

SUBJECT: Pre-Algebra		GRADE: 9 - 12	
Unit 1: Integers and Expressions		Time Frame: 17 Days	
UNIT OVERVIEW			
In this unit will perform operations with integers. Additionally, students will evaluate expressions.			
LRG SKILLS AND DISPOSITIONS		PA STANDARDS	
COMPETENCIES		LEARNING TARGETS	
Operations and Expressions: I can generate equivalent expressions using operations and mathematical properties.		<ul style="list-style-type: none"><li>● Add and Subtract Integers - I can add and subtract integers. (K1MAB4J1)</li><li>● Multiply and Divide Integers - I can multiply and divide integers. (K1MAB4J2)</li><li>● Absolute Value of Integers - I can find the absolute value of integers. (K1MAB4J3)</li><li>● Use Order of Operations - I can use order of operations to simplify expressions with integers (including exponents and absolute values). (K1MAB4J4)</li><li>● Variable Expressions - I can write variable expressions (translating terminology). (K1MAB4J5)</li><li>● Evaluate Expressions - I can evaluate an expression using substitution and order of operations when given the value of the variable(s). (K1MAB4J6)</li></ul>	
Patterns, Functions, Multiple Representations: I can identify, create, and evaluate functions using multiple representations.		<ul style="list-style-type: none"><li>● Generate and Identify Patterns - I can generate and identify relationships in patterns. (K1MAB6J1)</li></ul>	

SUBJECT: Pre-Algebra		GRADE: 9 - 12	
Unit 2: The Coordinate Plane		Time Frame: 10 Days	
UNIT OVERVIEW			
In this unit students will learn about the coordinate plane and how to plot points.			
LRG SKILLS AND DISPOSITIONS		PA STANDARDS	
COMPETENCIES		LEARNING TARGETS	
Graphing: I can create and interpret graphs as visual representations of the relationship between quantities.		<ul style="list-style-type: none"><li>Plotting Points - I can plot points in all four quadrants. (K1MAB7J1)</li><li>Graph to Table - I can make a table from a graph. (K1MAB7J2)</li></ul>	

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Unit 3: Solving One-Step Equations		Time Frame: 15 Days	
UNIT OVERVIEW			
In this unit students will learn how to solve one-step equations for a given variable.			
LRG SKILLS AND DISPOSITIONS		PA STANDARDS	
<ul style="list-style-type: none"><li>Honesty, Integrity and Responsibility 9-12: Student conference regarding assignments (D3C)</li><li>Resilience and Grit 9-12: Student conference regarding taking advantage of opportunities for improvement (D4C)</li><li>Collaboration and Teamwork 9-12: Student conference regarding collaboration (S1C)</li></ul>		CC.2.2.HS.D.8 CC.2.2.HS.D.9	
COMPETENCIES		LEARNING TARGETS	
Operations and Expressions: I can generate equivalent expressions using operations and mathematical properties.		<ul style="list-style-type: none"><li>Identify Mathematical Properties - I can identify and use mathematical properties. (K1MAB4J7)</li><li>Combine Like Terms - I can combine like terms. (K1MAB4J8)</li><li>Distributive Property - I can use the distributive property. (K1MAB4J9)</li></ul>	
Equations and Inequalities: I can create and solve equations and inequalities that represent mathematical situations.		<ul style="list-style-type: none"><li>Solve One-Step Equations - I can solve one-step equations by adding, subtracting, multiplying, or dividing. (K1MAB5J1)</li></ul>	

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Unit 4: Solving One-Step Inequalities		Time Frame: 10 Days	
UNIT OVERVIEW			
In this unit students will learn how to solve and graph one-step inequalities..			
LRG SKILLS AND DISPOSITIONS		PA STANDARDS	
		CC.2.2.HS.D.10	
COMPETENCIES		LEARNING TARGETS	
Graphing: I can create and interpret graphs as visual representations of the relationship between quantities.		<ul style="list-style-type: none"><li>Graph Inequalities - I can graph inequalities. (K1MAB7J3)</li></ul>	
Equations and Inequalities: I can create and solve equations and inequalities that represent mathematical situations.		<ul style="list-style-type: none"><li>Solve One-Step Inequalities - I can solve one-step inequalities. (K1MAB5J2)</li></ul>	

SUBJECT: Pre-Algebra		GRADE: 9 - 12	
Unit 5: Functions and Graphing		Time Frame: 15 Days	
UNIT OVERVIEW			
In this unit students will learn to graph linear equations on the coordinate plane.			
LRG SKILLS AND DISPOSITIONS		PA STANDARDS	
		CC.2.2.HS.C.2 CC.2.2.HS.D.7	
COMPETENCIES		LEARNING TARGETS	
Graphing: I can create and interpret graphs as visual representations of the relationship between quantities.		<ul style="list-style-type: none"><li>Equation to Table/Graph - I can create a table and graph a relationship when given an equation. (K1MAB7J4)</li><li>Slope Intercept Form - I understand each component of <math>y=mx+b</math> and the representation of each. (K1MAB7J5)</li><li>Write Equations given a Graph - I can write the equation of a line (<math>y=mx+b</math>) when given a graph. (K1MAB7J6)</li></ul>	

SUBJECT: Pre-Algebra		GRADE: 9 - 12	
Unit 6: Factors and Exponents		Time Frame: 15 Days	
UNIT OVERVIEW			
In this unit students will learn how to use the properties of exponents to simplify. Students will also learn how to do the prime factorization of a number.			
LRG SKILLS AND DISPOSITIONS		PA STANDARDS	
<ul style="list-style-type: none"><li>Honesty, Integrity and Responsibility 9-12: Student conference regarding assignments (D3C)</li><li>Resilience and Grit 9-12: Student conference regarding taking advantage of opportunities for improvement (D4C)</li><li>Collaboration and Teamwork 9-12: Student conference regarding collaboration (S1C)</li></ul>		CC.2.1.HS.F.1	
COMPETENCIES		LEARNING TARGETS	
Operations and Expressions: I can generate equivalent expressions using operations and mathematical properties.		<ul style="list-style-type: none"><li>Factors - I can list the factors of integers. (K1MAB4J10)</li><li>Prime Factorizations - I can write the prime factorization of a number as an expression. (K1MAB4J11)</li><li>GCF - I can find the greatest common factor of two integers. (K1MAB4J12)</li><li>Apply Properties of Exponents - I can apply the properties of exponents to simplify expressions. (K1MAB4J13)</li><li>Scientific Notations - I can use exponent rules and patterns of Scientific Notation to rewrite expressions. (K1MAB4J14)</li></ul>	

SUBJECT: Pre-Algebra		GRADE: 9 - 12	
Unit 7: Fractions		Time Frame: 13 Days	
UNIT OVERVIEW			
In this unit students will learn how to simplify fractions. Additionally, students will learn to perform operations with fractions.			
LRG SKILLS AND DISPOSITIONS		PA STANDARDS	
COMPETENCIES		LEARNING TARGETS	
Numbers and Operations – Fractions: I can find common factors and multiples to represent, compare, and calculate quantities using fractions.		<ul style="list-style-type: none"><li>• Simplify Fractions - I can simplify fractions. (K1MAB2J1)</li><li>• Add and Subtract Fractions - I can add and subtract fractions (with unlike denominators). (K1MAB2J2)</li><li>• Multiply and Divide Fractions - I can multiply and divide fractions.</li></ul>	
Equations and Inequalities: I can create and solve equations and inequalities that represent mathematical situations.		<ul style="list-style-type: none"><li>• Solve One-Step Equations - I can solve one-step equations by adding, subtracting, multiplying, or dividing. (K1MAB5J1)</li></ul>	

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<b>Unit 8: Ratio and Percents</b>		<b>Time Frame:</b> 15 Days	
<b>UNIT OVERVIEW</b>			
In this unit students will learn how to write a ratio and solve a proportion. We will use proportions to solve percent problems.			
<b>LRG SKILLS AND DISPOSITIONS</b>		<b>PA STANDARDS</b>	
		CC.2.2.HS.D.1 CC.2.2.HS.D.2	
<b>COMPETENCIES</b>		<b>LEARNING TARGETS</b>	
Ratios and Proportional Relationships: I can recognize, represent, and utilize ratios and proportional relationships to solve problems.		<ul style="list-style-type: none"><li>● Unit Rates - I can find the unit rate/scale factor in a proportional relationship. (K1MAB3J1)</li><li>● Proportions - I can solve a proportion. (K1MAB3J2)</li><li>● Ratios (Fractions, Decimals, and Percent) - I can write ratios in all 3 forms: fraction, decimal, percent. (K1MAB3J3)</li><li>● Percent Problems - I can solve equations/proportions with percentages. (K1MAB3J4)</li></ul>	



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<b>Unit 9: Solving Equations</b>		<b>Time Frame: 15 Days</b>	
<b>UNIT OVERVIEW</b>			
In this unit we will learn to solve equations that involve two or more steps.			
<b>LRG SKILLS AND DISPOSITIONS</b>		<b>PA STANDARDS</b>	
		CC.2.2.HS.D.8 CC.2.2.HS.D.9	
<b>COMPETENCIES</b>		<b>LEARNING TARGETS</b>	
Equations and Inequalities: I can create and solve equations and inequalities that represent mathematical situations.		<ul style="list-style-type: none"><li>● Multi-Step Equations - I can solve multi-step equations. (K1MAB5J6)</li><li>● Get Equation in Slope-Int Form - I can solve for y when given the equation of a line. (K1MAB5J5)</li></ul>	

SUBJECT: Pre-Algebra		GRADE: 9 - 12	
Unit 10: Solving Inequalities		Time Frame: 10 Days	
UNIT OVERVIEW			
In this unit we will learn how to solve inequalities involving two or more steps.			
LRG SKILLS AND DISPOSITIONS		PA STANDARDS	
<ul style="list-style-type: none"><li>Honesty, Integrity and Responsibility 9-12: Student conference regarding assignments (D3C)</li><li>Resilience and Grit 9-12: Student conference regarding taking advantage of opportunities for improvement (D4C)</li><li>Collaboration and Teamwork 9-12: Student conference regarding collaboration (S1C)</li></ul>		CC.2.2.HS.D.10	
COMPETENCIES		LEARNING TARGETS	
Equations and Inequalities: I can create and solve equations and inequalities that represent mathematical situations.		<ul style="list-style-type: none"><li>I can solve and graph multi-step inequalities. (K1MAB5J6)</li></ul>	

SUBJECT: Pre-Algebra		GRADE: 9 - 12	
Unit 11: Probability		Time Frame: 11 Days	
UNIT OVERVIEW			
In this unit we will learn about the measures of central tendency. We will also learn to calculate the probability of events.			
LRG SKILLS AND DISPOSITIONS		PA STANDARDS	
<ul style="list-style-type: none"><li>Critical Thinking and Problem Solving 9-12: Measures of Central Tendencies Project (S4C)</li></ul>		CC.2.4.HS.B.6 CC.2.4.HS.B.7	
COMPETENCIES		LEARNING TARGETS	
Measurement, Data, and Statistics: I can collect, represent, analyze, and interpret data.		<ul style="list-style-type: none"><li>Measures of Central Tendency - I can calculate the mean, median, and mode of a data set. (K1MAB10J1)</li><li>Measures of Dispersion - I can calculate the upper quartile, lower quartile, interquartile range, and range for a set of data. (K1MAB10J2)</li><li>Box and Whisker Plots - I can make and interpret box and whisker plots for a set of data. (K1MAB10J3)</li><li>Stem and Leaf Plots - I can make and interpret a stem and leaf plot for a set of data. (K1MAB10J4)</li></ul>	
Probability: I can use counting strategies and calculate the probability of events.		<ul style="list-style-type: none"><li>Experimental Probability - I can calculate the experimental probability of an event. (K1MAB11J1)</li><li>Probability - I can calculate the probability of an event. (K1MAB11J2)</li><li>Odds - I can find the odds from a probability. (K1MAB11J3)</li></ul>	