## Math 7B8 Accelerated Year at a Glance

Use these links to access more information about the course units of study: [Student Link](#), [Family Link](#), and [Teacher Link](#).

<table>
<thead>
<tr>
<th>Unit</th>
<th>Duration</th>
<th>Addressed Standards</th>
<th>Big Ideas</th>
<th>Essential Questions</th>
<th>Unit Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit 1: Rigid Transformations and Congruence</strong></td>
<td>12 days (4 pd)</td>
<td>7.G.A.2, 7.G.B.5, 8.G.A.1.a, b, 8.G.A.2, 8.G.A.3, 8.G.A.5</td>
<td>• Geometric figures can be drawn using a variety of tools.&lt;br&gt;• Sets of angle and side length measurements may result in unique, many, or no triangles.&lt;br&gt;• Angle relationships can be used to solve unknown measures in triangles or parallel lines cut by a transversal.&lt;br&gt;• Exploration of transformations will verify the properties of rotations, reflections, and translations.&lt;br&gt;• Two-dimensional figures can be rotated, translated, and reflected on a coordinate plane.&lt;br&gt;• Congruent figures are formed by a series of rigid transformations.</td>
<td>• How do I know if a set of measures will form a unique triangle, no triangle, or many triangles?&lt;br&gt;• What strategies can I use to draw a triangle with given measures?&lt;br&gt;• How do I represent the relationship between angles using an equation?&lt;br&gt;• How does a rigid transformation affect the coordinates of a figure?&lt;br&gt;• What does it mean for two figures to be congruent?&lt;br&gt;• What sequence of transformations is needed to map one figure onto another?</td>
<td>This unit has a mid and an end of unit assessment.&lt;br&gt;Items include human scored and computer scored that assess content, reasoning, and problem solving.</td>
</tr>
<tr>
<td><strong>Unit 2: Scale Drawings, Similarity, and Slope</strong></td>
<td>12 days (4 pd)</td>
<td>7.G.A.1, 8.G.A.2, 8.G.A.3, 8.G.A.4, 8.G.A.5, 8.EE.B.6</td>
<td>• Angle measures are preserved in a dilation, but lengths are multiplied by a scale factor.&lt;br&gt;• Similar figures are formed by a series of rigid transformations and dilations.&lt;br&gt;• Slope, the vertical distance divided by the horizontal distance in a linear relationship, can be identified from a graph, table, or equation.</td>
<td>• How does a dilation affect the attributes of a figure?&lt;br&gt;• What does it mean for two figures to be similar?&lt;br&gt;• What sequence of transformations will create a similar figure from a given figure?&lt;br&gt;• What criterion can I use to identify two similar triangles?&lt;br&gt;• What is a slope triangle for a line? How is it used?</td>
<td>This unit has a mid and an end of unit assessment.&lt;br&gt;Items include human scored and computer scored that assess content, reasoning, and problem solving.</td>
</tr>
</tbody>
</table>
## Math 7B8 Accelerated Year at a Glance

<table>
<thead>
<tr>
<th>Unit</th>
<th>Duration</th>
<th>Addressed Standards</th>
<th>Big Ideas</th>
<th>Essential Questions</th>
<th>Unit Assessment</th>
</tr>
</thead>
</table>
| Unit 3: Writing and Solving Equations | 9 days (4 pd) | 7.EE.B.3  
18 days (7 pd) | 7.EE.B.4.a | • Multiple step real-life and mathematical problems with rational numbers in any form can be solved using tools strategically.  
• Reasonableness of answers can be assessed using mental computation and estimation strategies.  
• Equations in the form $px + q = r$ and $p(x + q) = r$ can be represented with tape diagrams.  
• Mathematical properties are used to simplify expressions and solve equations. | • What strategies can I use to determine if my answer is reasonable?  
• How does the form of the number affect my strategy for solving?  
• What are some ways that tape diagrams represent equations?  
• What role do the order of operations play in simplifying linear expressions?  
• What mathematic properties can be used to solve an equation? | Items include human scored and computer scored that assess content, reasoning, and problem solving. |
| Unit 4: Inequalities, Expressions, and Equations | 11 days (4 pd) | 6.EE.A.2.b  
22 days (7 pd) | 6.EE.B.5  
6.EE.B.6  
6.EE.B.8  
6.NS.C.7.a,b  
7.EE.A.1  
7.EE.B.3  
7.EE.B.4.b  
7.NS.A.1,c  
8.EE.C.7.a,b | • The solution to a linear equation may require expanding expressions using the distributive property and collecting like terms.  
• Linear equations can have no, one, or infinitely many solutions.  
• Solutions to inequalities can be expressed symbolically and graphically. | • How do I choose the best strategy for solving an equation?  
• What does the solution mean in context?  
• How do I distinguish between these symbols $\geq$, $>$, $\leq$, $<$, when graphing on a number line? | Items include human scored and computer scored that assess content, reasoning, and problem solving. |
## Math 7B8 Accelerated Year at a Glance

<table>
<thead>
<tr>
<th>Unit</th>
<th>Duration</th>
<th>Addressed Standards</th>
<th>Big Ideas</th>
<th>Essential Questions</th>
<th>Unit Assessment</th>
</tr>
</thead>
</table>
| **Unit 5: Linear Relationships** | 15 days (4 pd) | 8.EE.B.5, 8.EE.B.6, 8.EE.C.8, a, b, c, 8.G.A.1, 8.SP.A.1, 8.SP.A.2, 8.SP.A.3, 8.SP.A.4 | • Proportional and non-proportional linear relationships can be compared using graphs, tables, and equations.  
• Unit rate and rate of change can be interpreted as slope when the data is graphed on a coordinate plane.  
• Systems of two linear equations in two variables can be solved algebraically or by finding the points of intersection of the two graphs which satisfies both equations simultaneously.  
• Bivariate data displayed in scatterplots can be described using patterns.  
• A straight line, or fit line, can be drawn on a scatterplot to model the bivariate data and used to make predictions.  
• Patterns of associations can be seen in bivariate data by displaying frequencies and relative frequencies in a two-way table. | • What strategies can I use to determine if a linear relationship is proportional or non-proportional?  
• How do I find the slope and y-intercept from a table, graph, and equation?  
• When would a solution not make sense in context?  
• What does it mean to be a solution to a system of equations?  
• How do I choose the best strategy for solving a system of equations?  
• How do I know when to draw a fit line and how does it help me to make predictions?  
• What associations describe the data and what inferences can be made? | This unit has a mid and an end of unit assessment.  
Items include human scored and computer scored that assess content, reasoning, and problem solving. |
<table>
<thead>
<tr>
<th>Unit</th>
<th>Duration</th>
<th>Addressed Standards</th>
<th>Big Ideas</th>
<th>Essential Questions</th>
<th>Unit Assessment</th>
</tr>
</thead>
</table>
• Functions can be represented in tables, graphs, and equations.  
• Not all functional relationships are linear.  
• Relationships in mathematics can be represented, modeled, and analyzed using patterns and functions.  
• The cross section of a prism, pyramid, or polyhedron is a two-dimensional figure.  
• An approximation of Pi is integral to volumes of solid figures that are related to circles.  
• Relationships exist between dimensions and volumes of cylinders, cones, and spheres. | • What are the characteristics of a function?  
• What story does the graph of a function tell me?  
• How do I use the context to sketch a graph of the function?  
• What are the characteristics of a piecewise linear function?  
• How does the way a three-dimensional figure is sliced affect the shape of the cross section?  
• Why is it necessary to use Pi to find the volume of cylinders, cones, and spheres?  
• What is the relationship between the volume of a cone and the volume of a cylinder?  
• How would I use the volume of a figure to find other dimensions such as height or radius? | This unit has a mid and an end of unit assessment.  
Items include human scored and computer scored that assess content, reasoning, and problem solving. |
| Unit 7: Exponents and Scientific Notation | 9 days  | 8.EE.A.1 8.EE.A.3 8.EE.A.4 | • Properties of integer exponents can be used to generate equivalent numerical expressions.  
• Numbers with very small or very large values can be expressed concisely using scientific notation. | • How can I express repeated multiplication of powers using a single exponent?  
• What does it mean when a value is raised to a negative power?  
• How does using powers of 10 make it easier to communicate about very large or very small numbers? | Items include human scored and computer scored that assess content, reasoning, and problem solving. |
## Math 7B8 Accelerated Year at a Glance

<table>
<thead>
<tr>
<th>Unit</th>
<th>Duration</th>
<th>Addressed Standards</th>
<th>Big Ideas</th>
<th>Essential Questions</th>
<th>Unit Assessment</th>
</tr>
</thead>
</table>
| Unit 8: Pythagorean Theorem and Irrational Numbers | 8 days (4 pd) | 8.NS.A.1 8.NS.A.2 8.F.B 8.EE.A.2 8.G.B.6 8.G.B.7 8.G.B.8 | • Root values of numbers can be determined or approximated.  
• The square roots of rational numbers are not always rational.  
• Right triangles have a special relationship among their side lengths which can be represented by a model and formula.  
• The Pythagorean Theorem and its converse are related to the formula used to find the distance between two points on a coordinate plane. | • How do I distinguish between rational and irrational numbers?  
• How would I determine the placement of an irrational number on a number line?  
• What strategy would I use to find the missing side length of a right triangle?  
• How do I find the distance between two points on a coordinate plane? | Items include human scored and computer scored that assess content, reasoning, and problem solving. |