

Arkansas Mathematics Standards

Grade 3

Adopted 2023

Grade 3

Number & Place Value

Place Value

- A. Understand the base ten place value system. **3.NPV.A**
1. Round four-digit whole numbers to the nearest 10 or 100, using place value understanding. **3.NPV.1**
 2. Identify the value of thousands, hundreds, tens, and ones place in a four-digit number. **3.NPV.2**
 3. Read and write whole numbers up to 10,000, using base ten numerals, word form, and a variety of expanded forms. **3.NPV.3**

Comparison

- B. Use place value understanding to compare numbers. **3.NPV.B**
4. Compare two four-digit numbers using symbols ($<$, $=$, $>$) based on the value of thousands, hundreds, tens, and ones in the given numbers. **3.NPV.4**
 5. Compare two fractions with the same numerator or denominator by reasoning about their size based on the same whole; use symbols ($<$, $=$, $>$) and justify the conclusion using visual fraction models, concrete objects, or words. **3.NPV.5**

Fraction Foundations

- C. Build a conceptual understanding of fractions. **3.NPV.C**
6. Identify fractions as parts of a whole and parts of a collection or set.
 - Fractions include: denominators 2, 3, 4, 6, and 8**3.NPV.6**
 7. Partition squares, regular hexagons, and equilateral triangles into parts with equal shares, explaining the shares of each part as a unit fraction of the whole.
 - Fractions include: denominators 2, 3, 4, 6, and 8**3.NPV.7**
 8. Identify and represent a unit fraction as a number on the number line.
 - Fractions include: denominators 2, 3, 4, 6, and 8**3.NPV.8**
 9. Identify and represent a non-unit fraction as a number on the number line, including fractions greater than one.
 - Fractions include: denominators 2, 3, 4, 6, and 8**3.NPV.9**
 10. Decompose and compose a non-unit fraction a/b as the quantity formed by the sum of unit fractions.
 - Fractions include: denominators 2, 3, 4, 6, and 8**3.NPV.10**

Equivalent Fractions

- D. Develop and apply equivalent fraction understanding. **3.NPV.D**
11. Use number lines and visual models to recognize and generate equivalent fractions, explaining how they are equivalent in real-world and mathematical situations.
 - Fractions include: denominators 2, 3, 4, 6, and 8**3.NPV.11**

Computation & Algebraic Reasoning

Operations & Properties

- A. Perform operations using place value understanding and properties of operations. **3.CAR.A**
1. Use computational fluency to add and subtract three-digit whole numbers, using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. **3.CAR.1**
 2. Use basic fact fluency to multiply and divide whole numbers with mastery by the end of third grade.
 - Knowing all products with factors up to and including 12 and the corresponding division facts from the products with factors up to and including 12.
 - Using strategies such as the relationship between multiplication and division (e.g., Knowing that $8 \cdot 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations.**3.CAR.2**
 3. Apply properties of operations as strategies to multiply and divide.
 - Properties include: Distributive, Commutative, and Associative Properties of Multiplication**3.CAR.3**
 4. Use strategies to multiply one-digit numbers by multiples of 10 ranging from 10-90; strategies are based on place value and properties of operations (e.g., $9 \cdot 80, 5 \cdot 60$). **3.CAR.4**
 5. Identify arithmetic patterns including, but not limited to, patterns in an addition or multiplication table, explaining use of properties of operations appropriate to the pattern. **3.CAR.5**

Problem Solving

- B. Solve real-world problems. **3.CAR.B**
6. Solve real-world problems using multiplication and division within 100 involving equal groups, arrays, partitive and measurement division. **3.CAR.6**
 7. Solve two-step real-world situations using addition, subtraction, multiplication, and division, representing these problems using equations with a symbol standing for an unknown quantity. **3.CAR.7**

Algebraic Concepts

- C. Develop and apply an understanding of foundational algebraic concepts. **3.CAR.C**
8. Determine the unknown whole number in a multiplication or division equation relating three whole numbers. **3.CAR.8**
 9. Understand division as an unknown-factor problem. **3.CAR.9**

Geometry & Measurement

Shapes

- A. Analyze attributes of shapes to develop generalizations about their properties. **3.GM.A**
1. Understand that quadrilaterals in different categories may share attributes; those attributes (e.g., four equivalent sides) can define a larger category (e.g., quadrilaterals) or subcategory (e.g., rhombus and square). **3.GM.1**
 2. Identify perpendicular and parallel lines, as well as right angles in two-dimensional shapes and real-world surroundings or objects. **3.GM.2**
 3. Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, identifying and/or drawing examples of quadrilaterals that do not belong to any of these subcategories. **3.GM.3**

Length & Width

- B. Investigate measurement using rulers. **3.GM.B**
4. Measure lengths of objects to the nearest half and quarter inch, using a ruler. **3.GM.4**

Area & Volume

- C. Calculate the area of rectangles and liquid volume. **3.GM.C**
5. Describe area as the number of unit squares that cover a plane figure without gaps and overlaps. **3.GM.5**
 6. Find the area of a rectangle with whole number side lengths by modeling with unit squares and multiplying the side lengths to show the results are the same. **3.GM.6**
 7. Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real-world and mathematical problems. **3.GM.7**
 8. Measure and estimate liquid volumes and masses of objects using standard units. **3.GM.8**
 9. Solve one-step real-world problems involving liquid volumes and masses of objects in the same units, using all four operations. **3.GM.9**

Time

- D. Tell time and solve problems about elapsed time. **3.GM.D**
10. Tell and write time to the nearest minute, using analog clocks. **3.GM.10**
 11. Solve word problems involving addition and subtraction of time intervals in minutes. **3.GM.11**

Data Analysis

Charts, Graphs, & Tables

- A. Organize and analyze data. **3.DA.A**
 - 1. Represent a data set with multiple categories, using a scaled picture graph, scaled bar graph, and a line plot. **3.DA.1**
 - 2. Solve one and two-step problems, using categorical data represented with a scaled picture graph, scaled bar graph, and a line plot. **3.DA.2**