

**School District U-46
Eighth Grade Mathematics**

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Obj.	Student & Parent	ILS Standards	Teacher Clarification <i>Based on the Illinois Mathematics Assessment Framework</i>	*Cycle	**Assessment	Strategies/Resources
801	<p>I can read, write, and represent numbers in various ways.</p> <p>I can order and compare numbers.</p>	<p>Representations and Ordering</p> <p>6.A Demonstrate knowledge and use of numbers and their representations in theoretical and practical settings.</p> <p>***English Language Proficiency Standards <i>Grade Level Cluster 6-8</i> 3. <i>Reading 1-5</i> 3. <i>Writing 1-5</i> 3. <i>Speaking 1-5</i> 3. <i>Listening 1-5</i></p>	<p>I model and provide students with the opportunity to:</p> <p>6.8.01 - Read, write, and recognize equivalent representations of positive powers of 10.</p> <p>6.8.02 – Read, write, recognize, model, and interpret integers, including translating numerical expressions.</p> <p>6.8.03 – Recognize, translate between and apply multiple representations of roots.</p> <p>6.8.04 – Use scientific notation to represent numbers and solve problems.</p> <p>6.8.05 – Represent repeated factors using exponents.</p> <p>6.8.06 – Order and compare rational numbers.</p> <p>6.8.07 – Identify and locate rational and irrational numbers (e.g., π, $\sqrt{2}$, $\sqrt{5}$) on a number line.</p> <p>6.8.08 – Solve problems involving descriptions of numbers, including characteristics and relationships (e.g., exponents, roots, prime/composite, prime factorization).</p>	<p>1st Quarter</p> <p>2nd Quarter</p> <p>Review</p> <p>Review & Science</p> <p>Review</p> <p>1st Quarter</p> <p>1st Quarter</p> <p>Review</p>	<p><u>NWEA MAP-Number Sense & Numeration</u></p> <p>ISAT/IMAGE</p>	<p>Staff Development</p> <p>Strategies/Resources ISBE Assessment Framework</p>

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802	I can use the relationships between numbers to solve problems.	<p>Computation, Operations, Estimation, and Properties</p> <p>6.B Investigate, represent and solve problems using number facts, operations and their properties, algorithms and relationships and</p> <p>6.C Compute and estimate using mental mathematics, paper-and-pencil methods, calculators and computers.</p> <p>***<u>English Language Proficiency Standards</u> <i>Grade Level Cluster 6-8</i> <i>3.Reading 1-5</i> <i>3.Writing 1-5</i> <i>3.Speaking 1-5</i> <i>3.Listening 1-5</i></p>	<p>I model and provide students with the opportunity to:</p> <p>6.8.09 – Solve problems and number sentences involving addition, subtraction, multiplication and division using rational numbers, exponents and roots.</p> <p>6.8.10 – Identify and apply order of operations to simplify numeric expressions involving integers (including exponents and roots), fractions and decimals.</p> <p>6.8.11 – Identify and apply the properties of operations with rational numbers.</p> <p>6.8.12 – Describe the effect of multiplying and dividing by numbers, including the effect of multiplying or dividing a rational number by:</p> <ul style="list-style-type: none"> • a number less than zero; • zero; • a number between zero and one; • a number greater than one. <p>6.8.13 – Select, use and justify appropriate operations, methods and tools to compute or estimate with rational numbers. Verify solutions and determine the reasonableness of the results.</p> <p>6.8.14 – Estimate the square or cube root of a number less than 1,000 between two whole numbers (e.g., $\sqrt[3]{200}$ is between 5 and 6).</p>	<p>1st thru 4th Quarter</p> <p>Review</p> <p>Review</p> <p>1st & 2nd Quarter</p> <p>1st thru 4th Quarter</p> <p>1st thru 4th Quarter</p>	<p><u>NWEA MAP</u> Computation & Problem Solving</p> <p>ISAT/IMAGE</p>	<p>Staff Development</p> <p>Strategies/Resources ISBE Assessment Framework</p>

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803	I can use ratios and proportions to solve problems.	<p>Ratios, Proportions, and Percents</p> <p>6.D Solve problems using comparison of quantities, ratios, proportions and percents.</p> <p>***English Language Proficiency Standards <i>Grade Level Cluster 6-8</i> 3. <i>Reading 1-5</i> 3. <i>Writing 1-5</i> 3. <i>Speaking 1-5</i> 3. <i>Listening 1-5</i></p>	<p>I model and provide students with the opportunity to:</p> <p>6.8.15 – Use ratios to describe problem situations.</p> <p>6.8.16 - Use proportional reasoning to model and solve problems.</p> <p>6.8.17 – Read, write, recognize, model and interpret percents, including those less than 1% and greater than 100%.</p> <p>6.8.18 – Solve sentences and problems involving fractions, decimals and percents (e.g., percent increase and decrease, interest rates, tax, discounts and tips).</p>	<p>1st and 2nd Quarter</p> <p>2nd Quarter</p> <p>2nd Quarter</p> <p>2nd Quarter</p>	<p><u>NWEA MAP</u> Number Sense & Numeration Problem Solving</p> <p>ISAT/IMAGE</p>	<p>Staff Development</p> <p>Strategies/Resources ISBE Assessment Framework</p>

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804	I can use appropriate units of measure, estimate measurements and use appropriate formulas and instruments to solve problems.	<p>Units, tools, estimation, and applications.</p> <p>7.A Measure and compare quantities using appropriate units, instruments and methods.</p> <p style="text-align: center;">and</p> <p>7.B Estimate measurements and determine acceptable levels of accuracy</p> <p style="text-align: center;">and</p> <p>7.C Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate.</p> <p>***English Language Proficiency Standards <i>Grade Level Cluster 6-8</i> 3. <i>Reading 1-5</i> 3. <i>Writing 1-5</i> 3. <i>Speaking 1-5</i> 3. <i>Listening 1-5</i></p>	<p>I model and provide students with the opportunity to:</p> <p>7.8.01 – Select and use appropriate standard units and tool to solve measurement problems, including measurements of polygons and circles.</p> <p>7.8.02 – Solve problems involving perimeter/circumference and area of polygons, circles and composite figures using diagrams, models and grids or by measuring or using given formulas (may include sketching a figure from its description).</p> <p>7.8.03 – Compare and estimate length (including perimeter/circumference), area, volume, weight/mass, and angles (0° to 360°) using referents.</p> <p>7.8.04 - Solve problems involving the volume or surface area of a right rectangular prism, right circular cylinder or composite shape using an appropriate formula or strategy.</p> <p>7.8.05 – Solve problems involving unit conversions within the same measurement system for length, weight/mass, capacity, square units and measures expressed as rates (e.g., converting feet/seconds to yards/minutes).</p> <p>7.8.06 – Solve problems involving scale drawings, maps and indirect measurement (e.g., determining the height of a building by comparing its known shadow length to the known height and shadow length of another object).</p>	<p>1st thru 4th Quarter & Coordinate with the Science Dept.</p> <p>3rd Quarter</p> <p>3rd Quarter & Coordinate with the Science Dept</p> <p>3rd Quarter</p> <p>4th Quarter & Coordinate with the Science Dept</p> <p>2nd Quarter</p>	<p><u>NWEA MAP</u> Measurement Geometry</p> <p>ISAT/IMAGE</p>	<p>Staff Development</p> <p>Strategies/Resources ISBE Assessment Framework</p>

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805	I can recognize patterns, write and simplify expressions, and evaluate algebraic expressions.	Representations, Patterns, and Expressions 8.A Describe numerical relationships using variables and patterns. ***English Language Proficiency Standards <i>Grade Level Cluster 6-8</i> 3. Reading 1-5 3. Writing 1-5 3. Speaking 1-5 3. Listening 1-5	I model and provide students with the opportunity to: 8.8.01 – Analyze, extend and create sequences or linear functions and determine algebraic expressions to describe the n^{th} term of a sequence. 8.8.02 – Write an expression using variables to represent unknown quantities. 8.8.03 – Simplify algebraic expressions. 8.8.04 – Recognize and generate equivalent forms of algebraic expressions. 8.8.05 – Evaluate or simplify algebraic expressions with one or more rational variable values (e.g., $3a^2-b$ for $a=3$ and $b=7$).	1 st Quarter Review 1 st & 2 nd Quarter 1 st & 2 nd Quarter Review	<u>NWEA MAP</u> Algebraic Concepts ISAT/IMAGE	Staff Development Strategies/Resources ISBE Assessment Framework
806	I can interpret and describe numerical relationships using tables, graphs, and symbols.	Connections using tables, graphs, and symbol. 8.B Interpret and describe numerical relationships using tables, graphs and symbols. ***English Language Proficiency Standards <i>Grade Level Cluster 6-8</i> 3. Reading 1-5 3. Writing 1-5 3. Speaking 1-5 3. Listening 1-5	I model and provide students with the opportunity to: 8.8.06 – Recognize, describe, and extend patterns using rate of change. 8.8.07 – Represent linear equations and quantitative relationships on a rectangular coordinate system and interpret the meaning of a specific part of a graph. 8.8.08 – Translate between different representations (table, written, graphical or pictorial) of whole number relationships and linear expressions. 8.8.09 – Interpret the meaning slope intercepts in linear situations. 8.8.10 – Identify, graph and interpret up to two inequalities with a single variable (including the intersection or union of these inequalities) on a number line.	2 nd Quarter Review Review 4 th Quarter 2 nd & 4 th Quarter	<u>NWEA MAP</u> Algebraic Concepts ISAT/IMAGE	Staff Development Strategies/Resources ISBE Assessment Framework

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807	I am able to interpret and solve problems by writing and solving equations and inequalities.	<p>Writing, interpreting and solving equations and inequalities</p> <p>8.C Solve problems using systems of numbers and their properties. and</p> <p>8.D Use algebraic concepts and procedures to represent and solve problems.</p> <p>***English Language Proficiency Standards <i>Grade Level Cluster 6-8</i> 3.Reading 1-5 3.Writing 1-5 3.Speaking 1-5 3.Listening 1-5</p>	<p>I model and provide students with the opportunity to:</p> <p>8.8.11 – Represent and analyze problems with linear equations and inequalities.</p> <p>8.8.12 - Solve linear equations and inequalities in one variable over the rational numbers (e.g., $5x+7=-13$, $4x-3=-7x+8$, $-2x+3>-5$).</p> <p>8.8.13 – Solve word problems involving unknown quantities.</p>	<p>1st thru 4th Quarter</p> <p>1st thru 4th Quarter</p> <p>1st thru 4th Quarter</p>	<p><u>NWEA MAP</u> Algebraic Concepts</p> <p>Problem Solving</p> <p>ISAT/IMAGE</p>	<p>Staff Development</p> <p>Strategies/Resources ISBE Assessment Framework</p>

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808	I am able to interpret and solve problems using the properties of geometric figures and coordinate geometry.	<p>Properties of single figures and coordinate geometry</p> <p>9.A Demonstrate and apply geometric concepts involving points, lines, planes.</p> <p>***English Language Proficiency Standards <i>Grade Level Cluster 6-8</i> 3. Reading 1-5 3. Writing 1-5 3. Speaking 1-5 3. Listening 1-5</p>	<p>I model and provide students with the opportunity to:</p> <p>9.8.01 – Solve problems involving two- and three-dimensional shapes.</p> <p>9.8.02 – Solve problems that require knowledge of triangle and quadrilateral properties (e.g., triangle inequality).</p> <p>9.8.03 – Find the length of any side of a right triangle using the Pythagorean theorem (whole number solutions).</p> <p>9.8.04 - Identify, describe and determine the radius and diameter of a circle.</p> <p>9.8.05 – Graph points and identify coordinates of points on the Cartesian coordinate plane (all four quadrants).</p> <p>9.8.06 – Represent and identify geometric figures using coordinate geometry, including those resulting from transformation</p> <p>9.8.07 – Analyze the results of a combination of transformations and determine a different transformation that could produce the same result.</p> <p>9.8.08 – Identify or analyze relationships of angles formed by intersecting lines (including parallel lines cut by a transversal) and angles formed by radii of a circle.</p> <p>9.8.09 – Solve problems involving vertical, complimentary and supplementary angles.</p>	<p>3rd Quarter</p> <p>3rd Quarter</p> <p>3rd Quarter</p> <p>3rd Quarter</p> <p>Review</p> <p>3rd Quarter</p> <p>3rd Quarter</p> <p>Review</p>	<p><u>NWEA MAP Geometry</u></p> <p>ISAT/IMAGE</p>	<p>Staff Development</p> <p>Strategies/Resources ISBE Assessment Framework</p>

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809	I am able to identify the relationships between and among multiple geometric figures and solve problems involving congruent and similar figures.	<p>Relationships between and among multiple figures.</p> <p>9.B Identify, describe, classify and compare relationships using points, lines, planes and solids.</p> <p>***English Language Proficiency Standards <i>Grade Level Cluster 6-8</i> 3. Reading 1-5 3. Writing 1-5 3. Speaking 1-5 3. Listening 1-5</p>	<p>I model and provide students with the opportunity to:</p> <p>9.8.10 – Identify front, side and top views of a three-dimensional solid built with cubes.</p> <p>9.8.11 – Solve problems involving congruent and similar figures.</p> <p>9.8.12 – Relate absolute value to distance on the number line.</p>	<p>3rd Quarter</p> <p>2nd Quarter</p> <p>1st Quarter</p>	<p><u>NWEA MAP</u> Geometry</p> <p>ISAT/IMAGE</p>	<p>Staff Development</p> <p>Strategies/Resources ISBE Assessment Framework</p>
810	I can provide logical justifications.	<p>9.C Construct convincing arguments and proofs to solve problems.</p> <p>***English Language Proficiency Standards <i>Grade Level Cluster 6-8</i> 3. Reading 1-5 3. Writing 1-5 3. Speaking 1-5 3. Listening 1-5</p>	<p><i>This standard is not practiced in isolation. It is addressed through problems that require this type of thinking.</i></p>	<p>3</p>	<p><u>NWEA MAP</u> Problem Solving</p> <p>ISAT/IMAGE</p>	<p>Staff Development</p> <p>Strategies/Resources ISBE Assessment Framework</p>

