose numbers less than or equal to 10 into pairs in more than one way. Compose and decompose numbers less than or equal to 10 into pairs in more than one way.		
Place Value	Compose and decompose numbers from 11 to 19 into ten ones and some further ones and 20 as 2 tens. Explore numbers 21–100 as tens and ones.	Use place value models and place value charts to represent numbers to 120. Write numbers to 120 in standard and word forms.	Use base-ten models and place value charts to represent numbers to 1,000. Express numbers to 100 in terms of place value. Compose and decompose multi-digit numbers (including expanded form).
Fraction Concepts		Partition shapes into two to four equal shares. Use appropriate terminology to describe the shares. Understand that dividing a shape into more equal shares makes smaller shares.	Partition circles and rectangles into unit fractions halves, thirds, and fourths. Understand the relationship between a fraction and a whole. Compare and order halves, thirds, and fourths using bar models.

	Grade 3	Grade 4	Grade 5
Number and Operations (continued)			
Compare and Order	Compare and order whole numbers to 10,000.	Compare and order whole numbers to 100,000.	Compare and order whole numbers to 10,000,000.
Compose and Decompose Numbers			
Place Value	Use place value models to read, write, and represent numbers to 10,000.	Write numbers to 100,000 in standard, expanded, and word forms.	Understand place-value concepts through millions.
Fraction Concepts	Understand the meanings and uses of fractions including fraction of a set. Understand that the size of a fractional part is relative to the size of the whole. Compare fractions using models and number lines. Recognize equivalent fractions through the use of models, multiplication, division, and number lines.	Recognize, write, name, and illustrate mixed numbers and improper fractions in various forms. Find a fraction of a set. Generate equivalent fractions. Compare nonequivalent fractions by creating common denominators or numerators, or by comparing with benchmark fractions. Use <, >, = symbols.	Understand how to convert fractions to decimals. Understand the relationships between fractions and division expressions.

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2
Number and Operations (continued)			
Fraction Concepts (continued)			
Money	Identify and relate coin values (penny, nickel, dime, quarter). Count and make coin combinations.	Identify and relate coin values (penny, nickel, dime, quarter). Count and make simple coin combinations.	Identify $1, $5, $10, and $20 bills. Count and make combinations of coins and bills. Compare money amounts. Solve word problems involving money, using $ and ¢ appropriately.
Decimal Concepts			Use the dollar sign and decimal point.
Whole Number Computation: Addition and Subtraction	Model joining and separating sets. Use +, -, and = to write number sentences for addition and subtraction stories.	Model addition and subtraction situations. Add and subtract within 20, using appropriate models, numbers and symbols.	Model addition and subtraction within 100 using place-value strategies. Recall addition and subtraction facts.

	Grade 3	Grade 4	Grade 5
Number and Operations (continued)			
Fraction Concepts (continued)	Write whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.	Convert among mixed numbers and improper fractions.	
Money	Add and subtract money. Solve real-world problems involving addition and subtraction of money.		
Decimal Concepts	Use the dollar sign and decimal point in money amounts.	Model decimals using tenths and hundredths. Understand decimal notation through hundredths as an extension of the base-ten system. Read and write decimals that are greater than or less than 1. Compare and order decimals. Identify equivalent fractions and decimals.	Model decimals using thousandths. Understand place value concepts through thousandths. Understand how to convert decimals to fractions.
Whole Number Computation: Addition and Subtraction	Model regrouping in addition and subtraction using place-value strategies	Model regrouping in addition and subtraction using place-value strategies.	

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2
Number and Operations (continued)			
Whole Number Computation: Addition and Subtraction (continued)		Understand the meaning of the equal sign. Decide if equations involving addition and subtraction are true or false.	Use different methods to develop fluency in adding and subtracting multi-digit numbers.
		Use the order, grouping, and zero properties to develop addition and subtraction fact strategies.	
		Add and subtract up to two 2-digit numbers with and without regrouping.	Add and subtract whole numbers to 1,000.
Whole Number Computation: Addition and Subtraction Real-World Problems	Represent and solve addition and subtraction stories with manipulatives, actions, drawings, and number sentences.	Create addition and subtraction stories.	
		Solve addition and subtraction problems using basic facts.	Solve multi-digit addition and subtraction problems by using a bar model.
Develop fluency with addition and subtraction to 5	Practice addition and subtraction in different contexts with words, models, fingers, and numerals.		
Whole Number Computation: Multiplication and Division Concepts	Count by twos and fives to 20.	Skip count by 2s, 5s, and 10s.	Multiply and divide with 2, 3, 4, 5, and 10.
		Add the same number to find the total number of items in equal groups.	Represent multiplication as repeated addition.
		Model sharing equally and making equal groups.	Represent division as repeated subtraction.
			Use the ×, ÷, and = symbols to represent multiplication and division strategies.

	Grade 3	Grade 4	Grade 5
Number and Operations (continued)			
Whole Number Computation: Addition and Subtraction (continued)		Fluently add and subtract multi-digit whole numbers using the standard algorithm.	
	Add and subtract whole numbers to 10,000.		
Whole Number Computation: Addition and Subtraction Real-World Problems	Solve addition and subtraction problems with greater numbers by using a bar model.		
Develop fluency with addition and subtraction to 5			
Whole Number Computation: Multiplication and Division Concepts	Multiply and divide with 3, 4, 6, 7, 8, and 9.		
	Represent multiplication in different ways.	Apply understanding of models for multiplication and division.	
	Model division in different ways.	Recall multiplication facts and related division facts.	

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2
Number and Operations (continued)			
Whole Number Computation: Multiplication and Division Algorithms			
Whole Number Computation: Multiplication and Division Real-World Problems			Use bar models to represent multiplication and division situations. Solve multiplication and division fact problems.
Fraction Computation			Add and subtract like fractions (halves, thirds, fourths).

	Grade 3	Grade 4	Grade 5
Number and Operations (continued)			
Whole Number Computation: Multiplication and Division Algorithms	Multiply 1s, 10s, and 100s with and without regrouping. Apply properties of addition and multiplication properties to multiply. Divide 10s and 1s with and without regrouping, no remainder.	Develop fluency in multiplying multi-digit numbers. Multiply a four-digit whole number by a one-digit whole number, and multiply two two-digit numbers using strategies based on place value and the properties of operations. Divide by a 1-digit number, with a remainder.	Multiply multi-digit numbers. Find quotients involving multi-digit dividends.
Whole Number Computation: Multiplication and Division Real-World Problems	Use bar models to represent multiplication and division situations. Solve one- and two-step multiplication and division problems.	Multiply or divide to solve word problems involving multiplicative comparison by using drawings and equations with a symbol for the unknown number to represent the problem. Solve multi-digit multiplication and division problems. Solve division problems that involve interpreting the remainder.	Compare the size of a product to one factor without multiplication. Solve multiplication and division problems. Determine the most useful form of the quotient and interpret the remainder.
Fraction Computation	Add and subtract like fractions.	Add and subtract unlike fractions.	Add and subtract unlike fraction and mixed numbers. Multiply proper fractions, improper fractions, mixed numbers, and whole numbers. Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. Divide fractions by whole numbers, and whole numbers by fractions. Divide a whole number by a unit fraction.

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2
Number and Operations (continued)			
Fraction Computation (continued)			
Decimal Computation		Add and subtract money.	Solve addition and subtraction word problems involving money.
Estimation and Mental Math		Use mental math strategies to add and subtract.	Use mental math strategies to add and subtract.
		Estimate quantity by using referents.	Round to the nearest ten to estimate sums and differences.
Algebra			
Patterns	Describe and extend repeating shape patterns.	Identify, describe, and extend two- and three-dimensional shape patterns.	Describe, extend, and create two-dimensional shape patterns.
	Find missing terms in repeating patterns.	Skip count by 2s, 5s, and 10s.	Skip count by 2s, 3s, 4s, 5s, and 10s.
	Count by 2s, 5s, and tens.	Identify a rule for sorting objects.	
	Describe a rule for sorting objects.	Identify and extend growing and repeating patterns.	Identify rules for number patterns.
		Find missing terms in growing and repeating patterns.	Find missing terms in table patterns.

	Grade 3	Grade 4	Grade 5
Number and Operations (continued)			
Fraction Computation (continued)		Solve word problems involving multiplication of a fraction by a whole number.	Solve word problems by adding, subtracting, multiplying, and dividing fractions.
Decimal Computation	Add and subtract money amounts.	Add and subtract decimals.	Add and subtract decimals.
			Multiply and divide decimals by whole numbers.
		Solve problems with addition and subtraction of decimals.	Solve problems with multiplication and division of decimals.
Estimation and Mental Math	Use mental math strategies to add subtract, multiply, and divide.	Use mental math and estimation strategies to find sums, differences, products, and quotients.	Use estimation and mental math to estimate sums, differences, products, and quotients.
	Use mental computation and estimation to assess the reasonableness of answers.	Decide whether an estimate or exact answer is needed.	Round decimals.
	Use front-end estimation and rounding to estimate sums and differences.	Use estimation strategies to determine relative sizes of amounts or distances.	Estimate sums and differences with fractions and decimals.
		Round and estimate with decimals.	Estimate products and quotients with decimals.
Algebra			
Patterns	Create and describe multiplication and division patterns.	Identify, describe, and extend numeric and non-numeric patterns.	Identify, describe, and extend numeric patterns involving all operations.
	Skip count by 6s, 7s, 8s, and 9s.		
	Analyze number and counting patterns.	Use a rule to describe a sequence of numbers or objects.	Find rules to complete number patterns.
			Form and graph ordered pairs of corresponding terms from two numerical patterns.

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2
Algebra (continued)			
Properties		Identify 0 as the identity element for addition and subtraction. Use the Associative and Commutative Properties of Addition.	Understand that addition and subtraction are inverse operations. Apply properties of addition. Use the Distributive Property as a multiplication strategy.
Number Theory			Determine whether a group of objects has an odd or even number of members.
Functional Relationships		Understand the relationships between the numbers in fact families.	Recognize how bar models show relationships between numbers and unknowns in number sentences.
Expressions/ Models	Use objects, fingers, drawings, and symbols to represent numbers. Use a variety of concrete (objects, fingers), pictorial, and symbolic models for addition and subtraction. Use objects to represent geometric figures.	Use a variety of concrete, pictorial, and symbolic models for addition and subtraction.	Use a variety of concrete, pictorial, and symbolic models for addition, subtraction, multiplication, and division.
Number Sentences and Equations	Model addition and subtraction stories with addition and subtraction number sentences.	Model addition and subtraction situations by writing addition and subtraction number sentences.	Model multiplication and division situations by writing multiplication and division number sentences.

	Grade 3	Grade 4	Grade 5
Algebra (continued)			
Properties	Understand that multiplication and division are related. Create and explain multiplication and division patterns. Model, define, and explain properties of multiplication.	Represent division as the inverse of multiplication.	Explain patterns in the number of zeroes and in the placement of the decimal point when multiplying a number by a power of 10.
Number Theory	Identify odd and even numbers.	Find the greatest common factor and least common multiple. Determine if a whole number is prime or composite.	
Functional Relationships	Understand the relationships between the numbers in multiplication-division fact families. Describe number relationships in context.	Understand the relationships between the numbers and symbols in formulas for area and perimeter. Describe number relationships in context.	Understand the relationships between the numbers and symbols in formulas for surface area and volume. Describe number relationships in context. Graph ordered pairs and equations from tables of values.
Expressions/ Models	Use a variety of concrete, pictorial, and symbolic models for multi-digit addition, subtraction, multiplication, and division. Represent two-step word problems with a letter for the unknown quantity.	Use a variety of concrete, pictorial, and symbolic models for multiplication and division; and addition and subtraction with fractions and decimals. Understand how to use letters as variables.	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. Write and simplify numerical expressions. Evaluate numeric expressions with two or more operations using the order of operations.
Number Sentences and Equations	Write multiplication and division number sentences.	Write and solve number sentences for multi-step word problems.	Write and solve number sentences and equations for multi-step word problems.

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2
Algebra (continued)			
Number Sentences and Equations (continued)			Use bar models and number sentences to represent real-world problems. Determine the value of missing quantities in number sentences.
Equality and Inequality	Understand the meaning of the = sign in number sentences.	Understand the difference between equality and inequality.	Use and create models that demonstrate equality or inequality. Use <, >, and = to write number sentences.
Geometry			
Size and Position	Use big, middle sized, small, smaller, smallest, bigger, biggest to identify and compare sizes. Use vocabulary such as *beside* and *above* to describe and compare relative positions of objects.	Describe position with left and right. Use positional words to describe location.	
Lines and Angles			Identify parts of lines and curves.
Two-Dimensional Shapes	Describe, compare, and name two-dimensional shapes regardless of their orientations and overall sizes. Name flat shapes that make up surfaces of real-world objects. Sort and classify two-dimensional shapes.	Identify real-world two-dimensional shapes. Identify and describe attributes and properties of two-dimensional shapes.	Recognize and draw shapes based on specified attributes. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. Identify, describe, sort, and classify two-dimensional shapes.

	Grade 3	Grade 4	Grade 5
Algebra (continued)			
Number Sentences and Equations (continued)	Write and solve number sentences for one- and two-step real-world problems. Determine the missing parts (quantities or symbols) in number sentences.	Use bar models and number sentences for multi-step real-world problems. Determine the missing parts (quantities or symbols) in number sentences.	Write and solve equations. Graph linear equations.
Equality and Inequality	Understand equality and inequality.	Understand equality and inequality.	Understand equality and inequality. Write and interpret statements of equality and inequality.
Geometry			
Size and Position			
Lines and Angles	Identify perpendicular and parallel lines. Identify right angles and compare angles to right angles.	Draw perpendicular and parallel lines. Draw and measure angles. Understand the relationship between angles and circular measurement (360°). Recognize that angles can be broken down into smaller parts.	Understand how to work with angles on a straight line. Understand how to work with angles at a point.
Two-Dimensional Shapes	Describe, analyze, compare, and classify two-dimensional shapes by their sides and angles.	Apply the properties of squares and rectangles.	Apply the properties of right, isosceles, and equilateral triangles.

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2
Geometry (continued)			
Two-Dimensional Shapes (continued)	Combine simple shapes to form larger shapes and pictures. Make and extend two-dimensional shape patterns.	Sort and classify two-dimensional shapes based on attributes. Compose and decompose two-dimensional shapes. Partition circles and rectangles into equal halves and fourths. Understand that decomposing into more equal shares will create smaller shares.	Identify parts of lines and curves. Compose and decompose two-dimensional shapes. Develop foundations for understanding area.
Three-Dimensional Shapes	Analyze, describe, compare, name, and sort solid shapes. Understand that the surfaces of three-dimensional shapes are made up of two-dimensional shapes.	Identify real-world three-dimensional shapes. Identify real-world three-dimensional shapes. Identify two-dimensional shapes in three-dimensional shapes. Sort and classify three-dimensional shapes. Recognize shapes from different perspectives. Compose and decompose three-dimensional shapes.	Identify, describe, sort, and classify three-dimensional shapes. Identify surfaces that slide, stack, and roll.
Congruence and Symmetry		Develop initial understanding of congruence and symmetry.	
Transformations			

	Grade 3	Grade 4	Grade 5
Geometry (continued)			
Two-Dimensional Shapes (continued)	Classify and sort polygons and quadrilaterals by attributes and properties. Investigate composing and decomposing two-dimensional shapes. Use attributes and properties to solve problems. Measure and compare the area of plane figures in different square units.	Find unknown angle measures and side lengths of squares and rectangles. Identify figures that form tessellations. Understand the relationships between the numbers and symbols in formulas for area and perimeter.	Apply the sum of the angle measures of a triangle. Apply the properties of a parallelogram, rhombus, and trapezoid. Demonstrate that the sum of any two side lengths of a triangle is greater than the length of the third side. Find the area of a rectangle with fractional side lengths. Find the area of a triangle.
Three-Dimensional Shapes			Identify and classify prisms and pyramids. Identify the solid that can be made from a net. Identify cylinders, spheres, and cones. Describe cylinders, spheres, and cones by the number of and types of faces, and the number of edges and vertices. Create a solid figure by using unit cubes.
Congruence and Symmetry	Recognize a line of symmetry and symmetrical figures. Solve problems involving congruency.	Recognize line and rotational symmetry. Relate rotational symmetry to turns and congruency.	
Transformations	Identify pairs of shapes that show a flip, slide, and turn. Demonstrate that figures and their flip, slide, and turn images are congruent.	Use transformations to form tessellations.	

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2
Geometry (continued)			
Coordinate Geometry			
Measurement			
Length and Distance	Compare and order lengths (long, short, longer, shorter, longest, shortest). Describe and compare lengths and heights using non-standard units. Develop a background for measurement using non-standard units.	Compare the lengths of two objects by comparing each with a third length (transitivity). Use a start line to measure length. Measure lengths, using non-standard units. Explain the need for equal-length units to measure. Count length units in groups of 10s and 1s. Compare measurements made using different units. Understand the inverse relationship between the size of a unit and the number of units.	Demonstrate linear measure as an iteration of units. Use rulers to measure length. Measure length in meters, centimeters, feet, and inches. Use units of different length to measure an object twice; describe how the two measurements relate to the size of the unit chosen. Compare and measure lengths using customary and metric units. Demonstrate partitioning and transitivity in relation to length. Solve problems involving estimating, measuring, and computing length.
Weight/Mass	Compare and order objects by weight. Compare weights using non-standard units.	Compare and measure weights using non-standard units. Compare the mass of two objects by comparing each with a third mass (transitivity). Solve weight problems.	Compare and measure masses. Solve mass problems.

	Grade 3	Grade 4	Grade 5
Geometry (continued)			
Coordinate Geometry		Develop coordinate readiness with tables and line graphs.	Plot points on a coordinate grid (first quadrant only).
Measurement			
Length and Distance	Select appropriate units and tools to estimate and measure length. Use meter sticks, 12-inch rulers, and yardsticks to measure length. Measure length to the nearest half inch and inch. Use referents to estimate distance. Estimate and measure length, distance, and height in meters, centimeters, and kilometers. Convert among metric units of length. Solve one- and two-step real-world problems in measurement.	Write a larger unit of length in terms of a smaller unit. Solve real-world problems in measurement involving length.	Use measurement conversions of length in solving real-world problems.
Weight/Mass	Select appropriate units and tools to estimate and measure weight. Use referents to estimate weight. Estimate and find masses of objects. Convert among units of mass.	Write a larger unit of length in terms of a smaller unit. Solve real-world problems in measurement and estimation involving weight/mass.	Use measurement conversions of weight/mass in solving real-world problems.

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2
Measurement (continued)			
Capacity/ Volume	Describe and compare capacities.		Measure volume (capacity) in liters. Solve real-world problems involving volume.
Time	Identify placement of events in a time sequence; identify yesterday, today, and tomorrow. Name and order the days of the week and the months of the year. Compare durations of events.	Read a calendar to identify the days of the week, months, and seasons of the year. Recognize the correct way to write the date. Tell time in hours and half hours on analog and digital clocks.	 Tell and write time using AM and PM. Tell time to the nearest five minutes. Find elapsed time.
Temperature			

	Grade 3	Grade 4	Grade 5
Measurement (continued)			
Capacity/ Volume	Select appropriate tools and units to estimate and measure volume and capacity. Determine the volume and capacity of a container. Recognize the relationship among units of customary capacity. Use referents to estimate capacity. Estimate and measure capacity in liters and milliliters. Convert among metric units of capacity.	 Determine the relative sizes of measurement units within a system. Solve real-world problems in measurement involving capacity/volume. Write a larger unit of volume in terms of a smaller unit.	Use measurement conversions of capacity/volume in solving real-world problems. Estimate and measure volume in cubic units. Recognize volume as additive and find the volumes of prisms and solid figures. Use formulas to find the volume of rectangular prisms and other solid figures.
Time	Tell time to the nearest minute. Read time on a digital clock. Convert between hours and minutes. Determine elapsed time. Add and subtract units of time.		
Temperature	Read a Fahrenheit thermometer. Choose the appropriate tool and unit to measure temperature. Use referents to estimate temperature.		

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Measurement (continued)						
Angles				Compare angles to right angles.	Estimate and measure angles in whole-number degrees with a protractor. Classify angles by angle measure and recognize angle measure as additive. Relate 1/4-, 1/2-, 3/4-, and full turns to the number of right angles. Understand the relationship between angles and the 360 degrees of the measure of a circle.	Apply the idea that the sum of angles on a straight line is 180°. Apply the idea that vertical angles are equal in measure. Apply the idea that the sum of angles at a point is 360°.
Perimeter				Measure perimeter of plane figures. Choose the appropriate tool, unit, and strategy to measure perimeter. Estimate the perimeter of surfaces and objects.	Find the perimeter of composite figures. Solve problems involving the perimeter of squares, rectangles, and composite figures.	
Area		Compose and decompose two-dimensional shapes (foundation for understanding area).	Develop foundations for understanding area.	Find and compare the area of plane figures in different square units. Make different plane figures with the same area. Estimate area of small and large surfaces. Compare the area and perimeter of two plane figures. Find the area of rectangles and composite figures.	Understand that area is an attribute of two-dimensional figures. Connect area measure to the area model for multiplication; use it to justify the formula for the area of a rectangle. Estimate and measure area in square units. Select appropriate units, strategies, and tools to solve area problems. Explain the relationships among area formulas of different polygons. Recognize area as additive.	Find the area of a rectangle with fractional side lengths. Find the area of triangles.

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2
Measurement (continued)			
Surface Area and Volume			
Data Analysis			
Classifying and Sorting	Understand similarities and differences in objects and shapes. Identify attributes that may be used as a basis for sorting. Sort and classify objects using one or two attributes. Count and compare numbers of objects in categories.	Sort and classify geometric shapes. Sort and classify data in order to make graphs.	Sort and classify two- and three-dimensional shapes by properties. Collect and organize data in picture graphs.
Collect and Organize Data	Organize data for a picture graph.	Collect and organize data in different ways.	Collect and organize data in different ways.
Represent Data	Represent data in picture graphs.	Represent measurements and data in picture graphs, tally charts, and bar graphs.	Represent measurement data in a line plot using whole numbers.
Interpret/ Analyze Data	Interpret data shown in tally charts and graphs.	Interpret data in picture graphs, tally charts, and bar graphs. Read bar graphs with scales. Solve problems involving data.	Interpret picture graphs with scales. Solve real-world problems using picture graphs.

	Grade 3	Grade 4	Grade 5
Measurement (continued)			
Surface Area and Volume			Decompose solid figures to find the surface area. Estimate and measure volume in cubic units.
Data Analysis			
Classifying and Sorting	Classify and sort polygons and quadrilaterals by attributes and properties. Collect and organize data in bar graphs and line plots.	Construct line plots, stem-and-leaf plots, tables, and line graphs.	Generate a double graph to represent and compare data.
Collect and Organize Data			
Represent Data	Represent measurement data in a line plot where the horizontal scale is marked in whole numbers, halves, or quarters.	Make a line plot to display a data set of measurements in fractions of a unit.	Make a line plot to display a data set of measurements in fractions of a unit.
Interpret/ Analyze Data	Interpret picture graphs with scales. Use frequency tables, bar graphs, picture graphs, and line plots to solve real-world problems.	Interpret tally charts, bar graphs, picture graphs, tables, line graphs, and line plots. Find the mean (average), median, mode, and range of a data set. Decide whether an outcome is certain, more likely, equally likely, less likely, or impossible. Write the probability of an event as a fraction.	Interpret tally charts, bar graphs, picture graphs, tables, line graphs, and line plots. Interpret a line plot to solve problems involving addition and subtraction of fractions. Compare the results of an experiment with theoretical probability. Find all possible combinations by listing, making a tree diagram, and multiplying. Determine experimental probability of an outcome.

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2
Make Sense in Solving Problems			
Build Skills Through Problem Solving	Build skills in comparing sets, and addition and subtraction encountering, discussing, and solving problems.	Build skills in addition, subtraction, and measurement through problem solving.	Build skills in addition, subtraction, multiplication, division, and measurement through problem solving.
Solve Real-World Problems	Solve real-world problems involving sorting, counting, and addition and subtraction. Determine coins needed for various purchases.	Solve real-world problems involving addition and subtraction.	Solve real-world problems involving addition, subtraction, multiplication, division, and measurement.
Use Appropriate Strategies and Thinking Skills to Solve Problems	Decide on number sentences to fit addition and subtraction situations.	Apply problem-solving strategies in Put on Your Thinking Cap! and Problem Solving activities.	Apply problem-solving strategies in Put on Your Thinking Cap! and Problem Solving activities.
Apply and Explain Problem Solving	Solve real-world problems and describe methods for doing so. Explain why solutions make sense and are correct. Encounter situations in which there is more than one good answer.	Apply and explain problem-solving processes in Put on Your Thinking Cap! and other activities.	Apply and explain problem-solving processes in Put on Your Thinking Cap! and other activities.
Reasoning			
Explore Concepts	Use models to explain reasoning.	Explore concepts more deeply and justify reasoning in Let's Explore and Hands-On activities. Apply Thinking Skills, Put on Your Thinking Cap!, Challenging Practice, and Problem Solving activities.	Explore concepts more deeply and justify reasoning in Let's Explore and Hands-On activities. Apply Thinking Skills, Put on Your Thinking Cap!, Challenging Practice, and Problem Solving activities.
Investigate Mathematical Ideas	Apply counting and comparing skills in wide variety of contexts; use numerals to convey information. Investigate ideas with two-dimensional and three-dimensional shapes. Investigate measurement concepts.	Further investigate mathematical ideas by completing critical thinking skills activities.	Further investigate mathematical ideas by completing critical thinking skills activities.

	Grade 3	Grade 4	Grade 5
Make Sense in Solving Problems			
Build Skills Through Problem Solving	Build skills in addition, subtraction, multiplication, division, and measurement through problem solving.	Build skills in multiplication, division, fraction concepts, data analysis, and measurement through problem solving.	Build skills in multiplication; division; fraction concepts, decimals, geometry; data analysis; and measurement through problem solving.
Solve Real-World Problems	Solve real-world problems involving addition, subtraction, multiplication, division, and measurement.	Solve real-world problems involving addition, subtraction, multiplication, division, and measurement, including time and money	Solve real-world problems involving multiplication; division; concepts with whole numbers, fractions, decimals, data analysis, and measurement.
Use Appropriate Strategies and Thinking Skills to Solve Problems	Apply problem-solving strategies in Put on Your Thinking Cap! and problem-solving activities.	Use appropriate strategies to solve real-world problems.	Use appropriate strategies to solve real-world problems.
Apply and Explain Problem Solving	Apply and explain problem-solving processes in Put on Your Thinking Cap! and other activities.	Apply and explain problem-solving processes in Put on Your Thinking Cap! and other activities.	Apply and explain problem-solving processes in Put on Your Thinking Cap! and other activities.
Reasoning			
Explore Concepts	Explore concepts more deeply and justify reasoning in Let's Explore and Hands-On activities. Apply Thinking Skills in Put on Your Thinking Cap!, Challenging Practice, and Problem Solving activities.	Explore concepts more deeply and justify reasoning in Let's Explore and Hands-On activities. Apply Thinking Skills in Put on Your Thinking Cap!, Challenging Practice, and Problem Solving activities.	Explore concepts more deeply and justify reasoning in Let's Explore and Hands-On activities. Apply Thinking Skills in Put on Your Thinking Cap!, Challenging Practice, and Problem Solving activities.
Investigate Mathematical Ideas	Further investigate mathematical ideas by completing critical thinking skills activities.	Further investigate mathematical ideas by completing critical thinking skills activities.	Further investigate mathematical ideas by completing critical thinking skills activities.

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2
Reasoning (continued)			
Identify, Demonstrate, and Explain Mathematical Proof	Explain ways of identifying equal sets or explain which set has more or fewer. Use a balance to determine weights of objects in nonstandard units. Demonstrate that only a few big objects fit into small spaces and many small objects fit into big spaces. Describe, sort, and classify two- and three-dimensional shapes. Interpret data in tally charts and bar graphs. Identify and extend repeating shape patterns. Explain why solutions make sense and are correct. Resist counter-suggestions about answers.	Explore transitivity by comparing lengths and weights of three different objects. Identify and describe attributes and properties of two- and three-dimensional shapes. Interpret picture graphs, tally charts, and bar graphs. Identify and extend growing number patterns and repeating shape patterns.	Demonstrate the inverse relationship between the size of a unit and the number of units. Identify, describe, sort, and classify two- and three-dimensional shapes. Interpret picture graphs with scales. Identify rules for number patterns.
Use a Variety of Reasoning Skills	Sort and classify using attributes. Identify similarities and differences.	Recognize shapes from different perspectives. Use the Commutative and Associative properties, and 10s and 1s to solve two-digit addition and subtraction problems.	Identify surfaces that slide, stack, and roll. Explore the inverse relationship between addition and subtraction.

	Grade 3	Grade 4	Grade 5
Reasoning (continued)			
Identify, Demonstrate, and Explain Mathematical Proof	Demonstrate the relationship between fractions on a number line and rulers marked with halves and fourths of an inch. Classify and identify two-dimensional shapes as polygons. Interpret bar graphs with scales. Create and explain multiplication and division patterns.	Demonstrate that figures and their flip, slides, and turn images are congruent. Demonstrate that some figures have rotational symmetry. Use properties of squares and rectangles to solve problems. Analyze line plots with fractions of a unit. Identify, describe, and extend numeric and non-numeric patterns.	Examine the relationships between three-dimensional figures and the faces of the two-dimensional figures that form them. Use properties of triangles and four-sided figures to solve problems. Explain the relationships among area formulas of different polygons. Make and analyze a line plot to represent a data set of measurements in fractions of a unit. Identify, describe, and extend numeric patterns involving all operations.
Use a Variety of Reasoning Skills	Model, define, and explain properties of multiplication. Explore the inverse relationship between multiplication and division.	Use properties of squares and rectangles to solve problems about area and perimeter. Explore the relationship between models for multiplication and division for whole numbers.	Use properties to classify triangles and quadrilaterals. Apply understanding of models for multiplication and division of fractions and decimals by whole numbers.

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2
Reasoning (continued)			
Use a Variety of Reasoning Skills (continued)	Determine numbers given clues; explain and justify answers. Analyze two-and three-dimensional shapes; identify their attributes and name them based on their attributes.		
Communication			
Consolidate Mathematical Thinking	Consolidate thinking in independent activities.	Present mathematical thinking through Math Journal activities.	Present mathematical thinking through Math Journal activities.
Communicate with Peers, Teachers, and Others	Discuss mathematical ideas in paired and small group activities as well as activities led by the teacher.	Discuss mathematical ideas in Let's Explore activities. Work together in pairs or groups in Let's Explore, Games, and other activities.	Discuss mathematical ideas in Let's Explore activities. Work together in pairs or groups in Let's Explore, Games, and other activities.
Share Mathematical Thinking	Share mathematical ideas in paired and small group activities.	Share mathematical ideas with others during Let's Explore and Hands-On activities.	Share mathematical ideas with others during Let's Explore and Hands-On activities.
Construct Arguments and Express Mathematics Ideas	Express ideas—with words and gestures—in paired and small group activities as well as activities led by the teacher. Use models and pictures as stimulus for explaining thinking.	Express ideas in Math Journal activities, using lesson vocabulary. Use chapter and lesson vocabulary correctly.	Express ideas in Math Journal activities, using lesson vocabulary. Use chapter and lesson vocabulary correctly.
Connections and Structure			
Look for and Use Structure to Recognize Connections in Mathematical Ideas	Understand the connection between quantities and written numerals.	Relate counting to addition and examine and apply the inverse relationship between addition and subtraction.	Examine and apply the inverse relationship between addition and subtraction.

	Grade 3	Grade 4	Grade 5
Reasoning (continued)			
Use a Variety of Reasoning Skills (continued)	Use estimation to check reasonableness.	Use estimation to check reasonableness (whole-number addition, subtraction, multiplication and division).	Use number properties (including the distributive property) to check reasonableness of results.
Communication			
Consolidate Mathematical Thinking	Present mathematical thinking through Math Journal activities.	Present mathematical thinking through Math Journal activities.	Present mathematical thinking through Math Journal activities.
Communicate with Peers, Teachers, and Others	Discuss mathematical ideas in Let's Explore activities. Work together in pairs or groups in Let's Explore, Games, and other activities.	Discuss mathematical ideas in Let's Explore activities. Work together in pairs or groups in Let's Explore, Games, and other activities.	Discuss mathematical ideas in Let's Explore activities. Work together in pairs or groups in Let's Explore, Games, and other activities.
Share Mathematical Thinking	Share mathematical ideas with others during Let's Explore and Hands-On activities.	Share mathematical ideas with others during Let's Explore and Hands-On activities.	Share mathematical ideas with others during Let's Explore and Hands-On activities.
Construct Arguments and Express Mathematics Ideas	Express ideas in Math Journal activities, using lesson vocabulary. Use chapter and lesson vocabulary correctly.	Express ideas in Math Journal activities, using lesson vocabulary. Use chapter and lesson vocabulary correctly.	Express ideas in Math Journal activities, using lesson vocabulary. Use chapter and lesson vocabulary correctly.
Connections and Structure			
Look for and Use Structure to Recognize Connections in Mathematical Ideas	Apply the inverse relationship between multiplication and division.	Demonstrate that decimal notation is an extension of the base-ten system.	Understand the relationship between fractions and division.

Scope and Sequence Grades K–5

Connections and Structure

	Kindergarten	Grade 1	Grade 2
Look for and Use Structure to Recognize Connections in Mathematical Ideas (continued)	Use numbers to describe properties of geometric shapes. Use counting and numbers while measuring in nonstandard units.	Understand the relationships between the numbers in fact families. Connect addition and multiplication (repeated addition). Recognize and apply different strategies for adding and subtracting one- and two-digit numbers.	Connect geometric concepts with unit fractions. Connect subtraction and division (repeated subtraction). Recognize and apply different strategies for multiplication and division facts.
Understand How Concepts Build on One Another	Explore relationships among counting, ordering, and ordinal numbers. Compare and relate attributes of two-and three-dimensional figures. Use a variety of measurement attributes to compare objects.	Learn how place value concepts apply to regrouping in addition and subtraction.	Understand how patterns can be described using numbers, operations, and data displays. Recognize the relationship between bar models, number sentences, and number patterns.
Solve Real-World Problems in Contexts Outside of Mathematics	Solve real-world problems involving more and less, and addition and subtraction. Identify two-and three-dimensional figures in real-world objects. Relate knowledge of time and calendar to everyday activities.	Solve real-world problems involving addition, subtraction, and measurement.	Solve real-world problems involving addition, subtraction, multiplication, division, measurement, and data analysis.

Connections and Structure

	Grade 3	Grade 4	Grade 5
Look for and Use Structure to Recognize Connections in Mathematical Ideas (continued)	Understand that the size of a fractional part is relative to the size of the whole. Connect the units of customary capacity to one another. Understand the relationships between the numbers in multiplication-division fact families.	Examine the relationship between fractions and decimals. Make connections among multiplication, division, factors, and multiples. Convert among mixed numbers and improper fractions.	Understand the relationship among fractions and decimals, as ways to represent parts of a whole.
Understand How Concepts Build on One Another	Understand the meanings and uses of fractions including fraction of a set. Use addition, subtraction, multiplication, and division to construct and analyze graphs, frequency tables, and line plots.	Describe number relationships in context. Identify equivalent fractions and decimals. Make connections among the greatest common factor, least common multiple, and operations with fractions.	Explain the relationships among area formulas of different polygons. Identify equivalent fractions, mixed numbers, and decimals. Make connections among operations with fractions and decimals.
Solve Real-World Problems in Contexts Outside of Mathematics	Solve real-world problems involving addition, subtraction, multiplication, division, and measurement. Solve real-world problems related to money.	Solve real-world problems involving multiplication, division, fraction concepts, data analysis, and measurement.	Solve real-world problems involving all four operations with whole numbers, fractions, and decimals; algebra, geometry, measurement, and data analysis.

Scope and Sequence Grades K–5

Represent and Model Mathematics

	Kindergarten	Grade 1	Grade 2
Use Representations to Attend to Precision	Use concrete models to create a set with a given number of objects to 20.	Use concrete and pictorial models to create a set with a given number of objects (up to 120).	Use concrete and pictorial models to create a set with a given number of objects (up to 1,000).
	Use numbers and numerals to represent quantities up to 20.	Represent numbers to 100 on a number line.	Represent numbers to 1,000 on a number line.
	Use picture cards to communicate understanding of comparisons (bigger, taller, smaller).	Use number bonds to represent numbers.	
	Understand the meaning of the +, –, and = sign in number sentences.	Understand equality and inequality.	Use symbolic notation (< and >) to compare numbers.
	Model addition and subtraction stories with addition and subtraction number sentences.	Use the +, –, and = symbols to represent real-world addition and subtraction situations.	Use bar models to represent addition and subtraction situations.
	Represent addition and subtraction stories.	Represent numerical data using picture graphs, tally charts, and bar graphs.	Represent numerical data using picture graphs with scales, tally charts, and bar graphs.
	Use numbers and time relationships to interpret calendar.	Represent sharing equally and making equal groups.	Use the ×, ÷, and = symbols to represent multiplication and division situations.

Represent and Model Mathematics

	Grade 3	Grade 4	Grade 5
Use Representations to Attend to Precision	Use place value models to read, write, and represent numbers to 10,000.	Represent numbers to 100,000 in various contexts.	Explore negative numbers in context.
	Represent numbers in different equivalent forms.	Write numbers to 100,000 in standard, expanded, and word forms.	Express numbers to 10,000,000 in various forms.
			Model decimals to thousandths.
	Use the dollar sign and decimal point in money amounts.	Model decimals to tenths and hundredths.	Use letters as variables to represent unknown values in equations and formulas.
	Solve addition and subtraction problems with greater numbers by using a bar model	Write addition and subtraction number sentences for real-world problems with fractions and decimals.	Convert fractions and mixed numbers to decimals and decimals to fractions and mixed numbers.
	Represent multiplication and division in different ways.	Use models to show relationships between improper fractions and mixed numbers.	Interpret symbols of relation in comparing whole numbers, fractions, and decimals.
	Use a variety of representations for multiplication and division, such as arrays, area models, number lines, grouping, and sharing.	Define and use symbols in geometry to identify and relate geometric figures.	Use a variety of models for multiplication and division of fractions and decimals by whole numbers.
		Use a variety of models to represent multi-step real-world problems with whole numbers, fractions, and decimals.	Use the order of operations in numeric expressions with two or more operations and grouping symbols.
		Use geometry tools (protractor, set squares, grid paper) to model problems.	Write and solve equations. Use a coordinate grid to represent an equation as a graphed line.
		Apply understanding of models for multiplication and division.	Understand the relationships between the numbers and symbols in formulas for area and volume.
			Find rules to complete number patterns.

Scope and Sequence Grades K–5

Represent and Model Mathematics (continued)

	Kindergarten	Grade 1	Grade 2
Use Representations to Attend to Precision (continued)			Represent multiplication with skip counting, dot paper arrays, and bar models. Represent division as repeated subtraction sentences.
		Identify, describe, and extend two- and three-dimensional shape patterns. Identify a rule for sorting objects.	Describe, extend, and create two-dimensional shape patterns.
		Identify and extend growing and repeating patterns.	Identify rules for number patterns.
Select and Apply Appropriate Models and Tools to Represent Models	Represent quantities with objects, number cubes, fingers, pictures/drawings, number cards, acting out, tallies, and numerals.	Use number bonds to represent number combinations.	Use place value models to create equivalent representations of numbers.
		Use a variety of concrete, pictorial, and symbolic models and tools for addition and subtraction.	Use a variety of concrete, pictorial, and symbolic models for addition, subtraction, multiplication, and division.
		Use technology (virtual manipulatives and computers) to model and draw.	Represent multiplication with skip counting and arrays.
			Use customary and metric measuring tools to measure length. Use metric measuring tools to measure mass and capacity. Use technology (virtual manipulatives and computers) to model and draw.

Represent and Model Mathematics (continued)

	Grade 3	Grade 4	Grade 5
Use Representations to Attend to Precision (continued)	Determine the missing parts (quantities or symbols) in number sentences.	Write addition and subtraction number sentences for real-world problems with fractions and decimals.	
	Create and analyze multiplication and division patterns.		
	Identify a rule for number and counting patterns.	Use a rule to describe a sequence of numbers or objects.	
Select and Apply Appropriate Models and Tools to Represent Models	Use a variety of models to represent fractions and equivalent fractions.	Translate between equivalent improper fractions and mixed numbers.	Translate among fractions, mixed numbers, and decimals.
	Use a variety of concrete, pictorial, and symbolic models and tools for multi-digit addition, subtraction, multiplication, and division.	Use a variety of models for multi-digit multiplication and division of whole numbers.	Find the most useful form of the quotient.
	Use customary measuring tools to measure length, weight, and capacity.	Use a variety of models for addition and subtraction of fractions and decimals.	Use a variety of models and tools for multiplication and division of fractions and decimals by whole numbers.
	Use technology (virtual manipulatives and computers) to model and draw.	Use technology (virtual manipulatives and computers) to model and draw.	Use technology (virtual manipulatives and computers) to model and draw.

Scope and Sequence Grades K–5

	Kindergarten	Grade 1	Grade 2
Represent and Model Mathematics (continued)			
Interpret Phenomena through Representations	Show understanding of big, middle-sized, small, and same size.	Measure and compare lengths and weights using non-standard units.	Use metric and customary units to measure length, volume (capacity), weight, and mass.
	Describe and compare objects by position.	Use positional words to describe location.	
	Identify flat shapes that make up surfaces of real-world objects.	Identify real-world two- and three-dimensional shapes.	
	Order objects according to length, height, weight, or capacity.	Represent data in picture graphs.	Represent data in bar graphs and picture graphs.
	Use one-to-one correspondence to identify equality, or more or less.	Solve problems about sharing equally and making equal groups.	Solve real-world problems about social phenomena.
		Use a variety of models for adding and subtracting.	Use bar models to represent addition, subtraction, multiplication, and division situations.

	Grade 3	Grade 4	Grade 5
Represent and Model Mathematics (continued)			
Interpret Phenomena through Representations	Use referents to estimate length, capacity, and weight.	Measure perimeter and area in customary and metric units.	Measure volume of a rectangular prism.
	Measure lengths to the nearest half inch and quarter inch.		
	Use frequency tables, bar graphs, picture graphs, and line plots to solve problems.	Collect data and organize it in a table.	Represent data in a double bar graph.
		Create a line graph from data in a table.	Generate a line plot to represent measurement data.
	Solve real-world problems involving social situations.	Interpret a line plot to solve problems involving addition and subtraction of fractions.	
	Solve real-world problems related to money.	Solve real-world problems involving multiplication, division, fraction concepts, data analysis, and measurement.	Make a table of values from an equation, and plot the points these ordered pairs form in the coordinate plane.
		Use technology (virtual manipulatives and computers) to model and draw.	Solve real-world problems involving whole number, fraction, and decimal operations, algebra, data analysis, and measurement.
			Use technology (virtual manipulatives and computers) to model and draw.

Aligned with National and International Research Recommendations

Focused and Coherent Common Core Curriculum

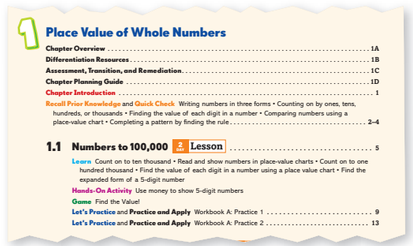
COMMON CORE

For over a decade, research studies of mathematics education in high-performing countries have pointed to the conclusion that the mathematics curriculum in the United States must become substantially more focused and coherent in order to improve mathematics achievement in this country. To deliver on the promise of common standards, the standards must address the problem of a curriculum that is "a mile wide and an inch deep." These Standards are a substantial answer to that challenge.

—Common Core State Standards for Mathematics corestandards.org

Math in Focus®
addresses fewer topics in greater depth at each level.

- Knowledge is built carefully and thoroughly with both multi-page lessons and multi-day lessons.
- Time is built into the program to develop understanding with activities, as well as ample scaffolded, guided learning with every Learn and extensive skills practice.



Grade 4, Chapter 1, Lesson 1.1

Standards for Mathematical Content and Mathematical Practice

COMMON CORE

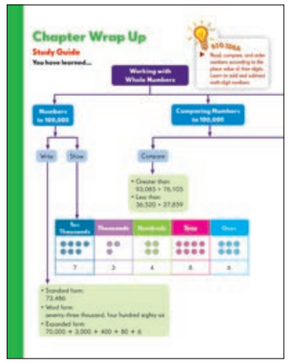
MATHEMATICAL PRACTICES

"Overall, the Common Core State Standards are well aligned to Singapore's Mathematics Syllabus. Policymakers can be assured that in adopting the Common Core State Standards, they will be setting learning expectations for students that are similar to those set by Singapore in terms of rigor, coherence, and focus."

—Achieve, (achieve.org/CCSSandSingapore)

Math in Focus®
focuses on Common Core math concepts and embeds the Standards for Mathematical Practice.

- Lesson content builds strong number concepts and algebraic thinking with focus on the mathematical practices.
- Content is focused on building foundations for number, operations, algebraic thinking, measurement, and geometry.



Problem Solving and Mastery Learning

Singapore Ministry of Education

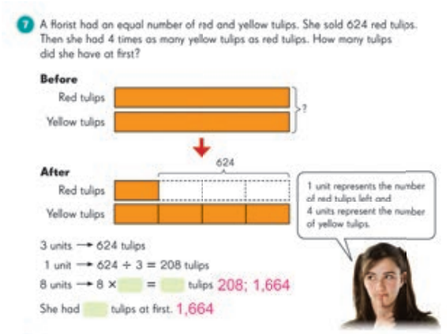
"Mathematical problem solving is central to mathematics learning. It involves the acquisition and application of mathematics concepts and skills in a wide range of situations, including non-routine, open-ended, and real-world problems."

—Mathematics Syllabus: Primary, 2006

MATHEMATICAL PRACTICES

Math in Focus®
develops concepts to mastery at each level through a focus on problem solving.

- Bar modeling is a visual problem-solving heuristic that is the foundation to algebraic thinking.
- Skills are connected to concepts through visual representations for understanding the "why" and the "how."
- Extensive problem solving merges conceptual understanding with computational skills for mastery.



Visuals and Use of Models

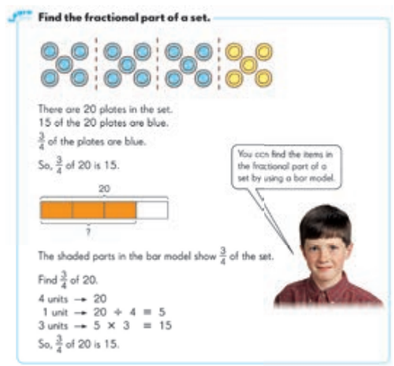
National Research Council

"Opportunities should involve connecting symbolic representations and operations with physical or pictorial representations, as well as translating between various symbolic representations."

—Adding It Up: Helping Children Learn Mathematics, 2001

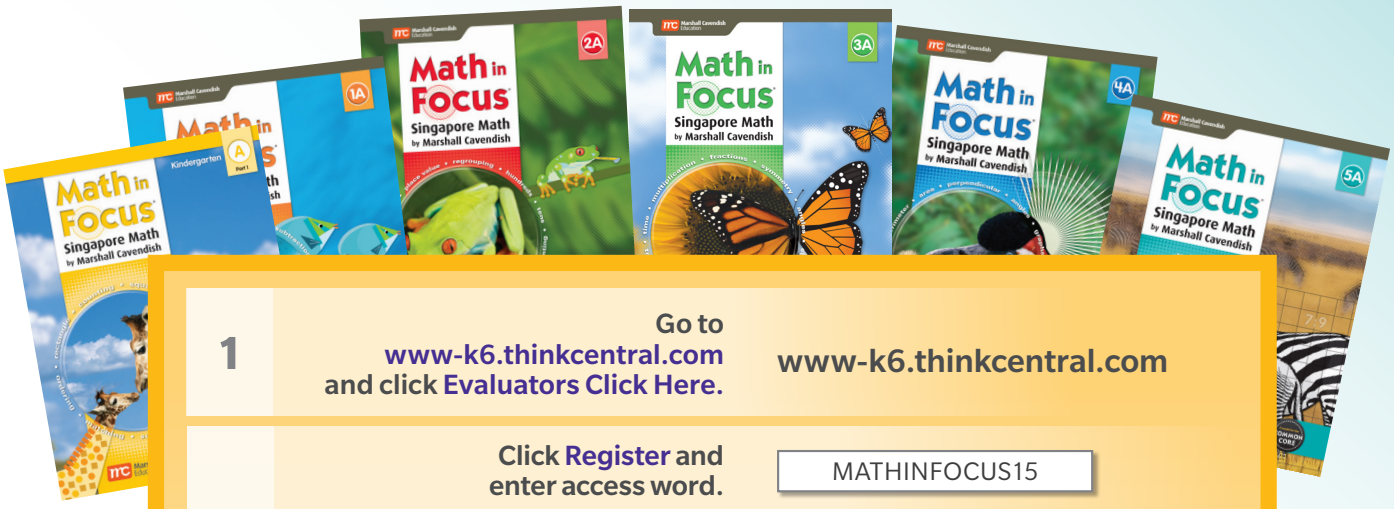
Math in Focus®
uses visual models for presenting concepts, focusing on a meaningful transition to the abstract.

- The use of models, manipulatives, strategic tools, and solving problems that require perseverance support the Standards of Mathematical Practice.
- The visual representation of word problems with bar models and other strategies supports algebraic reasoning and strategies.
- Consistent use of concrete–pictorial–abstract pedagogy leads to conceptual understanding.



Notes

Online Editions **Preview** Grades K–5



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