

5th Grade

Numbers **N**

Place Value

- 1 Recognize that a digit in a given place represents ten times what it represents in the place to its right and $\frac{1}{10}$ what it represents in the place to its left. **5.N.1**
 - 2 Use place value reasoning and patterns to explain how multiplying or dividing by powers of 10 affects the value and placement of digits in a number. **5.N.2**
 - 3 Read and write decimal numbers to the thousandths place using standard form, word form and expanded form. **5.N.3**
 - 4 Order and compare decimal numbers to the thousandths place using the symbols $<$, $>$, $=$ **5.N.4**
 - 5 Apply place value understanding to round decimals to any decimal place up to the hundredths place. **5.N.5**
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Operations and Algebraic Thinking **OA**

Number Operations

- 1 Write and evaluate numerical expressions with parentheses using the order of operations. **5.OA.1**
 - 2 Generate two number patterns by following two different rules and make a graph using ordered pairs that match the numbers from each pattern. **5.OA.2**
 - 3 Calculate whole number quotients of whole numbers with up to four-digit dividends and two-digit divisors. Explain the calculation by using equations, rectangular arrays, illustrations, area models, or other representations based on place value. **5.OA.3**
 - 4 Add decimals to the hundredths place using various strategies. **5.OA.4**
 - 5 Subtract decimals to the hundredths place using various strategies. **5.OA.5**
 - 6 Multiply decimals to the hundredths place using various strategies. **5.OA.6**
 - 7 Divide decimals to the hundredths place using various strategies. **5.OA.7**
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Fractions **F**

Fractional Operations and Properties

- 1 Add and subtract fractions, fractions with unlike denominators, mixed numbers, and improper fractions by replacing given fractions with equivalent fractions. **5.F.1**
- 2 Solve word problems using addition and subtraction of fractions, fractions with unlike denominators, mixed numbers, and improper fractions by using visual fraction models or equations. **5.F.2**

- 3 Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. 5.F.3
- 4 Multiply a fraction or whole number by a fraction. Interpret the product using visual fraction models and story contexts (e.g., area models for rectangles with fractional side lengths). 5.F.4
- 5 Solve real-world problems involving multiplication of fractions and mixed numbers, including interpreting multiplication as scaling (resizing). Explain why multiplying by a fraction greater than 1 increases the product and multiplying by a fraction less than 1 decreases the product. 5.F.5
- 6 Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, using visual fraction models or equations to represent the problem 5.F.6
- 7 Interpret division of a unit fraction by a non-zero whole number and compute such quotients. 5.F.7
- 8 Interpret division of a whole number by a unit fraction and compute such quotients. 5.F.8
- 9 Divide unit fractions by whole numbers and whole numbers by unit fractions. Use visual fraction models and equations to represent and explain the relationship between multiplication and division. 5.F.9
- 10 Solve real-world problems involving the division of unit fractions by whole numbers and whole numbers by unit fractions, using visual fraction models and equations to represent the problem. 5.F.10

Measurement M

Measurement Concepts

- 1 Convert length, weight, mass, capacity, and time measurements from larger to smaller units and vice versa within the U.S. customary and metric measuring systems. 5.M.1

Data

- 2 Create and use a line plot to display a data set of measurements to solve real-world problems involving information presented. 5.M.2
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Geometry G

Geometric Measurement

- 1 Use unit cubes and visual models to explore and explain volume as the amount of space inside a three-dimensional object. 5.G.1
- 2 Understand a shape has a volume of nn cubic units if it can be filled with nn unit cubes without gaps or overlaps. 5.G.2
- 3 Measure volume by cubic units using cubic cm, cubic in, cubic ft or cubic units. 5.G.3
- 4 Find the volume of right rectangular prism by packing with unit cubes and show that the volume is the same as multiplying the edge lengths (or multiplying the height by the area of the base). 5.G.4

- 5 Use threefold whole-number products of volume to represent the associative property of multiplication. 5.G.5
- 6 Solve real-world problems by applying formulas ($V=l \cdot w \cdot h$, $V=B \cdot h$) for rectangular prisms to find the volume of right rectangular prisms with whole number side lengths. 5.G.6
- 7 Find volumes of solid figures composed of two non-overlapping right rectangular prisms (with whole number side lengths) by adding the volumes. 5.G.7

Shapes

- 8 Understand attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. 5.G.8
- 9 Classify two-dimensional figures in a hierarchy based on properties. 5.G.9
- 10 Identify and draw triangles based on their attributes (side lengths and angle measures). Understand that triangles can be classified into categories (such as equilateral, isosceles, scalene, acute, right, and obtuse), and that these categories can overlap. 5.G.10

Coordinate Plane System

- 11 Understand a coordinate plane to be a diagram for graphing two related pieces of information with two perpendicular number lines. 5.G.11
- 12 Identify the origin, xx -axis, and yy -axis on the coordinate plane. 5.G.12
- 13 Identify xx - and yy -coordinates of points on a coordinate plane. 5.G.13
- 14 Understand the xx -coordinate of an ordered pair as the point's location on the coordinate plane relative to the yy -axis, and the yy -coordinate of an ordered pair as the point's location on the coordinate plane relative to the xx -axis. 5.G.14
- 15 Represent and interpret real-world and mathematical problems by graphing points in the first quadrant on a coordinate plane. 5.G.15

Mathematical Fluency MF

MF. Mathematical Fluency MF

Fluently multiply multi-digit whole numbers using an algorithm, including but not limited to the standard algorithm. 5.MF.1

- 1 **Fluently multiply multi-digit whole numbers using an algorithm, including but not limited to the standard algorithm.** 5.MF.1

Fluently divide multi-digit whole numbers using an algorithm, including but not limited to the standard algorithm. 5.MF.2

- 2 **Fluently divide multi-digit whole numbers using an algorithm, including but not limited to the standard algorithm.** 5.MF.2