## Math 6/7A 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 Assessments</th>
</tr>
</thead>
</table>
| Unit 1: Area | 9 days (4 period) | 6.G.A.1, 6.G.A.2, 6.G.A.4, 6.EE.A.2.a.c | • Multiple strategies (decomposing, composing, rearranging, enclosing, etc.) can be used to find the area and surface area of a polygon.  
• The area of a figure is not changed by rearranging and decomposing.  
• It is important for calculating the area of a triangle to identify the height for a chosen base.  
• Nets are a useful tool to determine surface area of polyhedra.  
• Formulas can be derived and justified when finding area and surface area.  
• Exponents help to efficiently express multiplication of the side lengths of squares and cubes.  
• There is a relationship between the area of triangles and the area of parallelograms. | • What strategies can I use to find the area of polygons?  
• How do I use what I know to develop, use, and justify formulas for area?  
• What strategies can I use to determine the surface areas of regular and triangular polyhedra? | Human scored and computer scored items that assess content, reasoning, and problem solving. |
# Math 6/7A 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 Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 2: Ratios, Rates and Percentages</td>
<td>15 days (4 period)</td>
<td>6.RP.A.1, 6.RP.A.2, 6.RP.A.3.a,b,c,d</td>
<td>• A ratio is a multiplicative comparison of two quantities.</td>
<td>• What models can I use to represent a ratio?</td>
<td>This unit has a mid-unit assessment and an end-of-unit assessment.</td>
</tr>
<tr>
<td></td>
<td>30 days (7 period)</td>
<td></td>
<td>• Unit rates, ratios, and percentages ratios have real world applications. (Converting measurements, comparing speed and prices, etc.)</td>
<td>• What information do I get when I compare two numbers using a ratio?</td>
<td>Human scored and computer scored items that assess content, reasoning, and problem solving.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Tables, tape diagrams, and double number lines are helpful tools to help conceptualize ratios, rates, and percentages.</td>
<td>• What questions can I ask and answer about ratios?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• “Percent” means “per 100” and indicates a rate.</td>
<td>• How does knowing the rate per one (unit rate) help me to solve real-world problems?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Equivalent ratios have the same unit rates.</td>
<td>• How are percentages, ratios and rates similar and different?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• How do I interpret division situations?</td>
<td>• What is a percent?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• How can I use what I know about multiplying and dividing fractions to help me solve area and volume problems?</td>
<td>• How are percentages used in the real world?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• How can I use estimation to find the product or quotient of decimals?</td>
<td>• What are benchmark percentages?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• What strategies can I use to perform multi-digit decimal calculations?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit 3: Fractions and Decimals</td>
<td>14 days (4 period)</td>
<td>6.NS.A.1, 6.NS.B.2, 6.NS.B.3, 6.G.A.1, 6.G.A.2, 7.RP.A.1</td>
<td>• Division can be used to answer equal groups (“how many groups”, “how much in each group”, “what fraction of a group”) or comparison situations.</td>
<td>• How does the size of the divisor affect the quotient?</td>
<td>This unit has a mid-unit assessment and an end-of-unit assessment.</td>
</tr>
<tr>
<td></td>
<td>28 days (7 period)</td>
<td></td>
<td>• Division of fractions can be partition (partitive) and measurement (quotative).</td>
<td>• How does division of fractions relate to multiplication of fractions?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• The relative sizes of numerator and denominator affect the size of the quotient.</td>
<td>• How do I interpret division situations?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• There are efficient algorithms when performing decimal operations.</td>
<td>• How can I use what I know about multiplying and dividing fractions to help me solve area and volume problems?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Base-ten diagrams can be used to represent decimal and whole number operations.</td>
<td>• How can I use estimation to find the product or quotient of decimals?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Multiplication and division of fractions can be used to solve geometric problems about area and volume of objects with fractional side lengths.</td>
<td>• What are some real-world applications of decimal arithmetic?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• How can I use what I know about multiplying and dividing fractions to help me solve area and volume problems?</td>
<td>• What strategies can I use to perform multi-digit decimal calculations?</td>
<td></td>
</tr>
</tbody>
</table>
## Math 6/7A 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 Assessments</th>
</tr>
</thead>
</table>
| Unit 4: Equations and Expressions | 12 days (4 period) | 6.EE.A.1, 6.EE.A.2.a,c, 6.EE.A.3, 6.EE.A.4, 6.EE.B.5, 6.EE.B.6, 6.EE.B.7, 6.NS.B.3, 6.G.A.4, 6.RP.A.1, 6.RP.A.3.a,b | - Algebraic expressions may be used to represent and generalize mathematical problems and real-life situations.  
- Exponential notation is a way to express repeated products of the same number.  
- Two equivalent expressions form an equation.  
- Properties of numbers can be used to simplify and evaluate expressions  
- A solution to an equation in one variable is a number that makes the equation true when the number is substituted for all instances of the variable. | - How can mathematical symbols model verbal expressions?  
- How are the properties of numbers used to evaluate, simplify, and expand expressions?  
- What strategies can I use to help me understand, represent, and solve real situations using algebraic expressions?  
- How is an equation like a balance? How can the idea of balance help me solve an equation?  
- What does it mean for a number to be a solution for an equation? | This unit has a mid-unit assessment and an end-of-unit assessment.  
Human scored and computer scored items that assess content, reasoning, and problem solving. |
| | 24 days (7 period) | | | | |
| Unit 5: Proportional Relationships | 11 days (4 period) | 7.RP.A.1, 7.RP.A.2.a,b,c, 7.G.A.1, 7.G.A.2, 7.G.B.4, 7.G.B.6, 7.EE.B.3 | - Situations based on proportional reasoning can involve multiple representations (equations, tables, graphs, equivalent ratios, etc.)  
- Ratios and proportional reasoning interconnects with topics in geometry, probability, and rational numbers.  
- The circumference of a circle is proportional to its diameter, with constant of proportionality $\pi$.  
- The relationship between the measures of circumference and diameter can be represented with tables and graphs.  
- The area of a circle can be derived from knowing its radius. | - How can I determine whether a relationship is proportional?  
- What is the constant of proportionality?  
- How can we represent proportionality?  
- What is the relationship between the graph and the equation of a proportional relationship?  
- How are the area, circumference and radius of a circle related?  
- What are the characteristics of a circle?  
- How is the formula for the area of a circle related to the formula for the area of a parallelogram? | Human scored and computer scored items that assess content, reasoning, and problem solving. |
## Math 6/7A 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 Assessments</th>
</tr>
</thead>
</table>
| **Unit 6: Percentage Increase and Decrease** | 7 days (4 period) | 7.RP.A.2 7.RP.A.3 7.NS.A.2.d | • Percentages are used in the real world for a variety of situations, including discounts, sales tax, tip, markup, and markdown.  
• Percentages can be used to describe a change relative to an initial amount.  
• Ratios, unit rates (also called constants of proportionality), and proportional relationships can be used to solve multi-step problems involving percentages.  
• All measurements include some error.  
• Understanding and finding percent error is important for solving real-world problems. | • What are some real world applications of percents?  
• What situations can be described in terms of percentages?  
• How do proportions relate to percentages?  
• How do percents help me describe situations that involve error? | Human scored and computer scored items that assess content, reasoning, and problem solving. |
| | 14 days (7 period) | 6.NS.C.5 6.NS.C.6.a,b,c 6.NS.C.7.a,b,c,d 6.NS.C.8 6.G.A.3 7.NS.A.1.a,b,c,d 7.NS.A.2.a,b,c 7.NS.A.3 7.RP.A.2 7.EE.B.3 7.EE.B.4.a | • Positive and negative numbers are used to describe real-world situations.  
• The sign of a number indicates whether the number is positive or negative. Zero has no sign.  
• Integers have both magnitude and order.  
• Signs in ordered pairs indicate locations in quadrants of the coordinate plane.  
• The properties of operations for addition, subtraction, multiplication, and division hold true for rational numbers.  
• Rational numbers can be represented in multiple ways.  
• Real world problems may be represented by the formation and solution of linear equations. | • How do I evaluate rational numbers using various operations?  
• How do I use positive and negative numbers to represent quantities in real-world contexts?  
• How do I determine where to place an integer on a number line?  
• In what ways are rational numbers represented?  
• How can I use coordinates to find the distances between points?  
• What strategies are most useful in helping develop algorithms for adding, subtracting, multiplying, and dividing positive and negative rational numbers?  
• How can we create an equation for a given situation? | Human scored and computer scored items that assess content, reasoning, and problem solving. |
| **Unit 7: Rational Numbers** | 12 days (4 period) | 6.NS.C.5 6.NS.C.6.a,b,c 6.NS.C.7.a,b,c,d 6.NS.C.8 6.G.A.3 7.NS.A.1.a,b,c,d 7.NS.A.2.a,b,c 7.NS.A.3 7.RP.A.2 7.EE.B.3 7.EE.B.4.a | | | |
## Math 6/7A 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 Assessments</th>
</tr>
</thead>
</table>
| Unit 8: Data Sets and Distributions | 10 days (4 period) | 6.SP.A.1, 6.SP.A.2, 6.SP.A.3, 6.SP.B.4, 6.SP.B.5.a,b,c,d, 7.SP.A.1, 7.SP.A.2, 7.SP.B.4, 7.SP.C.5, 7.SP.C.6, 7.SP.C.7a,b, 7.SP.C.8.a,b,c | • Data sets can be described and compared using various statistical measures, depending on which characteristics are being emphasized.  
• A set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.  
• Numerical data can be displayed in several ways including histograms, bar graphs, tables of frequencies and box plots.  
• Probability is a way to quantify how likely an event is to happen.  
• A random sample of the population is intended to be representative of the total population.  
• Some variability is expected in measures of center from different samples within the same population, however, some inferences about the population may be possible. | • How do I choose and create an appropriate display to represent data?  
• What conclusions can be drawn from data?  
• How can I decide which measure of center best describes the data?  
• How can I describe the spread of a set of data?  
• What is the difference between a measure of center and a measure of variation?  
• How can we discover what a population thinks or does, without asking every member of that population?  
• How can we use data from random samples to make important decisions, or to accurately anticipate future outcomes?  
• How can the outcome of future events be predicted mathematically? | Human scored and computer scored items that assess content, reasoning, and problem solving. |