



Wilton Public Schools School Grade 4 Math Course Outline

In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

Unit/Topics	Students will know:	Students will be able to:
Unit 1: Factors and Multiples	• Definition of factors, factor pairs, and multiples • Concept of prime and composite numbers (based on number of factor pairs) • Connection between factors and the area of rectangles	• Find all factor pairs for whole numbers 1–100 • Recognize that a whole number is a multiple of each of its factors • Determine whether a given whole number (1–100) is a multiple of a given one-digit number • Determine whether a given whole number (1–100) is prime or composite
Unit 2: Fraction Equivalence and Comparison	• Fractions as numbers with specific sizes • Equivalent fractions • How to compare fractions using benchmark fractions • Relationship between different denominators (2, 3, 4, 5, 6, 8, 10, 12, 100)	• Generate equivalent fractions using visual models • Compare and order fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 • Explain why fractions are equivalent using visual fraction models • Compare fractions to benchmarks

Unit 3: Extending Operations to Fractions	• Fractions as multiples of unit fractions • Addition and subtraction of fractions with like denominators • How to add tenths and hundredths using equivalent fractions • Mixed numbers and how to work with them	• Multiply a fraction by a whole number: $n \times ab = (n \times a)b$ • Add and subtract fractions with like denominators • Add mixed numbers with like denominators • Decompose fractions into sums in multiple ways • Add tenths and hundredths
Unit 4: From Hundredths to Hundred-Thousands	• Decimal notation for tenths (0.1) and hundredths (0.01) • Place value structure: each digit represents 10 times the value to its right • Standard algorithm concepts for addition and subtraction	• Write tenths and hundredths in decimal notation • Locate decimals on a number line • Compare and order decimals to hundredths • Read and write multi-digit whole numbers through 1,000,000 • Use place value to round numbers to any place • Fluently add and subtract multi-digit whole numbers using the standard algorithm
Unit 5: Multiplicative Comparison and Measurement	• Multiplicative comparison: "_____ times as many as _____" • Relative sizes of measurement units (km, m, cm; kg, g; gallons, quarts, cups; hours, minutes, seconds) • How units relate through multiplication (e.g., 1 meter = 100 times as long as 1 centimeter)	• Interpret and write multiplication equations as multiplicative comparisons • Solve word problems involving multiplicative comparison • Know relative sizes of measurement units within a system • Express measurements in larger units in terms of smaller units • Convert units of measure (length, mass, capacity, time)

Unit 6: Multiplying and Dividing Multi-digit Numbers	• Partial products and partial quotients strategies • Relationship between multiplication and division • Remainders in division and how to interpret them	• Multiply whole numbers up to 4 digits by 1-digit numbers using strategies based on place value • Multiply two 2-digit numbers using strategies based on place value and properties of operations • Find whole-number quotients and remainders with up to 4-digit dividends and 1-digit divisors • Interpret remainders in division word problems • Solve multi-step word problems with whole numbers and the four operations
Unit 7: Angles and Angle Measurement	• Definition of points, lines, rays, line segments, and angles • Parallel and perpendicular lines • Degree as a unit of angle measurement • Angle additivity: angle measures add when decomposed into non-overlapping parts • Classification of angles: acute, obtuse, right (90°), straight (180°)	• Draw and identify points, lines, line segments, rays, angles, and perpendicular/parallel lines • Measure angles in whole-number degrees using a protractor • Sketch angles of a specified measure • Identify acute, obtuse, right, and straight angles • Solve addition and subtraction problems to find unknown angles •
Unit 8: Properties of Two-dimensional Shapes	• Attributes of triangles and quadrilaterals (side lengths, angle sizes, parallel/perpendicular sides) • Definitions of special quadrilaterals: parallelograms, rhombuses, rectangles, squares • Line symmetry and how to identify it • Formulas for perimeter and area of rectangles	• Classify triangles and quadrilaterals by their attributes (side lengths, angle sizes, parallel/perpendicular sides) • Identify right triangles • Identify and draw lines of symmetry • Find perimeters and areas of rectangles • Use properties of shapes to solve measurement problems