

# Berlin Brothersvalley

## High School

### Year at a Glance Curriculum

Mathematics  
Algebra 1  
Grade 9

#### Course Description:

Topics covered in this course include: analyzing linear relationships, graphing linear equations and inequalities, factoring polynomials, simplifying rational expressions, solving systems of two linear equations and inequalities and simplifying expressions containing exponents and square root radicals. It will also prepare students to take the Pennsylvania Keystone Algebra I Exam by covering all of the Algebra I Keystone Standards.

Please see below for a concise outline of the course.

Units of Study	Concepts	Time	Standards
Numbers and Operations	Students will know... <ul style="list-style-type: none"> <li>Classifications of numbers</li> <li>Radicals and rational expressions</li> <li>Exponents</li> <li>Operations with polynomials</li> <li>Sequences</li> </ul>	10 weeks	CC.2.1.HS.F.1 CC.2.1.HS.F.2
Linear Equations and Inequalities	Students will know <ul style="list-style-type: none"> <li>Slope</li> <li>One, two, multi-step equations</li> <li>One, two, multi-step inequalities</li> <li>Writing and interpreting equations/inequalities and systems of equations/ inequalities</li> <li>Graphing equations and systems of equations in the coordinate plane</li> <li>Graphing inequalities on a number line and graphing inequalities and systems of inequalities in the coordinate plane</li> </ul>	13 weeks	CC.2.2.HS.D.10 CC.2.2.HS.D.7
Functions and Coordinate Geometry	Students will know <ul style="list-style-type: none"> <li>Relations and functions</li> <li>Domain and range</li> <li>Function notation</li> <li>Interpreting functions</li> <li>Transformations of linear functions</li> <li>Parallel and perpendicular lines</li> </ul>	9 weeks	CC.2.4.HS.B.2 CC.2.4.HS.B.3 CC.2.2.7.B.3 CC.2.2.HS.C.6 CC.2.2.HS.C.2
Data Analysis	Students will know <ul style="list-style-type: none"> <li>Constructing and analyzing graphs, charts and tables</li> <li>Scatter plots and line of best fit</li> <li>Probability</li> </ul>	3 weeks	CC.2.4.HS.B.7 CC.2.4.HS.B.5 CC.2.4.HS.B.4

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\*Please visit [pdesas.org](http://pdesas.org) for a complete list of standards taught in this course and for more information regarding PA State Standards for this course.