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.	• Add and Subtract Integers - I can add and subtract integers. (K1MAB4J1) • Multiply and Divide Integers - I can multiply and divide integers. (K1MAB4J2) • Absolute Value of Integers - I can find the absolute value of integers. (K1MAB4J3) • Use Order of Operations - I can use order of operations to simplify expressions with integers (including exponents and absolute values). (K1MAB4J4) • Variable Expressions - I can write variable expressions (translating terminology). (K1MAB4J5) • Evaluate Expressions - I can evaluate an expression using substitution and order of operations when given the value of the variable(s). (K1MAB4J6)
Patterns, Functions, Multiple Representations: I can identify, create, and evaluate functions using multiple representations.	• Generate and Identify Patterns - I can generate and identify relationships in patterns. (K1MAB6J1)

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.	● Plotting Points - I can plot points in all four quadrants. (K1MAB7J1) ● Graph to Table - I can make a table from a graph. (K1MAB7J2)

SUBJECT: Pre-Algebra	GRADE: 9 - 12
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
● Honesty, Integrity and Responsibility 9-12: Student conference regarding assignments (D3C) ● Resilience and Grit 9-12: Student conference regarding taking advantage of opportunities for improvement (D4C) ● Collaboration and Teamwork 9-12: Student conference regarding collaboration (S1C)	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.	● Identify Mathematical Properties - I can identify and use mathematical properties. (K1MAB4J7) ● Combine Like Terms - I can combine like terms. (K1MAB4J8) ● Distributive Property - I can use the distributive property. (K1MAB4J9)
Equations and Inequalities**:** I can create and solve equations and inequalities that represent mathematical situations.	● Solve One-Step Equations - I can solve one-step equations by adding, subtracting, multiplying, or dividing. (K1MAB5J1)

SUBJECT: Pre-Algebra	GRADE: 9 - 12
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.	• Graph Inequalities - I can graph inequalities. (K1MAB7J3)
Equations and Inequalities**:** I can create and solve equations and inequalities that represent mathematical situations.	• Solve One-Step Inequalities - I can solve one-step inequalities. (K1MAB5J2)

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.	● Equation to Table/Graph - I can create a table and graph a relationship when given an equation. (K1MAB7J4) ● Slope Intercept Form - I understand each component of y=mx+b and the representation of each. (K1MAB7J5) ● Write Equations given a Graph - I can write the equation of a line (y=mx+b) when given a graph. (K1MAB7J6)

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
● Honesty, Integrity and Responsibility 9-12: Student conference regarding assignments (D3C) ● Resilience and Grit 9-12: Student conference regarding taking advantage of opportunities for improvement (D4C) ● Collaboration and Teamwork 9-12: Student conference regarding collaboration (S1C)	CC.2.1.HS.F.1

COMPETENCIES	LEARNING TARGETS
Operations and Expressions: I can generate equivalent expressions using operations and mathematical properties.	● Factors - I can list the factors of integers. (K1MAB4J10) ● Prime Factorizations - I can write the prime factorization of a number as an expression. (K1MAB4J11) ● GCF - I can find the greatest common factor of two integers. (K1MAB4J12) ● Apply Properties of Exponents - I can apply the properties of exponents to simplify expressions. (K1MAB4J13) ● Scientific Notations - I can use exponent rules and patterns of Scientific Notation to rewrite expressions. (K1MAB4J14)

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.	● Simplify Fractions - I can simplify fractions. (K1MAB2J1) ● Add and Subtract Fractions - I can add and subtract fractions (with unlike denominators). (K1MAB2J2) ● Multiply and Divide Fractions - I can multiply and divide fractions.
Equations and Inequalities**:** I can create and solve equations and inequalities that represent mathematical situations.	● Solve One-Step Equations - I can solve one-step equations by adding, subtracting, multiplying, or dividing. (K1MAB5J1)

SUBJECT: Pre-Algebra	**GRADE: 9 - 12**
Unit 8: Ratio and Percents	**Time Frame:** 15 Days
UNIT OVERVIEW	
In this unit students will learn how to write a ratio and solve a proportion. We will use proportions to solve percent problems.	
LRG SKILLS AND DISPOSITIONS	**PA STANDARDS**
	CC.2.2.HS.D.1 CC.2.2.HS.D.2
COMPETENCIES	**LEARNING TARGETS**
Ratios and Proportional Relationships: I can recognize, represent, and utilize ratios and proportional relationships to solve problems.	● Unit Rates - I can find the unit rate/scale factor in a proportional relationship. (K1MAB3J1) ● Proportions - I can solve a proportion. (K1MAB3J2) ● Ratios (Fractions, Decimals, and Percent) - I can write ratios in all 3 forms: fraction, decimal, percent. (K1MAB3J3) ● Percent Problems - I can solve equations/proportions with percentages. (K1MAB3J4)

SUBJECT: Pre-Algebra	**GRADE: 9 - 12**
Unit 9: Solving Equations	**Time Frame:** 15 Days
UNIT OVERVIEW	
In this unit we will learn to solve equations that involve two or more steps.	
LRG SKILLS AND DISPOSITIONS	**PA STANDARDS**
	CC.2.2.HS.D.8 CC.2.2.HS.D.9
COMPETENCIES	**LEARNING TARGETS**
Equations and Inequalities**:** I can create and solve equations and inequalities that represent mathematical situations.	● Multi-Step Equations - I can solve multi-step equations. (K1MAB5J6) ● Get Equation in Slope-Int Form - I can solve for y when given the equation of a line. (K1MAB5J5)

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**
● Honesty, Integrity and Responsibility 9-12: Student conference regarding assignments (D3C) ● Resilience and Grit 9-12: Student conference regarding taking advantage of opportunities for improvement (D4C) ● Collaboration and Teamwork 9-12: Student conference regarding collaboration (S1C)	CC.2.2.HS.D.10

COMPETENCIES	**LEARNING TARGETS**
Equations and Inequalities**:** I can create and solve equations and inequalities that represent mathematical situations.	● I can solve and graph multi-step inequalities. (K1MAB5J6)

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**
● Critical Thinking and Problem Solving 9-12: Measures of Central Tendencies Project (S4C)	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.	● Measures of Central Tendency - I can calculate the mean, median, and mode of a data set. (K1MAB10J1) ● Measures of Dispersion - I can calculate the upper quartile, lower quartile, interquartile range, and range for a set of data. (K1MAB10J2) ● Box and Whisker Plots - I can make and interpret box and whisker plots for a set of data. (K1MAB10J3) ● Stem and Leaf Plots - I can make and interpret a stem and leaf plot for a set of data. (K1MAB10J4)
Probability: I can use counting strategies and calculate the probability of events.	● Experimental Probability - I can calculate the experimental probability of an event. (K1MAB11J1) ● Probability - I can calculate the probability of an event. (K1MAB11J2) ● Odds - Ican find the odds from a probability. (K1MAB11J3)