Main Criteria: Georgia Standards of Excellence

Secondary Criteria: Elementary Mathematics Grade 4 v22

 ${\small \textbf{Subject:}} Mathematics \\$

Grade: 4

Correlation Options: Show Correlated

Georgia Standards of Excellence

Mathematics

Grade: 4 - Adopted: 2021

| STRAND/TOPIC | | 4th Grade |
|---------------------------|-----------|--|
| STANDARD / DESCRIPTION | | NUMERICAL REASONING – place value, rounding, comparisons with multi-digit numbers, addition and subtraction, multiplicative comparisons, multiplication, and division involving whole numbers |
| ELEMENT | 4.NR.1: | Recognize patterns within the base ten place value system with quantities presented in real-life situations to compare and round multi-digit whole numbers through the hundred-thousands place. |
| ELEMENT/GLE | 4.NR.1.1. | Read and write multi-digit whole numbers to the hundred-thousands place using base-ten numerals and expanded form. |
| | | <u>Elementary Mathematics Grade 4 v22</u> 01.02 Reading and Writing Whole Numbers 01.03 Comparing and Ordering Whole Numbers |
| | | 03.02 Area Models with a One-Digit Factor 04.02 Area Models with Multi-Digit Factors 05.03 Dividing with Area Models |
| ELEMENT/GLE | 4.NR.1.3. | Use place value reasoning to represent, compare, and order multi-digit numbers, using >, =, and < symbols to record the results of comparisons. |
| | | Elementary Mathematics Grade 4 v22 01.01 Place Value Patterns |
| | | 01.03 Comparing and Ordering Whole Numbers |
| | | 02.01 Multiplication Facts with Models |
| | | 04.04 A Standard Algorithm with Multi-Digit Factors |
| | | 07.01 Median, Mode, and Range |
| ELEMENT/GLE | 4.NR.1.4. | Use place value understanding to round multi-digit whole numbers. |
| | | Elementary Mathematics Grade 4 v22 |
| | | 01.04 Rounding Whole Numbers 01.05 Adding Multi-Digit Whole Numbers |
| | | 01.06 Subtracting Multi-Digit Whole Numbers |
| | | 03.01 Estimates with a One-Digit Factor |
| | | 03.02 Area Models with a One-Digit Factor |
| | | 03.04 A Standard Algorithm with a One-Digit Factor |
| | | 04.01 Estimates with Multi-Digit Factors |
| | | 04.02 Area Models with Multi-Digit Factors |
| | | 05.02 Estimating Quotients |
| | | 05.04 Partial Quotients |
| | | 05.05 Long Division |
| | | 05.06 Problem Solving with Division 06.04 Writing Equations |
| | | |
| STRAND/TOPIC | | 4th Grade |
| STANDARD / DESCRIPTION | | NUMERICAL REASONING – place value, rounding, comparisons with multi-digit numbers, addition and subtraction, multiplicative comparisons, multiplication, and division involving whole numbers |

| ELEMENT | 4.NR.2: | Using part-whole strategies, solve problems involving addition and subtraction through the hundred-thousands place, as well as multiplication and division of multi-digit whole numbers presented in real-life, mathematical situations. |
|-------------|-----------|--|
| ELEMENT/GLE | 4.NR.2.1. | Fluently add and subtract multi-digit numbers to solve practical, mathematical problems using place value understanding, properties of operations, and relationships between operations. |
| | | Elementary Mathematics Grade 4 v22 |
| | | 01.01 Place Value Patterns |
| | | 01.05 Adding Multi-Digit Whole Numbers |
| | | 01.06 Subtracting Multi-Digit Whole Numbers |
| | | 02.02 Multiplication Facts with Mental Math |
| | | 02.04 Factor Pairs |
| | | 03.02 Area Models with a One-Digit Factor |
| | | 04.03 Partial Products with Multi-Digit Factors |
| | | 05.06 Problem Solving with Division |
| | | 06.02 Number Patterns |
| | | 06.03 Understanding Equations |
| | | 06.04 Writing Equations |
| | | 07.01 Median, Mode, and Range |
| | | 08.01 Understanding Mixed Numbers |
| | | 14.03 Benchmark and Additive Angles |

ELEMENT/GLE 4.N

4.NR.2.3. Solve relevant problems involving multiplication of a number with up to four digits by a 1-digit whole number or involving multiplication of two two-digit numbers using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Elementary Mathematics Grade 4 v22

01.03 Comparing and Ordering Whole Numbers 02.01 Multiplication Facts with Models

02.02 Multiplication Facts with Mental Math

02.03 Multiplying by 10s, 100s, and 1,000s

03.01 Estimates with a One-Digit Factor 03.02 Area Models with a One-Digit Factor

03.03 Partial Products with a One-Digit Factor

03.04 A Standard Algorithm with a One-Digit Factor

04.01 Estimates with Multi-Digit Factors

04.02 Area Models with Multi-Digit Factors

04.03 Partial Products with Multi-Digit Factors

04.04 A Standard Algorithm with Multi-Digit Factors

05.01 Getting to Know Division

05.03 Dividing with Area Models

05.04 Partial Quotients

06.03 Understanding Equations

06.04 Writing Equations

11.03 Plotting with Decimals

12.02 Converting Metric Lengths

12.03 Metric Units of Volume

13.02 Converting Customary Lengths

13.03 Customary Units of Volume

13.04 Customary Units of Weight

ELEMENT/GLE 4.NR.2.4. Solve authentic division problems involving up to 4-digit dividends and 1-digit divisors (including whole number quotients with remainders) using strategies based on place-value understanding, properties of operations, and the relationships between operations.

Elementary Mathematics Grade 4 v22

02.04 Factor Pairs 05.01 Getting to Know Division 05.02 Estimating Quotients 05.03 Dividing with Area Models 05.04 Partial Quotients 05.05 Long Division 05.06 Problem Solving with Division 06.01 Prime or Composite 06.03 Understanding Equations 06.04 Writing Equations 07.03 Stem-and-Leaf Plots 08.03 Equivalent Fractions with Number Lines 09.03 Adding and Subtracting Fractions with a Number Line 10.03 Comparing and Ordering Decimals 11.03 Plotting with Decimals 12.03 Metric Units of Volume 13.02 Converting Customary Lengths 13.03 Customary Units of Volume 14.03 Benchmark and Additive Angles

ELEMENT/GLE 4.NR.

4.NR.2.5. Solve multi-step problems using addition, subtraction, multiplication, and division involving whole numbers. Use mental computation and estimation strategies to justify the reasonableness of solutions.

Elementary Mathematics Grade 4 v22

01.05 Adding Multi-Digit Whole Numbers

- 01.06 Subtracting Multi-Digit Whole Numbers
- 02.01 Multiplication Facts with Models
- 02.02 Multiplication Facts with Mental Math
- 03.01 Estimates with a One-Digit Factor
- 03.02 Area Models with a One-Digit Factor
- 03.03 Partial Products with a One-Digit Factor
- 03.04 A Standard Algorithm with a One-Digit Factor
- 04.01 Estimates with Multi-Digit Factors
- 04.02 Area Models with Multi-Digit Factors
- 04.03 Partial Products with Multi-Digit Factors
- 04.04 A Standard Algorithm with Multi-Digit Factors
- 05.01 Getting to Know Division
- 05.02 Estimating Quotients
- 05.03 Dividing with Area Models
- 05.04 Partial Quotients
- 05.05 Long Division
- 05.06 Problem Solving with Division
- 12.02 Converting Metric Lengths
- 13.02 Converting Customary Lengths
- 13.03 Customary Units of Volume
- 13.04 Customary Units of Weight
- 13.05 Converting Units of Time
- 14.03 Benchmark and Additive Angles

STRAND/TOPIC

4th Grade

| STANDARD / DESCRIPTION | | PATTERNING & ALGEBRAIC REASONING – patterns, input-output tables, factors, multiples, composite numbers, prime numbers |
|---------------------------|--------------|---|
| ELEMENT | 4.PAR.3 : | Generate and analyze patterns, including those involving shapes, input/output diagrams, factors, multiples, prime numbers, and composite numbers. |

| ELEMENT/GLE | 4.PAR.3.1 | Generate both number and shape patterns that follow a provided rule. |
|---------------------------|----------------|--|
| | | Elementary Mathematics Grade 4 v22 01.01 Place Value Patterns 02.02 Multiplication Facts with Mental Math 06.02 Number Patterns |
| ELEMENT/GLE | 4.PAR.3. 2. | Use input-output rules, tables, and charts to represent and describe patterns, find relationships, and solve problems. |
| | | Elementary Mathematics Grade 4 v22 01.01 Place Value Patterns 02.02 Multiplication Facts with Mental Math |
| | | 06.02 Number Patterns |
| ELEMENT/GLE | 4.PAR.3. 3. | Find factor pairs in the range 1–100 and find multiples of single-digit numbers up to 100. |
| | 0. | Elementary Mathematics Grade 4 v22 |
| | | 02.01 Multiplication Facts with Models |
| | | 02.03 Multiplying by 10s, 100s, and 1,000s |
| | | 02.04 Factor Pairs |
| | | 03.02 Area Models with a One-Digit Factor |
| | | 04.01 Estimates with Multi-Digit Factors |
| | | 05.02 Estimating Quotients |
| | | 05.03 Dividing with Area Models |
| | | 05.04 Partial Quotients |
| | | 06.01 Prime or Composite |
| | | 06.06 Patterns with Perimeter and Area |
| | | 09.06 Exploring Fraction Multiplication |
| ELEMENT/GLE | 4.PAR.3. 4. | Identify composite numbers and prime numbers and explain the relationship with the factor pairs. |
| | | Elementary Mathematics Grade 4 v22 |
| | | 06.01 Prime or Composite |
| STRAND/TOPIC | | 4th Grade |
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| STANDARD / DESCRIPTION | | NUMERICAL REASONING – fraction equivalence, comparison of fractions, and addition and subtraction of fractions with like denominators |
| ELEMENT | 4.NR.4: | Solve real-life problems involving addition, subtraction, equivalence, and comparison of fractions with denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100 using part-whole strategies and visual models. |
| | | Using concrete materials, drawings, and number lines, demonstrate and evaluin the relationship between |
| ELEMEN I/GLE | 4.NR.4.1. | osing concrete materials, drawings, and number lines, demonstrate and explain the relationship between |
| | | relates to equivalent fractions. Generate equivalent fractions using these relationships. |
| | | Elementary Mathematics Grade 4 v22 |
| | | 08.02 Equivalent Fractions with Models |
| | | 08.03 Equivalent Fractions with Number Lines |
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08.05 Using Equivalent Fractions to Compare and Order

09.04 Adding Fractions with A Standard Algorithm

10.04 Adding and Subtracting Decimals

13.01 Measuring Customary Lengths

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| ELEMENT/GLE | 4.NR.5.1. | Demonstrate and explain the concept of equivalent fractions with denominators of 10 and 100, using concrete materials and visual models. Add two fractions with denominators of 10 and 100. |
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| | | Elementary Mathematics Grade 4 v22 08.02 Equivalent Fractions with Models 08.03 Equivalent Fractions with Number Lines 08.04 Equivalent Fractions with Equations 08.05 Using Equivalent Fractions to Compare and Order 09.04 Adding Fractions with A Standard Algorithm 10.01 Decimals Less Than 1 10.02 Decimals Greater Than 1 10.04 Adding and Subtracting Decimals 10.05 Solving Money Problems with Decimals 13.01 Measuring Customary Lengths |
| ELEMENT/GLE | 4.NR.5.2. | Represent, read, and write fractions with denominators of 10 or 100 using decimal notation, and decimal numbers to the hundredths place as fractions, using concrete materials and drawings. Elementary Mathematics Grade 4 v22 09.04 Adding Fractions with A Standard Algorithm 10.01 Decimals Less Than 1 10.02 Decimals Greater Than 1 10.04 Adding and Subtracting Decimals 10.05 Solving Money Problems with Decimals |
| ELEMENT/GLE | 4.NR.5.3. | Compare two decimal numbers to the hundredths place by reasoning about their size. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions. Elementary Mathematics Grade 4 v22 10.03 Comparing and Ordering Decimals 10.04 Adding and Subtracting Decimals 11.02 Plotting with Fractions |
| STRAND/TOPIC | | 4th Grade |
| STANDARD / DESCRIPTION | | MEASUREMENT & DATA REASONING – time, metric measurements, distance, elapsed time, liquid volume, mass, and length |
| ELEMENT | 4.MDR.6 : | Measure time and objects that exist in the world to solve real-life, mathematical problems and analyze graphical displays of data to answer relevant questions. |
| ELEMENT/GLE | 4.MDR.6. 1. | Use the four operations to solve problems involving elapsed time to the nearest minute, intervals of time, metric measurements of liquid volumes, lengths, distances, and masses of objects, including problems involving fractions with like denominators, and also problems that require expressing measurements given in a larger unit in terms of a smaller unit, and expressing a smaller unit in terms of a larger unit based on the idea of equivalence. Elementary Mathematics Grade 4 v22 12.01 Measuring Metric Lengths 12.03 Metric Units of Volume 12.04 Metric Units of Mass 13.03 Customary Units of Volume 13.05 Converting Units of Time |
| ELEMENT/GLE | 4.MDR.6. 3. | Create dot plots to display a distribution of numerical (quantitative) measurement data. Elementary Mathematics Grade 4 v22 07.02 Line Plots 14.00 Plotting with Englishing |
| | | 11.02 Plotting with Fractions |

| STANDARD / DESCRIPTION | | GEOMETRIC & SPATIAL REASONING – polygons, points, lines, line segments, rays, angles, perpendicular lines, area, perimeter |
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| ELEMENT | 4.GSR.7 : | Investigate the concepts of angles and angle measurement to estimate and measure angles. |
| ELEMENT/GLE | 4.GSR.7. 1. | Recognize angles as geometric shapes formed when two rays share a common endpoint. Draw right, acute, and obtuse angles based on the relationship of the angle measure to 90 degrees. Elementary Mathematics Grade 4 v22 14.01 Types of Angles 14.02 Measuring with a Protractor 14.03 Benchmark and Additive Angles 14.04 Drawing with a Protractor |
| ELEMENT/GLE | 4.GSR.7. 2. | Measure angles in reference to a circle with the center at the common endpoint of two rays. Determine an angle's measure in relation to the 360 degrees in a circle through division or as a missing factor problem. <u>Elementary Mathematics Grade 4 v22</u> 14.02 Measuring with a Protractor |
| STRAND/TOPIC | | 4th Grade |
| ST ANDARD / DESCRIPTION | | GEOMETRIC & SPATIAL REASONING – polygons, points, lines, line segments, rays, angles, perpendicular lines, area, perimeter |
| ELEMENT | 4.GSR.8 : | Identify and draw geometric objects, classify polygons based on properties, and solve problems involving area and perimeter of rectangular figures. |
| ELEMENT/GLE | 4.GSR.8. 1. | Explore, investigate, and draw points, lines, line segments, rays, angles (right, acute, obtuse), perpendicular lines, parallel lines, and lines of symmetry. Identify these in two-dimensional figures. Elementary Mathematics Grade 4 v22 14.01 Types of Angles 14.02 Measuring with a Protractor 14.03 Benchmark and Additive Angles 14.04 Drawing with a Protractor |
| ELEMENT/GLE | 4.GSR.8. 2. | Classify, compare, and contrast polygons based on lines of symmetry, the presence or absence of parallel or perpendicular line segments, or the presence or absence of angles of a specified size and based on side lengths. <u>Elementary Mathematics Grade 4 v22</u> 14.01 Types of Angles 14.02 Measuring with a Protractor 14.03 Benchmark and Additive Angles 14.04 Drawing with a Protractor |