HMH into Math™

HMH ¡Arriba las Matemáticas!™

Scope and Sequence

Grades 3–5

Into Math Scope and Sequence - Grades 3–5

Number and Operations in Base Ten Operations and Algebraic Thinking			
Topic	**Grade 3**	**Grade 4**	**Grade 5**
Place Value of Whole Numbers and Decimals	Round whole numbers to the nearest ten or hundred. (Lesson 9.5) Use rounding and compatible numbers to estimate sums and differences. (Lesson 9.6)	Describe the value of a digit. (Lesson 1.1) Use place-value relationships to read and write multi-digit whole numbers to 1,000,000 in different forms. (Lesson 1.2) Group multi-digit whole numbers in different ways to 1,000,000. (Lesson 1.3) Compare, order, and round whole numbers through 1,000,000. (Lessons 1.4 and 1.5)	Recognize the 10 to 1 relationship among place-value positions. (Lesson 1.1) Write and evaluate repeated factors in exponent form. (Lesson 1.2) Recognize the 10 to 1 relationship among decimal place-value positions. (Lesson 13.1) Read, write, compare, and order decimals to thousandths. (Lessons 13.2 and 13.4) Round decimals to any place. (Lesson 13.3)
Numerical Expressions			Write and interpret numerical expressions. (Lessons 4.1 and 4.2) Use the order of operations to evaluate numerical expressions. (Lessons 4.3 and 4.4)
Addition and Subtraction	Use mental math strategies to find sums and differences. (Lesson 9.2) Use the Commutative and Associative Properties of Addition to add more than two addends. (Lesson 9.3) Use mental math strategies to assess reasonableness of sums and differences. (Lesson 9.4) Use strategies to add and subtract 2- and 3-digit numbers. (Lessons 10.1–10.5)	Use the standard algorithm to add or subtract whole numbers and assess reasonableness using mental math and estimates. (Lessons 2.1 and 2.2)	Represent decimal addition and subtraction using concrete models or drawings, and assess reasonableness. (Lessons 14.1–14.3) Add and subtract decimals using a written method and strategies based on place value. (Lessons 14.4–14.6)

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Number and Operations in Base Ten Operations and Algebraic Thinking			
Topic	**Grade 3**	**Grade 4**	**Grade 5**
Multiplication **Properties of Multiplication** **Factors and Multiples**	Use concrete and visual models to represent and solve problems when the number of equal groups and the number of objects in each group is known. (Lesson 1.1) Use concrete and visual models or drawings to write related addition and multiplication equations. (Lesson 1.2) Use an array model to represent a multiplication problem. (Lesson 1.3) Use the Commutative Property of Multiplication to find products and to write related multiplication equations. (Lesson 1.4) Count equal groups on a number line to find how many. (Lesson 1.5) Use a bar model to represent an unknown in a multiplication problem. (Lesson 1.6) Achieve fluency with 2s and 4s, 5s and 10s, and 3s and 6s multiplication facts. (Lessons 3.1–3.3) Use the Identity and Zero Properties of Multiplication and patterns to write multiplication equations with the factors 1 and 0. (Lesson 4.1) Use the Distributive Property as a strategy to find products by breaking apart a factor. (Lesson 4.2) Use the Associative Property of Multiplication as a strategy to multiply with three factors. (Lesson 4.3) Apply properties and use strategies to multiply with the factor 7, 8, or 9. (Lessons 4.4–4.6) Show ways to find and explain patterns on the multiplication table by using properties. (Lesson 4.7) Use the Distributive and Associative Properties to break apart factors and find products in which one factor is a multiple of 10. (Lessons 5.1 and 5.2) Use place value, regrouping, and visual and concrete models to find products of multiples of 10. (Lessons 5.3 and 5.4) Multiply and divide within 100 fluently. (Lesson 7.7)	Use place value and patterns to multiply by tens, hundreds, and thousands. (Lesson 4.1) Use estimation to solve problems and to check if the product is reasonable. (Lesson 4.3) Use flexible thinking to represent multiplication and find the product. (Lesson 5.1) Use the Distributive Property and expanded form to multiply 2-digit numbers by 1-digit numbers. (Lessons 5.2 and 5.3) Connect place value and the Distributive Property to recording partial products. (Lesson 5.4) Use place value and regrouping to multiply a 2-digit, 3-digit, or 4-digit number by a 1-digit number. (Lessons 5.5 and 5.6)) Use strategies to multiply with tens and estimate products. (Lessons 8.1 and 8.2) Use different strategies to multiply two 2-digit numbers. (Lessons 8.3–8.6) Use concrete and visual models to identify all the factors of numbers up to 100. (Lesson 10.1) Use division and divisibility rules to determine if a number is a factor of a given number. (Lesson 10.2) Use factors to determine if a number is a multiple of a given number, and list multiples of the given number. (Lesson 10.3) Use factors and division to identify prime and composite numbers. (Lesson 10.4)	Use a basic fact and a pattern to multiply mentally by multiples of 10, 100, and 1,000. (Lesson 1.3) Multiply by 1-digit numbers. (Lesson 1.4) Fluently multiply multi-digit whole numbers to solve multistep problems. (Lessons 1.5 and 1.6) Find patterns in products when multiplying by powers of 10. (Lesson 15.1) Represent multiplication of whole numbers and decimals less than 1, and assess reasonableness. (Lessons 15.2 and 15.3) Multiply a decimal and a whole number using properties and place value. (Lessons 15.4 and 15.5) Use visual models and place-value to multiply decimals. (Lessons 16.1–16.3)

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Number and Operations in Base Ten Operations and Algebraic Thinking			
Topic	**Grade 3**	**Grade 4**	**Grade 5**
Division	Represent and solve division problems. (Lessons 6.1–6.3) Use repeated subtraction and number lines to relate subtraction and division. (Lesson 6.4) Use arrays and bar models to represent division. (Lessons 6.5 and 6.6) Identify and apply rules for dividing with 1 and 0. (Lesson 6.7) Multiply and divide within 100 fluently. (Lesson 7.7)	Use place value and patterns to divide tens, hundreds, and thousands. (Lesson 4.2) Use estimation to solve problems and to check if the quotient is reasonable. (Lesson 4.4) Use mental math to solve multiplication and division problems. (Lesson 4.5) Use place value and visual models to represent division by 1-digit numbers. (Lesson 6.1) Use visual models to divide numbers that do not divide evenly and interpret remainders. (Lessons 6.2 and 6.3) Use area models, the Distributive Property, repeated subtraction, and partial quotients to solve division problems. (Lessons 6.4–6.6) Use concrete and visual models to show division with regrouping and record the division. (Lesson 7.1) Use place value and the relationship between multiplication and division to divide multi-digit numbers by 1-digit numbers. (Lessons 7.2 and 7.3)	Use multiplication to solve division problems. (Lesson 2.1) Model division of whole numbers by 2-digit divisors using an area model and partial quotients. (Lessons 2.2 and 2.4) Estimate quotients involving 2-digit divisors using compatible numbers. (Lesson 2.3) Divide whole number dividends by 2-digit divisors and interpret the remainder. (Lessons 3.1 and 3.2) Adjust the whole-number quotient if the estimate is too high or too low. (Lesson 3.3) Represent a problem with a bar model or an equation and solve a division problem. (Lesson 3.4) Find patterns in quotients when dividing by powers of 10. (Lesson 17.1) Use a concrete or visual model to show division of decimals by whole numbers. (Lessons 17.2 and 17.4–17.7) Estimate decimal quotients. (Lesson 17.3)
Related Facts	Understand multiplication and division as inverse operations, and write related multiplication and division facts. (Lessons 7.1 and 7.2) Multiply and divide with 2 through 9 as factors and divisors. (Lessons 7.3–7.6) Determine the unknown number in a multiplication or division equation. (Lesson 8.2) Model and solve equations that represent multiplication and division situations. (Lesson 8.3)	Relate divison to multiplication by using inverse operations to solve multiplicative comparison problems. (Lesson 3.3)	Relate multiplication to division by using multiplication to solve division problems. (Lesson 2.1)

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Number and Operations in Base Ten Operations and Algebraic Thinking			
Topic	**Grade 3**	**Grade 4**	**Grade 5**
Multistep Word Problems	Develop strategies and use reasoning to represent and solve two-step word problems. (Lesson 8.4) Solve one- and two-step problems that involve all four operations and a letter to represent the unknown. (Lesson 8.5) Model and solve two-step problems. (Lesson 10.6)	Interpret and solve comparison problems using addition and subtraction by drawing bar models. (Lesson 2.3) Represent and interpret multiplicative comparison problems using drawings, equations, and inverse operations. (Lessons 3.1 and 3.3) Distinguish between, represent, and solve additive and multiplicative comparisons and multistep problems. (Lessons 3.2, 3.4, and 3.5) Use equations to model and solve multistep problems. (Lessons 5.7, 7.4, and 8.7)	Solve multistep word problems that include multi-digit mutliplication. (Lesson 1.6) Solve multistep word problems that include measurement conversion. (Lessons 12.2 and 18.3) Solve multistep word problems using a bar model to show the solution process. (Lesson 15.6)
Number Patterns	Identify and extend arithmetic patterns to solve problems. (Lessons 8.1) Identify and explain number patterns on the addition table. (Lesson 9.1)	Use a rule to find numbers in a pattern and identify other features of the pattern not stated in the rule. (Lesson 10.5)	Generate and identify number patterns using two rules and identify the relationship between the corresponding terms in the patterns. (Lesson 19.4)

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Number and Operations - Fractions			
Topic	Grade 3	Grade 4	Grade 5
Understand Fractions	Use visual models to identify and represent halves, thirds, fourths, sixths, and eighths. (Lesson 13.1) Represent and identify one equal part of a whole as a unit fraction, and name unit fractions. (Lesson 13.2) Use visual models to represent and identify fractional parts that are composed of one or more unit fractions. (Lesson 13.3) Identify, describe, and represent fractions on a number line, and relate fractions on a number line to fraction models. (Lesson 13.4)		
Fraction Equivalence	Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers. (Lesson 13.5) Identify, name, and represent fractions greater than 1 and write a fraction greater than 1 as a mixed number. (Lesson 13.6) Use concrete and visual models to compare two fractions. (Lessons 15.1–15.4) Recognize and generate equivalent fractions using concrete and visual models. (Lessons 16.1–16.3)	Use visual models and benchmarks to compare fractions with unlike numerators and denominators. (Lessons 11.1 and 11.2) Use visual fraction models to explain why two fractions are or are not equivalent. (Lesson 11.3) Identify and write equivalent fractions to compare fractions using common numerators or common denominators. (Lessons 11.4–11.6) Use various comparison strategies to order sets of fractions. (Lesson 11.7) Rename mixed numbers as fractions greater than one and vice versa by using representations such as visual models or fraction bars. (Lesson 15.2)	Use equivalent fractions to rewrite pairs of fractions with a common denominator. (Lesson 6.4)

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Number and Operations - Fractions			
Topic	Grade 3	Grade 4	Grade 5
Addition and Subtraction with Fractions		Write fractions in multiple ways as the sum of fractions with the same denominator. (Lesson 14.1) Solve problems involving addition and subtraction of fractions with like denominators using visual representations and equations. (Lessons 14.2–14.5) Use a common denominator of 100 to add two fractions with denominators of 10 and 100. (Lesson 14.6) Apply skills in adding and subtracting fractions with like denominators to those whose numerators are greater than their denominators. (Lesson 15.1) Add and subtract mixed numbers. (Lessons 15.3–15.6)	Use visual models to generate fractions having same-sized parts in addition and subtraction expressions when the fractional parts are not the same size. (Lesson 6.1) Use visual models to add and subtract fractions with different-sized parts. (Lessons 6.2 and 6.3) Use benchmark fractions to estimate sums and differences of fractions with unlike denominators. (Lesson 7.1) Add and subtract fractions and mixed numbers with unlike denominators using common denominators, and assess reasonableness. (Lessons 7.2–7.5) Write equations to solve addition and subtraction problems. (Lesson 7.6)
Multiplication and Fractions		Write a fraction as a multiple of a whole number and a unit fraction. (Lesson 16.1) Write the product of a whole number and a fraction as the product of a whole number and a unit fraction. (Lesson 16.2) Use a visual representation to find the product of a whole number and a fraction, and model it with numbers and symbols. (Lesson 16.3) Find the solutions to problems involving multiplication of fractions or mixed numbers and whole numbers. (Lesson 16.4)	Represent a fractional part of a group. (Lesson 8.1) Represent the multiplication of a whole number by a fraction. (Lesson 8.2) Use a visual model to represent multiplication of fractions. (Lessons 8.3–8.5) Relate the size of the product compared to the size of one factor when multiplying fractions. (Lesson 8.6) Multiply with fractions using an algorithm. (Lesson 8.7) Use an area model to represent multiplication of mixed numbers. (Lessons 9.1–9.3)

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Number and Operations - Fractions			
Topic	Grade 3	Grade 4	Grade 5
Division with Fractions			Interpret a fraction as division and solve whole-number division problems that result in a fraction or mixed number. (Lesson 10.1) Divide a unit fraction by a whole number and a whole number by a unit fraction by using visual fraction models and write word problems to represent it. (Lessons 10.2–10.5) Use a visual model to divide a whole number by a unit fraction and to divide a unit fraction by a whole number. (Lessons 11.1–11.6)
Decimals and Fractions		Record tenths and hundredths as fractions and as decimals. (Lessons 12.1 and 12.2) Express equivalent fractions as decimals, and compare decimals using visual models, number lines, or place value. (Lessons 12.3 and 12.4)	
Measurement			
Length and Distance **Liquid Volume and Capacity** **Mass and Weight**	Estimate and measure perimeter of polygons using inch and centimeter rulers. (Lesson 11.2) Measure lengths using a ruler that is marked off in fractional units to the nearest half or fourth of an inch. (Lesson 13.7) Use reasoning and benchmarks to estimate, and use tools to measure liquid volume in liters. (Lesson 17.1) Use reasoning to estimate, and use tools to measure mass in grams and kilograms. (Lesson 17.2) Use representations and the four operations to solve one-step word problems involving liquid volume and mass. (Lesson 17.3)	Use benchmarks and visual representations to describe and compare customary units of length, weight, and liquid volume. (Lessons 19.1–19.4) Use benchmarks and visual representations to describe and compare metric units of length, mass, and liquid volume. (Lessons 20.1–20.3) Solve problems involving metric or customary units of measure. (Lessons 20.4 and 21.4)	Compare and convert customary units of measurement and solve multistep problems. (Lessons 12.1 and 12.2) Convert and compare metric units and solve multistep problems. (Lessons 18.1–18.3)

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Measurement			
Topic	Grade 3	Grade 4	Grade 5
Money		Solve problems relating to money by representing the problems using a visual model and a decimal dollar amount. (Lessons 12.5 and 12.6)	
Time	Read, write, and tell time on analog and digital clocks to the nearest minute and use a.m and p.m. (Lessons 12.1 and 12.2) Use an analog clock or a number line to measure time intervals and to find start or end times. (Lessons 12.3–12.5)	Use visual representations and reasoning to compare measurements of time. (Lesson 21.1) Solve problems involving elapsed time and start and end time. (Lessons 21.2 and 21.3) Solve problems involving mixed measures. (Lesson 21.4)	Convert units of time to solve elapsed time problems. (Lesson 12.4)
Data			
Represent and Interpret Data	Use information in a picture or bar graph to solve one-step comparison problems. (Lesson s18.1 and 18.3) Represent data in picture graphs and scaled bar graphs and use the information to solve one- and two-step comparison problems. (Lessons 18.2, 18.4, and 18.7) Read and interpret line plots involving data with fractional units of length. (Lesson 18.5) Plot fractional data of standard units of length on a line plot. (Lesson 18.6)	Make and interpret line plots with fractional data. (Lesson 19.5)	Make and use line plots with data given in fractions to solve problems. (Lesson 12.3)

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Geometric Measurement			
Topic	**Grade 3**	**Grade 4**	**Grade 5**
Angles		Identify, name, and draw points, lines, line segments, rays, and angles. (Lesson 13.1) Measure angles and relate degrees of an angle as it relates to the fractional parts of a circle. (Lessons 13.2–13.4) Use a protractor to measure and draw angles, including angles that are joined or separated. (Lessons 13.5 and 13.6) Use the relationship between the known angles to find the measure of unknown angles. (Lesson 13.7)	
Area and Perimeter	Find area and solve problems by counting and using unit squares and relating to an array. (Lessons 2.1–2.4) Break apart a composite figure into smaller rectangles to find the area of combined figures. (Lesson 2.5) Explore, estimate, and measure perimeter of polygons using inch and centimeter rulers. (Lessons 11.1 and 11.2) Find the unknown side length of a polygon when the perimeter and one side length is known. (Lesson 11.3) Understand that rectangles with the same area can have different perimeters or that rectangles with the same perimeter can have different areas. (Lesson 11.4 and 11.5)	Use a formula to find the perimeter of a rectangle or to find an unknown side given the perimeter and one side of the rectangle. (Lesson 2.4) Apply the area formula to find the area of rectangles or combined rectangles and solve problems. (Lessons 9.1–9.4)	Solve area problems with fractions and mixed numbers. (Lesson 9.4)

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Geometric Measurements			
Topic	**Grade 3**	**Grade 4**	**Grade 5**
Volume			Find volume by counting the number of unit cubes that fill a right rectangular prism. (Lessons 5.1 and 5.2) Estimate and find the volume of a right rectangular prism. (Lessons 5.3–5.5) Find the volume of composed right rectangular prisms. (Lesson 5.6)
Geometry			
Partition Shapes	Partition shapes into parts with equal areas, and identify the unit fraction that names the area of each part. (Lessons 14.1–14.3)		
Coordinate Plane			Identify and describe a point in a coordinate system. (Lesson 19.1) Graph points on a coordinate grid and interpret the coordinate values to solve problems. (Lessons 19.2 and 19.3) Use two rules to generate numerical patterns and identify the relationship between the corresponding terms in the patterns. (Lesson 19.4) Form ordered pairs from two numerical patterns and graph the ordered pairs on a coordinate grid. (Lesson 19.5)

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Geometry			
Topic	**Grade 3**	**Grade 4**	**Grade 5**
Two-Dimensional Shapes	Describe open and closed shapes in terms of their sides, angles, and other attributes. (Lesson 19.1) Describe the angles of polygons and define and identify right angles. (Lesson 19.2) Describe and compare the sides of polygons as equal in length and as parallel. (Lesson 19.3) Identify, name, draw, and categorize quadrilaterals and plane shapes with respect to the number of parallel sides, sides of equal length, and right angles they have. (Lessons 19.4 and 20.1–20.3)	Identify and draw perpendicular and parallel lines. (Lesson 17.1) Identify and classify triangles by the size of their angles and by their side lengths. (Lessons 17.2 and 17.3) Identify and classify quadrilaterals. (Lesson 17.4) Measure and draw angles of two-dimensional figures. (Lessons 17.5) Identify, describe, and draw a line symmetry in two-dimensional figures. (Lessons 18.1 and 18.2) Identify, describe, and extend patterns involving shapes. (Lesson 18.3)	Classify and draw polygons, triangles, and quadrilaterals using their attributes. (Lessons 20.1–20.3) Compare and classify two-dimensional figures using Venn diagrams. (Lesson 20.4)

NOTES

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