Berlin Brothersvalley School District Curriculum Frame 1st 9 Weeks Algebra 1

<u>Big Idea(s) of 1st nine weeks</u>	Concept(s) of 1st nine weeks	Competencies of 1st nine weeks	Essential Questions of 1st nine weeks
Mathematical relationships can be represented as expressions, equations, and inequalities in mathematical situations.	 Students will know: One step equations Two step equations Multi-step equations Absolute value equations Linear inequalities Absolute value inequalities 	 Students will be able to: Solve one step equations Solve two step equations Solve multi-step equations Solve absolute value equations Write, solve, and graph inequalities Write solve and graph absolute value inequalities 	How can expressions, equations, and inequalities be used to quantify, solve, model, and/or analyze mathematical situations?
<u>Unit/Chapter/Selection of</u> Study	Approx. # of weeks - % of	PA Academic Standards	Assessment Anchors & Eligible Content
Study	une	Use reasoning to solve equations	equation (including problem situations)
	4.5 weeks	and justify the solution	A1.1.2.1.2 Use and/or identify an algebraic
One Step Equations		Method.	property to justify any step in an
Solve using addition and		equations or inequalities to describe	Note: Linear equations only.
subtraction		numbers or relationships.	A1.1.2.1.3 Interpret solutions to problems in
Solve using multiplication and		CC.2.2.HS.D.8 Apply inverse	the context of the problem situation. Note:
division		operations to solve equations or	Linear equations only.
real-life problems		CC.2.2.HS.D.9 Use reasoning to	involving properties/laws of exponents.
·		solve equations and justify the	roots, and/or absolute values to solve
Two Step Equations		solution method.	problems.
Solve using addition and subtraction		CC.2.2.HS.D.10 Represent, solve, and interpret equations/inequalities	

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Solve using multiplication and division Use linear equations to solve real-life problems Multi Step Step Equations Solve using inverse operations Solve equations with variables on both sides Identify special solutions of linear equations Use multi-step linear equations to solve real-life problems Absolute Value Equations Solve absolute value equations Solve equations involving two	and systems of equations/inequalities algebraically and graphically. CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.	
Solve absolute value equations Solve equations involving two absolute values Identify special solutions		

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Unit/Chapter/Selection of	Approx. # of weeks - % of	PA Academic Standards	Assessment Anchors & Eligible Content
<u>Study</u>	<u>time</u>		
Study Writing and Graphing Inequalities Write linear inequalities on a number line Write linear inequalities from graphs Solving Inequalities with Addition and Subtraction Solve inequalities using addition and/or subtraction Use inequalities to solve real-life problems Solve inequalities by multiplication and/or division of positive numbers Solve inequalities by multiplication and/or division of negative numbers Solve inequalities to solve Solve inequalities by multiplication and/or division of negative numbers Solve inequalities to solve real-life problems Solve inequalities by multiplication and/or division of negative numbers Solve inequalities to solve real-life problems Solve multi-step inequalities to solve real-life problems	ume 4.5 weeks	CC.2.2.HS.D.7 Create and graph equations or inequalities to describe numbers or relationships. CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations. CC.2.2.HS.D.7 Create and graph equations or inequalities to describe numbers or relationships. CC.2.2.HS.D.8 Apply inverse operations to solve equations or formulas for a given variable. CC.2.2.HS.D.10 Represent, solve, and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.	A1.1.3.1.1 Write or solve compound inequalities and/or graph their solution sets on a number line (may include absolute value inequalities). A1.1.3.1.2 Identify or graph the solution set to a linear inequality on a number line A1.1.3.1.3 Interpret solutions to problems in the context of the problem situation.

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Solving Compound Inequalities Write and graph compound inequalities Solve compound inequalities Use compound inequalities to solve real-life problems Absolute Value Inequalities Solve absolute value inequalities Use absolute value inequalities to solve real-life problems		