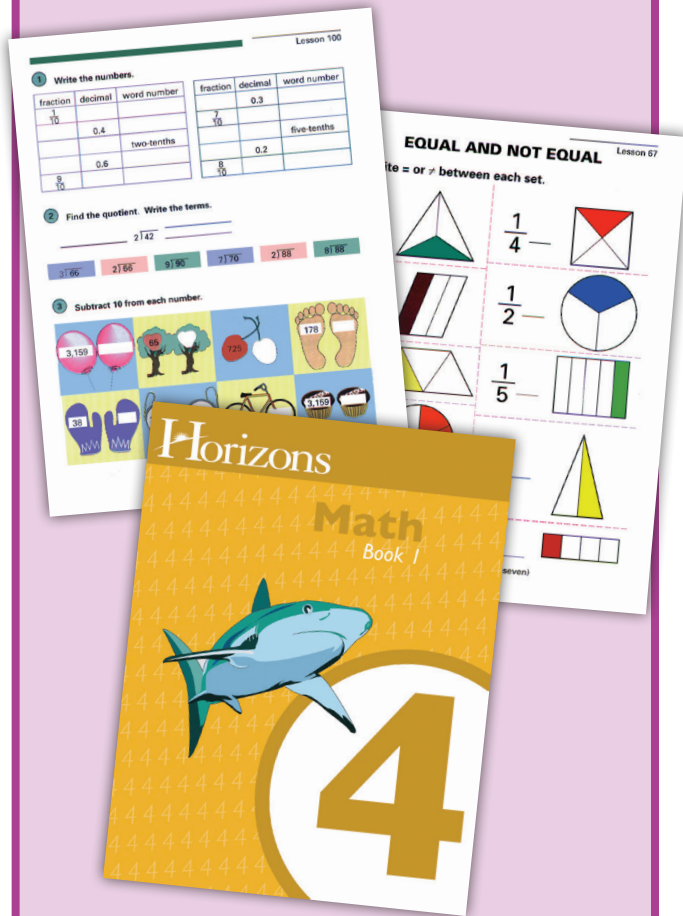# Horizons Math

Grades K-8

Horizons Math provides a balanced and organized approach to primary math through analytical reasoning, manipulatives (hands-on learning), memorization, and drill. Every concept, from addition and subtraction to graphs and estimation, follows a deliberate pattern of introduction and gradual development to ensure student success. Fundamental concepts already learned in earlier units are reviewed in subsequent grade levels for true mastery. Every math concept follows a deliberate pattern of gradual development in each grade level, as well as throughout all seven grade levels.

What makes Horizons Math so effective?

- Effective use of manipulatives
- Looking at concepts from all angles
- Systematic practice with variety
- Each lesson begins with a new concept or an expansion of a previously covered concept
- Full color illustrations help with understanding abstract material
- Method of study is consistent throughout the program
- Reproducible worksheets provide drill for initial learning, extra practice, and individual challenges

Numbers, Order, & Value	• Counting by 1s, 5s, 10s, 2s, and 4s to 100 • Recognition of all families to 100 • Writing of all families to 100 • Value of all single-digit numbers • Naming the number that comes after for all families to 100 • Naming the number that comes before for all families to 100 • Naming the number that comes between for all families to 100 • Place value for 1's and 10's • Recognition of ordinal numbers; even and odd numbers
Addition & Subtraction	• Adding a single digit to all families without regrouping • Subtracting a single digit from all families without regrouping
Ratios, Measurement, & Decimals	• Recognition, value, and use of the penny, nickel, dime, quarter, half dollar, and dollar • Naming time on the hour, half hour, quarter hour, and 5 minutes and recognition of digital time hours and minutes • Naming days of the week, months of the year, and seasons • Reading lengths in inches and centimeters and perimeter in inches • Identify and count cup, quart, gallon, and liter
Fractions & Comparison	• Comparisons of items and quantities that are different, pairs, twins, belong together, tall, short, long, larger number and smaller number • Recognition of whole, 1/2, 1/3, and 1/4
Equations, Colors, & Geometry	• Recognition of black, yellow, green, red, blue, brown, orange, and purple • Recognition of circle, square, triangle, rectangle, octagon, cone, sphere, and cylinder • Recognition of the direction and position of right, left, up, down, top, bottom, middle, inside, outside, first, next, last, front, and back
Graphs, Estimation, & Solving	• Read and complete bar graphs and pictographs • Determine what comes next
Multiplication & Division	

Grade 1	Grade 2	
• Counting by 1s, 2s, 5s, 10s, 3s, 6s, 9s, 4s, 8s, and 7s to 100, by 1s from 100-200, even and odd numbers, tally marks, word numbers to 100, and one-to-one correspondence • Ordinal numbers to 10 and the number that comes between, after, or before a given number • Distinguish between big and little, large and small, tall and short, less than and greater than, long and short, and equal and not equal • Place value for 1's, 10's, and 100's	• Counting by 1s, 5s, 10s, 2s, 3s, 6s, 9s, 4s, 8s, and 7s to 100, by 1s from 100-999, even and odd numbers, tally marks, word numbers to 999, and Roman numerals • Ordinal numbers to 100 and the number that comes between, after, or before a given number • Distinguish between greater than and less than and equal and not equal • Place value for 1's, 10's, 100's, and 1,000's	**Numbers, Order, & Value**
• Facts from 1-18, two double and triple-digit numbers, three single and double-digit numbers, horizontal and vertical addition, addition with carrying in 1's, and word problems • Facts from 1-18, two double and triple-digit numbers without borrowing, horizontal and vertical subtraction, and word problems	• Carrying in 1's, 10's, and 100's columns, two and three numbers with 1-4 digits, four numbers with 1-2 digits, horizontal and vertical addition, word problems, word sentences, and equations • Borrowing in the 1's and 10's columns, two numbers with 1-4 digits, horizontal and vertical subtraction, word problems and sentences, and equations	**Addition & Subtraction**
• Months of the year and days of the week • Hour, half hour, and quarter hour • Penny, nickel, dime, quarter, dollar, and adding • Inches, centimeters, dozen, ounce, cup, pint, quart, gallon, and pound	• Months of the year, days of the week, and abbreviations • Hour, half hour, quarter hour, five minutes, and equivalents • Penny, nickel, dime, quarter, and half dollar; one, five, ten, and twenty dollar bills; counting, adding, subtracting, and multiplying money • Inches, centimeters, linear equivalents, English weight equivalents, liquid measure equivalents, dozen, optical illusion, and map reading • Fahrenheit thermometer	**Ratios, Measurement, & Decimals**
• 1/2, 1/3, 1/4, 1/5, 1/6, and 1/8 • Groups	• Fractional part of a whole, fractional part of a set, and fraction words • Groups • Comparison of two numbers	**Fractions & Comparison**
• Circle, square, triangle, oval, diamond, octagon, sphere, cylinder, cube, and cone	• Circle, square, triangle, rectangle, oval, diamond, octagon, pentagon, hexagon, sphere, cylinder, cube, cone, pyramid, and symmetry • Recognize and find area, perimeter, and volume	**Equations, Colors, & Geometry**
• Bar graphs • Numbers and events • Rounding number on number line, height, length, and quantity	• Bar graphs, line graphs, pictographs, and grids • Numbers, shapes, objects, and events • Rounding number, height, length, and time	**Graphs, Estimation, & Solving**
	• Multiplication facts 0-10 and word problems	**Multiplication & Division**

Horizons Math

	Grade 3	Grade 4
Numbers, Order, & Value	• Word numbers to 1,000,000; expanded and standard form; counting by 1s, 2s, 3s, etc.; Roman numerals; and properties of one and zero • Ordinal numbers, before and after, greater than and less than, equal and not equal, estimation, rounding numbers to ten and hundred, order principle, parenthesis, distributive property, and positive and negative numbers • Place value for 1's, 10's, 100's, 1,000's, 10,000's, 100,000's, and 1,000,000's	• Word numbers through hundred billion, expanded form, even and odd numbers, Roman numerals, divisibility, prime and composite, and prime factorization • Place value for 1's, 10's, 100's, 1,000's, 10,000's, 100,000's, 1,000,000's, 10,000,000's, 100,000,000's, 1,000,000,000's, 10,000,000,000's, and 100,000,000,000's • Ordinal numbers through 100; rounding to the nearest tenth, hundredth, and thousandth; greater than and less than; and equal and not equal
Addition & Subtraction	• Addend, sum, carrying to 4 digits, estimate answers, word problems and sentences, and equations • Difference, minuend, subtrahend, borrowing, estimate answers, word problems, and equations	• Addition properties and terms; addition with 2, 3, 4, 5, and 6-digit numbers with carrying; equations; horizontal to vertical; column addition; missing addends; estimating; and adding money • Subtraction properties and terms; subtraction with 2, 3, 4, 5, and 6-digit numbers with borrowing; equations; horizontal to vertical; estimating; and subtracting money
Ratios, Measurement, & Decimals	• Months of the year, days of the week, abbreviations, and word problems • Hour, half hour, quarter hour, five minutes, minute, a.m. and p.m., equivalents, estimate time, word problems, and elapsed time • Penny, nickel, dime, quarter, half dollar; one, five, ten, twenty dollar bills; counting, adding, subtracting, multiplying; adding and subtracting horizontally and vertically; rounding; and word problems • English linear, liquid, weight, and equivalents; Metric linear, liquid, weight, and equivalents; dozen and map reading • Fahrenheit and Celsius • Decimal expressed in the tenths; relationship of fractions, mixed numbers, and decimals; add and subtract horizontal to vertical; and multiply single digit multiplier by dollars and cents	• Review telling time; a.m. and p.m.; determine century; time equivalents; elapsed time; calendar; and time zones • Standard and metric linear, liquid, and weight equivalents; temperature reading and understanding Fahrenheit and Celsius; millimeter, centimeter, decimeter, meter, decameter, hectometer, and kilometer • Fractions to decimals; word numbers to hundredth's place; comparing and ordering decimals; adding decimals vertically and horizontally; subtracting decimals; estimating decimals; estimating decimals with money • Definition of a ratio; writing simple ratios; multiply and divide to find equal ratios
Fractions & Comparison	• Fractional part of a whole, fractional part of a set, fraction words, equivalent fractions, mixed numbers, and renaming • Comparison of two numbers and word problems	• Fractional part of a whole; word fractions; part of a set; equivalent fractions; reducing fractions; adding and subtracting fractions with like and unlike denominators; adding and subtracting mixed numbers
Equations, Colors, & Geometry	• Circle, square, triangle, rectangle, oval, diamond, octagon, pentagon, hexagon, sphere, cylinder, cube, cone, pyramid, trapezoid, rhombus, parallelogram, and rectangular prism; symmetry, congruent and similar shapes, lines, line segments, endpoints, rays, and angles • Recognize and find perimeter and area of rectangles and squares • Find volume of cubes and rectangular prisms	• Shapes and solids; symmetry; congruent and similar figures • Lines: line segment, ray, endpoint, parallel, intersecting, and perpendicular lines • Angles: rays, vertex, acute, obtuse, and right • Circles: diameter and radius • Finding the perimeter, area, and volume of an object • Addition, subtraction, multiplication, and division of equations
Graphs, Estimation, & Solving	• Bar graphs, line graphs, pictographs, circle graphs, and grids	• Bar, line, pictograph, and circle • Coordinate graphs • Comparing graphs
Multiplication & Division	• Multiplication facts 1-10; word problems; multiplicand, multiplier, product, and factor; 2, 3, and 4-digit multiplicands with single-digit multiplier with and without carrying; multiplying by 10s, 100s, and 1,000s • Division facts 1-10, 1 and 2-digit quotients without and with regrouping and with and without remainder	• Multiplication properties and terms; 3-digit times a single digit; multiplying by 10s, 100s, and 1,000s; 2-digit times a 2-digit and 3-digit times a 3-digit number; missing factors; money by a 2-digit number; estimating products • Division properties and terms; 1-digit divisor, 1-digit quotient with and without remainders; zeros in the quotient; averaging