

**Fourth Grade Math Assessment Framework
Standard 6A - Representations and Ordering**

		Related Textbook pages	Related Additional Resources	Local Assessment Items
Read, Write, & Represent Numbers	6.4.01 Read, write, recognize, and model equivalent representations of whole numbers and their place values up to 1,000,000.			
	6.4.02 Identify and write (in words and standard form) whole numbers up to 1,000,000.			
	6.4.03 Read, write, recognize, and model equivalent representations of fractions; divide regions or sets to represent a fraction.			
	6.4.04 Represent multiplication as repeated addition.			
Order & Compare Numbers	6.4.05 Order and compare whole numbers up to 100,000.			
	6.4.06 Order and compare decimals through hundredths.			
	6.4.07 Order and compare fractions having like denominators with or without models.			
Number Line	6.4.08 Identify and locate whole numbers, halves, and fourths on a number line.			
Classification of Numbers	6.4.09 Solve problems involving descriptions of numbers, including characteristics and relationships (e.g., odd/even, factors/multiples, greater than, less than).			

Standards 6B, 6C – Computation, Operations, Estimation, and Properties

Number Operations	6.4.10 Solve problems and number sentences involving addition and subtraction with regrouping and multiplication (up to three-digit by one-digit).			
	6.4.11 Solve problems involving the value of a collection of bills and coins whose total value is \$100.00 or less, and make change.			
	6.4.12 Model and apply basic multiplication and division facts (up to 12×12), and apply them to related multiples of 10 (e.g., $3 \times 9 = 27$, $30 \times 9 = 270$, $6 \div 3 = 2$, $600 \div 3 = 200$).			
	6.4.13 Model situations involving addition and subtraction of fractions with like denominators.			
Table Properties	6.4.14 Solve problems involving the commutative and distributive properties of operations on whole numbers [e.g., $8 + 7 = 7 + 8$, $27 \times 5 = (20 \times 5) + (7 \times 5)$].			
	6.4.15 Use the inverse relationships between addition/subtraction and multiplication/division to complete basic fact sentences and solve problems (e.g., $4 \times 3 = 12$, $12 \div 3 = \underline{\quad}$).			
Estimation	6.4.16 Make estimates appropriate to a given situation with whole numbers.			

Standard 6D – Ratios, Proportions, and Percents Not Applicable at 4th Grade

Standards 7A, 7B, 7C – Units, Tools, Estimation, and Applications

Elapsed Time	7.4.01 Solve problems involving elapsed time in compound units (e.g., 1 hour and 40 minutes) that occur in the same half day (a.m. only or p.m. only).			
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Measurement Tools	7.4.02 Select and use appropriate standard units and tools to measure length (to the nearest $\frac{1}{2}$ inch or $\frac{1}{2}$ cm), time, and temperature.			
Area, Perimeter, & Circumference	7.4.03 Solve problems involving the perimeter of a polygon with given side lengths and the area of a square, rectangle, or irregular shape composed of rectangles using diagrams, models, and grids or by measuring (may include sketching a figure from its description).			
Estimation	7.4.04 Compare and estimate length (including perimeter), area, volume, and weight/mass using referents.			
Volume & Surface Area	7.4.05 Determine the volume of a solid figure that shows cubic units.			
Measurement Conversions	7.4.06 Solve problems involving unit conversions <u>within the same measurement system</u> for time, length, and weight/mass.			

Standard 8A – Representations, Patterns, and Expressions

Patterns	8.4.01 Determine a missing term in a pattern (sequence), describe a pattern (sequence), and extend a pattern (sequence) when given a description or pattern (sequence).			
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Write & Simplify Expressions	8.4.02 Write an expression using letters or symbols to represent an unknown quantity.			
Evaluate Algebraic Expressions	8.4.03 Evaluate algebraic expressions with a whole number variable value (e.g., evaluate $3 + m$ when $m = 4$).			

Standard 8B – Connections Using Tables, Graphs, and Symbols

Describing Change	8.4.04 Identify or represent situations with well-defined patterns using words, tables, and graphs (e.g., represent temperature and time in a line graph).			
Representations	8.4.05 Translate between different representations (table, written, or pictorial) of whole number relationships.			

Standards 8C, 8D – Writing, Interpreting, and Solving Equations

Write Equations & Inequalities	8.4.06 Represent simple mathematical relationships with number sentences (equations and inequalities).			
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Solve Equations & Inequalities	8.4.07 Solve for the unknown in an equation with one operation (e.g., $10 = \square + 3 + 2$, $\square - 1 = 3$).			
	8.4.08 Solve word problems involving unknown quantities.			

Standard 9A – Properties of Single Figures and Coordinate Geometry

Properties of Single Figures	9.4.01 Identify, describe, and sketch two-dimensional shapes (triangles, quadrilaterals, pentagons, hexagons, and octagons) according to the number of sides, length of sides, number of vertices, and right angles.			
	9.4.02 Identify and describe three-dimensional shapes (cubes, spheres, cones, cylinders, prisms, and pyramids) according to their characteristics (faces, edges, vertices).			
	9.4.03 Differentiate between polygons and non-polygons			
Coordinate Geometry	9.4.04 Graph, locate, identify points, and describe paths using ordered pairs (first quadrant).			
Symmetry	9.4.05 Identify whether or not a figure has one or more lines of symmetry, and sketch or identify all lines of symmetry.			

Transformations	9.4.06 Identify images resulting from flips (reflections), slides (translations), or turns (rotations).			
Lines, Segments, Rays, & Angles	9.4.07 Identify and sketch parallel and perpendicular lines.			
	9.4.08 Identify and sketch right angles.			

Standard 9B – Relationships Between and Among Multiple Figures

Relationships Between Two- & Three-Dimensional Objects	9.4.09 Identify the two-dimensional components of a three-dimensional object.			
	9.4.10 Identify a three-dimensional object from its net.			
Composing & Decomposing Figures	9.4.11 Predict the result of composing or decomposing shapes or figures.			
Congruency & Similarity	9.4.12 Identify congruent and similar figures by visual inspection.			

Distance	9.4.13 Determine the distance between two points on the number line in whole numbers.			
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Standard 9C – Justifications of Conjectures and Conclusions

This standard is not assessed in isolation. Rather, its essence is assessed indirectly through problems that require this type of thinking.

Standard 9D – Trigonometry

This standard is not assessed on the state assessment until grade 11.

Standards 10A, 10B – Data Analysis and Statistics

Read & Interpret Displays	10.4.01 Read and interpret data represented in a pictograph, bar graph, line (dot) plot, Venn diagram (with two circles), tally chart, table, line graph, or circle graph.			
Complete & Create Displays	10.4.02 Create a pictograph, bar graph, tally chart, or table for a given set of data.			
Statistics	10.4.03 Determine the mode and range, given a set of data or a graph.			
Probability	10.4.04 Classify events using words such as certain, most likely, equally likely, least likely, possible, and impossible.			
	10.4.05 Describe the chances associated with a context presented visually, including using the response format “3 out of 4” or $\frac{3}{4}$.			