

**Berlin Brothersvalley School District**  
**Curriculum Frame 4th 9 Weeks**  
**Algebra 1**

<b><u>Big Idea(s) of 4th nine weeks</u></b>	<b><u>Concept(s) of 4th nine weeks</u></b>	<b><u>Competencies of 1st nine weeks</u></b>	<b><u>Essential Questions of 1st nine weeks</u></b>
<p>Data can be modeled and used to make inferences.</p> <p>Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.</p>	<p><b>Students will know:</b></p> <ul style="list-style-type: none"> <li>• Radicals</li> <li>• Measures of center</li> <li>• Plots, charts, and tables</li> <li>• Probability</li> <li>• Expressions, equations, and inequalities</li> </ul>	<p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>• Apply rules of radicals</li> <li>• Find the mean, median, mode, and range of a data set</li> <li>• Represent and interpret data using appropriate plots/graphs</li> <li>• Recall properties of inequalities/ equations to solve basic problems as well as advanced problems requiring systems</li> </ul>	<p>How can data be organized and represented to provide insight into the relationship between quantities?</p> <p>How can probability and data analysis be used to make predictions?</p>
<b><u>Unit/Chapter/Selection of Study</u></b>	<b><u>Approx. # of weeks - % of time</u></b>	<b><u>PA Academic Standards</u></b>	<b><u>Assessment Anchors &amp; Eligible Content</u></b>
<p><b>Simplifying Radicals</b>  Perfect square method  Prime factorization method</p>	<p>1.5 weeks</p>		<p><b>A1.1.1.3.1</b> Simplify/evaluate expressions involving properties/laws of exponents, roots, and/or absolute values to solve problems.</p> <p><b>A1.1.1.1.1</b> Compare and/or order any real numbers.</p> <p><b>A1.1.1.1.2</b> Simplify square roots</p>

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<p><b>Measures of Center and Variation</b> Compare the mean, median, mode and range of a data set</p> <p><b>Box-and-Whisker Plots</b> Use box plots to represent data Interpret box plots Use box plots to compare data</p> <p><b>Shapes of Distributions</b> Describe the shapes of data distributions Use the shapes of data distributions to appropriate measures Compare data distributions</p> <p><b>Two-Way Tables</b> Find and interpret marginal frequencies Make two-way tables Find relative and conditional relative frequencies</p> <p><b>Probability</b> Probability of independent events Probability of dependent events</p>	<p>4 weeks</p>	<p><b>CC.2.4.HS.B.4</b> Recognize and evaluate random processes underlying statistical experiments. <b>CC.2.4.HS.B.7</b> Apply the rules of probability to compute probabilities of compound events in a uniform probability model. <b>CC.2.4.HS.B.5</b> Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.</p>	<p><b>A1.2.3.2.2</b> Analyze data, make predictions, and/or answer questions based on displayed data (box-and whisker plots, stem-and-leaf plots, scatter plots, measures of central tendency, or other representations). <b>A1.2.3.1.1</b> Calculate and/or interpret the range, quartiles, and interquartile range of data.</p> <p><b>A1.2.1.1.1</b> Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically. <b>A1.2.3.3.1</b> Find probabilities for compound events (e.g., find probability of red and blue, find probability of red or blue) and represent as a fraction, decimal, or percent.</p>

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<p><b>Spiral Review</b>  GCF and LCM  Classify Numbers  Simplify Rational Expressions  Linear Equations  Systems of Linear Equations  Inequalities  Systems of Linear Inequalities</p>	<p>3.5 weeks</p>	<p><b>CC.2.1.HS.F.2</b> Apply properties of rational and irrational numbers to solve real-world or mathematical problems.</p>	<p><b>A1.1.1.2.1</b> Find the Greatest Common Factor (GCF) and/or the Least Common Multiple (LCM) for sets of monomials.  <b>A1.1.1.4.1</b> Use estimation to solve problems.  <b>A1.1.1.5.3</b> Simplify/reduce a rational algebraic expression.</p>