

**Fifth Grade Math Assessment Framework**  
**Standard 6A – Representations and Ordering**

		<b>Related Textbook pages</b>	<b>Related Additional Resources</b>	<b>Local Assessment Items</b>
<b>Read, Write, &amp; Represent Numbers</b>	<b>6.5.01</b> Read, write, recognize, and model equivalent representations of whole numbers and their place values up to 100,000,000.			
	<b>6.5.02</b> Read, write, recognize, model, and interpret numerical expressions from a given description or situation.			
	<b>6.5.03</b> Read, write, recognize, and model equivalent representations of fractions, including improper fractions and mixed numbers.			
	<b>6.5.04</b> Recognize, translate between, and model multiple representations of decimals, fractions less than one (halves, quarters, fifths, and tenths), and percents (0%, 25%, 50%, 75%, and 100%).			
	<b>6.5.05</b> Read, write, recognize, and model decimals and their place values through thousandths.			
	<b>6.5.06</b> Represent multiplication as repeated addition.			

Order & Compare Numbers	6.5.07 Order and compare whole numbers up to 1,000,000.			
	6.5.08 Order and compare decimals through hundredths.			
	6.5.09 Order and compare fractions having like or unlike denominators with or without models.			
Number Line	6.5.10 Identify and locate whole numbers, halves, fourths, and thirds on a number line.			
Classifications of Numbers	6.5.11 Solve problems involving descriptions of numbers, including characteristics and relationships (e.g., odd/even, factors/multiples, greater than, less than, square numbers).			

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

Number Operations	6.5.12 Solve problems and number sentences involving addition, subtraction, multiplication, and division using whole numbers.			
	6.5.13 Solve problems and number sentences involving addition and subtraction of decimals through hundredths (with or without monetary labels).			
	6.5.14 Model situations involving addition and subtraction of fractions.			

<b>Properties</b>	<b>6.5.15</b> Solve problems involving the commutative, distributive, and identity properties of operations on whole numbers (e.g., $37 \times 46 = 46 \times 37$ , $270 \times 5 = (200 \times 5) + (70 \times 5)$ ).			
<b>Equations</b>	<b>6.5.16</b> Make estimates appropriate to a given situation with whole numbers, fractions, and decimals.			
<b>Identify &amp; Express Ratios</b>	<b>6.5.17</b> Identify and express ratios using appropriate notation (i.e., $a/b$ , $a$ to $b$ ), and identify equivalent ratios.			
<b>Proportional Reasoning</b>	<b>6.5.18</b> Solve problems involving proportional relationships, including unit pricing (e.g., one apple costs 20¢, so four apples cost 80¢).			
<b>Percents</b>	<b>6.5.19</b> Read, write, recognize, and model percents (0%, 25%, 50%, 75%, and 100%).			

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

<b>Elapsed Time</b>	<b>7.5.01</b> Solve problems involving elapsed time in compound units.			
<b>Measurement Tools</b>	<b>7.5.02</b> Select and use appropriate standard units and tools to measure length (to the nearest $\frac{1}{4}$ inch or mm), mass/weight, capacity, and angles.			

Area , Perimeter, & Circumference	7.5.03 Solve problems involving the perimeter and area of a triangle, rectangle, or irregular shape using diagrams, models, and grids or by measuring or using given formulas (may include sketching a figure from its description).			
Estimation	7.5.04 Compare and estimate length (including perimeter), area, volume, weight/mass, and angles ( $0^\circ$ to $180^\circ$ ) using referents.			
Volume & Surface Area	7.5.05 Determine the volume of a right rectangular prism using an appropriate formula or strategy.			
Measurement Conversions	7.5.06 Solve problems involving unit conversions <u>within the same measurement system</u> for time, length, and weight/mass, including compound units (e.g., 5ft 5in, 2lbs 2oz).			
Indirect Measurements & Scale Drawings	7.5.07 Solve problems involving map interpretation (e.g., one inch represents five miles, so two inches represent ten miles).			

**Standard 8A – Representations, Patterns, and Expressions**

Patterns	<b>8.4.01</b> Determine a missing term in a pattern (sequence), describe a pattern (sequence), and extend a pattern (sequence) when given a description or pattern (sequence).			
	<b>8.4.02</b> Write an expression using letters or symbols to represent an unknown quantity.			
Write & Simplify Expressions	<b>8.4.03</b> Evaluate algebraic expressions with a whole number variable value (e.g., evaluate $3 + m$ when $m = 4$ ).			
Evaluate Algebraic Expressions	<b>8.5.04</b> Evaluate algebraic expressions with a whole number variable value (e.g., evaluate $m + m + 3$ when $m = 4$ ).			

**Standard 8B – Connections Using Tables, Graphs, and Symbol**

Describing Change	<b>8.5.05</b> Demonstrate, in simple situations, how a change in one quantity results in a change in another quantity (e.g., input–output tables).			
Representations	<b>8.5.06</b> Translate between different representations (table, written, or pictorial) of whole number relationships.			

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

Write Equations & Inequalities	8.5.07 Represent problems with equations and inequalities			
Solve Equations and Inequalities	8.5.08 Solve for the unknown in an equation with one operation (e.g., $2+n=20$ , $n\div 2=6$ ).			
	8.5.09 Solve word problems involving unknown quantities			

**Standard 9A – Properties of Single Figures and Coordinate Geometry**

Properties of Single Figures	9.5.01 Classify, 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 interior angles (right, acute, obtuse).			
	9.5.02 Identify and describe three-dimensional shapes (cubes, spheres, cones, cylinders, prisms, and pyramids) according to their characteristics (faces, edges, vertices).			
	9.5.03 Solve problems using properties of triangles (e.g., sum of interior angles of a triangle is $180^\circ$ ).			
Circles	9.5.04 Identify, describe, and sketch circles, including radius and diameter			

<b>Coordinate Geometry</b>	<b>9.5.05</b> Graph, locate, identify points, and describe paths using ordered pairs (first quadrant).			
<b>Symmetry</b>	<b>9.5.06</b> Identify whether or not a figure has one or more lines of symmetry, and sketch or identify all lines of symmetry.			
<b>Transformations</b>	<b>9.5.07</b> Identify, describe, and predict results of reflections, translations, and rotations of two-dimensional shapes.			
<b>Lines, Segments, Rays, &amp; Angles</b>	<b>9.5.08</b> Identify and sketch parallel, perpendicular, and intersecting lines.			
	<b>9.5.09</b> Identify and sketch acute, right, and obtuse angles.			

**Standard 9B – Relationships Between and Among Multiple Figures**

<b>Relationships Between Two- and Three- Dimensional Objects</b>	<b>9.5.10</b> Identify the two-dimensional components of a three-dimensional object.			
	<b>9.5.11</b> Identify a three-dimensional object from its net.			

<b>Composing &amp; Decomposing Figures</b>	<b>9.5.12</b> Predict the result of composing or decomposing shapes or figures.			
<b>Congruency &amp; Similarity</b>	<b>9.5.13</b> Identify congruent and similar figures by visual inspection.			
	<b>9.5.14</b> Determine if figures are similar, and identify relationships between corresponding parts of similar figures.			
<b>Distance</b>	<b>9.5.15</b> Determine the distance between two points on a horizontal or vertical number line in whole numbers.			

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**Standard 9C – Justifications of Conjectures and Conclusions**

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

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**Standard 9D – Trigonometry**

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

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**Standards 10A, 10B – Data Analysis and Statistics**

<b>Read &amp; Interpret Displays</b>	<b>10.5.01</b> Read, interpret, and make predictions from data represented in a pictograph, bar graph, line (dot) plot, Venn diagram (with two circles), chart/table, line graph, or circle graph.			
<b>Complete &amp; Create Displays</b>	<b>10.5.02</b> Create a pictograph, bar graph, chart/table, or line graph for a given set of data.			

<b>Statistics</b>	<b>10.5.03</b> Determine the mode, range, median (with an odd number of data points), and mean, given a set of data or a graph.			
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**Standard 10C – Probability**

<b>Probability</b>	<b>10.5.04</b> Solve problems involving the probability of a simple event, including representing the probability as a fraction between zero and one.			
<b>Outcomes &amp; Counting Principles</b>	<b>10.5.05</b> Apply the fundamental counting principle in a simple problem (e.g., How many different combinations of one-scoop ice cream cones can be made with 3 flavors and 2 types of cones?).			