

4th 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. **4.N.1**
 - 2 Use place value understanding to round multi-digit whole numbers to any place. **4.N.2**
 - 3 Compose and decompose five-digit numbers into ten thousands, thousands, hundreds, tens, and ones. **4.N.3**
 - 4 Read and write whole numbers up to 1,000,000 using standard form, word form, and expanded form. **4.N.4**
 - 5 Compare two multi-digit numbers based on values of the digits in each place value using the symbols $<$, $>$, $=$. **4.N.5**
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Operations and Algebraic Thinking **OA**

Number Operations

- 1 Represent and explain multiplicative comparisons using equations, drawings, and verbal reasoning. **4.OA.1**
- 2 Solve real-world problems involving multiplicative comparison, using drawings and/or equations with a symbol for the unknown number, and distinguish between multiplicative comparison and additive comparison. **4.OA.2**
- 3 Multiply four-digit whole numbers by one-digit whole numbers, and multiply two two-digit whole numbers. **4.OA.3**
- 4 Divide four digit whole numbers by one-digit divisors; quotients should be with and without whole number remainders. **4.OA.4**
- 5 Interpret a remainder of a one-step division problem. **4.OA.5**
- 6 Solve multistep word problems using addition, subtraction, multiplication, and division, with whole numbers and having whole number answers, including problems in which remainders must be interpreted; assess the reasonableness of answers using mental computation and estimation strategies including rounding. **4.OA.6**
- 7 Find factor pairs for whole numbers up to 100. **4.OA.7**
- 8 Recognize that a whole number (within 100) is a multiple of each of its factors. **4.OA.8**
- 9 Find multiples of single-digit whole numbers. **4.OA.9**
- 10 Determine whether a whole number from 1 to 100 is prime or composite. **4.OA.10**

- 11 Generate a number or shape pattern that follows a given rule, identifying apparent features of the pattern that are not explicit in the rule itself. 4.OA.11
 - 12 Demonstrate understanding of addition and multiplication problems using properties (commutative, associative, distributive, and identity). 4.OA.12
 - 13 Evaluate a numerical expression including addition, subtraction, multiplication, and division using the order of operations of whole numbers without parenthesis and exponents. 4.OA.13
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Fractions F

Operations and Properties

- 1 Use visual models and reasoning to explain why a fraction $\frac{a}{b}$ is equivalent to another fraction when both the numerator and denominator are multiplied by the same number. 4.F.1
 - 2 Compare fractions with different numerators and denominators, by creating common denominators or numerators, using the symbols $<$, $>$, $=$. 4.F.2
 - 3 Add and subtract fractions with like denominators. 4.F.3
 - 4 Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators. 4.F.4
 - 5 Break apart fractions into sums of fractions with the same denominator and smaller numerators. 4.F.5
 - 6 Add and subtract mixed numbers with like denominators using various strategies. 4.F.6
 - 7 Multiply a fraction by a whole number and a whole number by a fraction. 4.F.7
 - 8 Understand a fraction $\frac{a}{b}$ is a multiple of $\frac{1}{b}$. 4.F.8
 - 9 Understand a multiple of $\frac{a}{b}$ is also a multiple of $\frac{1}{b}$. 4.F.9
 - 10 Solve word problems involving multiplication of fractions by whole numbers. 4.F.10
 - 11 Add two fractions with denominator of 10 and 100 by expressing the denominator of 10 as an equivalent fraction with a denominator of 100. 4.F.11
 - 12 Understand a decimal number to be a number with a whole part and a fractional part separated by a decimal point. 4.F.12
 - 13 Apply decimal notation for fractions with denominators 10 or 100; locate these decimals on a number line. 4.F.13
 - 14 Read, write, and describe the value of decimal numbers to the hundredths place. 4.F.14
 - 15 Compare decimals to the hundredths place on a number line and by using the symbols $<$, $>$, $=$. 4.F.15
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Measurement M

Measurement Concepts

- 1 Measure length, weight, mass, and capacity using U.S. Customary and metric systems of measurement (including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec.). 4.M.1

- 2 Express larger units in terms of smaller units through conversions within a single system of measurement. 4.M.2
- 3 Solve word problems using addition, subtraction, multiplication, and division involving distance, intervals of time, capacity, masses, and money, using fractional and decimal values. 4.M.3
- 4 Use visual models and reasoning to explain how area and perimeter formulas for rectangles relate to their side lengths and solve real-world problems. 4.M.4

Data

- 5 Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$) and solve problems using the line plot. 4.M.5

Geometry **G**

Geometric Measurement

- 1 Recognize angles as geometric shapes that are formed where two rays share a common endpoint. 4.G.1
- 2 Measure angles in degrees using a protractor and understand a degree as $\frac{1}{360}$ of a circle; draw angles of specific measure. 4.G.2
- 3 Classify angles as right, acute, obtuse, or straight. Draw right, acute, obtuse, and straight angles. 4.G.3
- 4 Recognize and apply the concept of additive angles: when angles are broken apart the sum of the parts is equal to the angle measure of the whole. 4.G.4

Shapes

- 5 Identify, describe, and draw points, lines, segments, rays, and angles. 4.G.5
- 6 Identify, describe, and draw intersecting, parallel, and perpendicular lines. 4.G.6
- 7 Understand a trapezoid to be a two-dimensional shape with four sides, where exactly one pair of sides is parallel. 4.G.7
- 8 Identify and describe various quadrilaterals by their properties of parallel and perpendicular lines including square, rectangle, trapezoid, and rhombus. 4.G.8
- 9 Identify, describe, and draw equilateral, scalene, right, acute, and obtuse angles and triangles. 4.G.9
- 10 Identify and draw lines of symmetry for two-dimensional figures. 4.G.10

Mathematical Fluency **MF**

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Recall from memory multiplication facts (0-12). 4.MF.1

- 1 Recall from memory multiplication facts (0-12). 4.MF.1

Recall from memory division facts (0-

- 2 Recall from memory division facts (0-12). 4.MF.2

12). 4.MF.2

Fluently add and subtract multi-digit whole numbers using an algorithm including, but not limited to, the standard algorithm. 4.MF.3

3 Fluently add and subtract multi-digit whole numbers using an algorithm including, but not limited to, the standard algorithm. 4.MF.3