



## Grade 5 Mathematics

### Related Schoolwide Learner Outcomes

#### Operations and Algebraic Thinking

- 5.OA.A.1: I can write and figure out number sentences that have parentheses, brackets and/or braces.
- 5.OA.A.2: I can correctly write number sentences using mathematic symbols and the order of operations correctly.
- 5.OA.A.2: I can understand number sentences and estimate their answers without actually calculating them.
- 5.OA.A.2: I can express a whole number in the range 2-50 as a product of its prime factors.
- 5.OA.B.3: I can create two number patterns using two given rules.
- 5.OA.B.3: I can identify relationships between two number patterns.
- 5.OA.B.3: I can form ordered pairs using the relationship between two number patterns and graph them on a coordinate plane.

#### Numbers and Operations in Base Ten

- 5.NBT.A.1: I can understand and explain the value of digits in a larger number.
- 5.NBT.A.2: I can explain patterns of zeroes in an answer when multiplying a number by powers of 10.
- 5.NBT.A.2: I can explain patterns of decimal placement when a decimal is multiplied or divided by a power of 10.
- 5.NBT.A.2: I can use whole-number exponents to show powers of 10.
- 5.NBT.A.3: I can read, write, and compare decimals to thousandths.
- 5.NBT.A.3.A: I can read and write decimals to thousandths using base-ten numbers, number names and expanded form.
- 5.NBT.A.3.B: I can compare two decimals to thousandths using the  $>$ ,  $=$ , and  $<$  symbols correctly.
- 5.NBT.A.4: I can use place value understanding to round decimals to any place.
- 5.NBT.B.5: I can easily multiply larger whole numbers.
- 5.NBT.B.6: I can divide four-digit numbers (dividends) by two-digit numbers (divisors).
- 5.NBT.B.6: I can illustrate and explain a division problem using equations, arrays and/or models.

- 5.NBT.B.7: I can add, subtract, multiply, and divide decimals to hundredths using what I have learned about place value.
- 5.NBT.B.7: I can relate the strategies I use to add, subtract, multiply and divide decimals to hundredths to a written problem and explain why I chose the strategies to help me solve the problem.

## **Numbers and Operations: Fractions**

- 5.NF.A.1: I can add and subtract fractions with unlike denominators.
- 5.NF.A.2: I can solve word problems that involve addition and subtraction of fractions.
- 5.NF.A.2: I can use number sense and fractions that I know to estimate the reasonableness of answers to fraction problems.
- 5.NF.B.3: I can understand that fractions are really division problems.
- 5.NF.B.3: I can solve word problems where I need to divide whole numbers leading to answers that are fractions or mixed numbers.
- 5.NF.B.4: I can use what I know about multiplication to multiply fractions or whole numbers by a fraction.
- 5.NF.B.4.A: I can understand and show with models that multiplying a fraction by a whole number is the same as finding the product of the numerator and whole number and then dividing it by the denominator.
- 5.NF.B.4.B: I can use unit squares to find the area of a rectangle with fractional side lengths and prove that it is the same as multiplying the side lengths ( $A = l \times w$ ).
- 5.NF.B.5: I can think of multiplication as the scaling of a number (similar to a scale on a map).
- 5.NF.B.5.A: I can mentally compare the size of a product to the size of one of the factors by thinking about the other factor in the problem.
- 5.NF.B.5.B: I can explain why multiplying a number by a fraction greater than 1 will result in a bigger number than the number I started with.
- 5.NF.B.5.B: I can explain why multiplying a number by a fraction less than 1 will result in a smaller number than the number I started with.
- 5.NF.B.5.B: I can relate the notion of equivalent fractions to the effect of multiplying a fraction by 1.
- 5.NF.B.6: I can solve real-world problems that involve multiplication of fractions and mixed numbers.
- 5.NF.B.7: I can use what I know about division to divide fractions by whole numbers or whole numbers by fractions.
- 5.NF.B.7.A: I can divide a fraction by a whole number (not 0) correctly.
- 5.NF.B.7.B: I can divide a whole number by a fraction correctly.
- 5.NF.B.7.C: I can use what I know about division problems involving fractions to solve real-world problems.

## Measurement and Data

- 5.MD.A.1: I can convert different-sized measurements within the same measurement system.
- 5.MD.A.1: I can use measurement conversions to solve real-world problems.
- 5.MD.B.2: I can make a line plot to show a data set of measurements involving fractions.
- 5.MD.B.2: I can use addition, subtraction, multiplication and division of fractions to solve problems involving information presented on a line plot.
- 5.MD.C.3: I can recognize volume as a characteristic of solid figures and understand how it can be measured.
- 5.MD.C.3.A: I can understand a "unit cube" as a cube with side lengths of 1 unit and can use it to measure volume.
- 5.MD.C.3.B: I can understand that a solid figure filled with a number of unit cubes is said to have a volume of that many cubes.
- 5.MD.C.4: I can measure volume by counting unit cubes.
- 5.MD.C.5: I can solve real-world problems involving volume by thinking about multiplication or addition.
- 5.MD.C.5.A: I can use unit cubes to find the volume of a right rectangular prism with whole-number side lengths and prove that it is the same as multiplying the edge lengths ( $V = l \times w \times h$ ).
- 5.MD.C.5.B: I can solve real-world and mathematical problems involving volume of an object using the formulas  $V = l \times w \times h$  and  $V = b \times h$ .
- 5.MD.C.5.B: I can find the volumes of solid figures made up of two right rectangular prisms by adding the volumes of both.
- 5.MD.C.5.C: I can solve real-world problems using what I know about adding the volumes of two right rectangular prisms.

## Geometry

- 5.G.A.1: I can understand a coordinate plane and ordered pairs of number coordinates on that plane.
- 5.G.A.1: I can graph ordered pairs of numbers on a coordinate plane using what I have learned about the x-axis and coordinate and the y-axis and coordinate.
- 5.G.A.2: I can represent real-world and mathematical problems by graphing points in the first quadrant of a coordinate plane.

- 5.G.A.2: I can understand coordinate values in the context of a real-world or mathematical problem.
- 5.G.B.3: I can understand how attributes of 2-dimensional shapes in a category also belong to all subcategories of those shapes.
- 5.G.B.4: I can classify 2-dimensional shapes based on their properties.