PACING GUIDE

COURSE: Pre-Algebra Honors **GRADE(S):7**

MONTH	UNIT	STANDARDS/SKILLS	ASSESSMENTS What evidence (formative/summative) is utilized to establish that the content, standards, & skills have been mastered?	CONTENT Topics being covered? What do students need to know? (*nouns*)	ACTIVITIES w/Integration of Technology & Career Ready Practices
Sept - Nov	**Unit 1** **Number Systems**	MA.7.7.EE.A (A1 &A2) - Use properties of operations to generate equivalent expressions. MA.7.7.EE.B (B3) - Solve real-life and mathematical problems using numerical and algebraic expressions and equations. MA.7.7.NS -The Number System MA.7.7.NS.A - Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. MA.7.7.NS.A.1 (NS1, a, b, c &d) -Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. MA.7.7.NS.A.2 (2a, b, & c) - Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. MA.7.7.NS.A.3 Solve real-world and mathematical problems involving the four operations with rational numbers.	• Mid Chapter Tests Comparing and ordering integers, adding and subtracting integers • Project - Coordinate graph • Marking Period Assessment • Mid Chapter Test on Comparing and ordering Fractions, decimals, adding and subtracting rational numbers • Test on Integers • Test on Order of Operations • Test on Rational Numbers • Unit Tests • Collaborative work • Exit Card • Graphing Worksheets • Independent Practice • PARCC Questions• • PARCC Vocabulary • Quick Quizzes • Rubrics • Self Assessments • Senteo Response • Teacher Observation • Think Pair Share • Turn to your partner	• Variables and Expressions • Properties • Ordered Pairs and Relations • Words, Expressions, Tables and Graphs • Comparing and Ordering Integers and Absolute Value • Adding Integers • Subtracting Integers • Multiplying Integers • Dividing Integers • Graphing in 4 Quadrants • Comparing and Ordering Fractions and Decimals • Rational Numbers • Multiplying Rational Numbers • Dividing Rational Numbers • Dividing Rational Numbers • Adding and Subtracting Like Fractions • Adding and Subtracting Unlike Fractions	• Apply prior knowledge of the number system to problems involving integers • Evaluative integers by applying the appropriate rules for adding, subtracting, multiplying and dividing integers.- • Solve real world problems using integers.- • Use equivalent expressions to demonstrate the relationship between quantities and determine simpler solutions to a problem- • Use variables to represent quantities in a real-world or mathematical problem by constructing simple equations and inequalities to represent problems.- • Translate phrases into numerical expressions.- • Use Order of Operations to evaluate expressions.- • Determine a given rule for a given pattern.- • Apply prior knowledge of the number system to problems involving rational numbers.- • Evaluate rational expressions by applying the rules for adding, subtracting, multiplying and dividing rational numbers.- • Transform rational numbers into decimals.- • Solve real world problems using rational numbers.- • Apply properties to help simplify expressions- • Compare and Order Integers.- • Define variables- • Find absolute value to an expression.- • Graph points on a coordinate plane.- • Use graphs to represent relations.-

MONTH	UNIT	STANDARDS/SKILLS	ASSESSMENTS What evidence (formative/summative) is utilized to establish that the content, standards, & skills have been mastered?	CONTENT Topics being covered? What do students need to know? (*nouns*)	ACTIVITIES w/Integration of Technology & Career Ready Practices
Nov - Jan	**Unit 2 Expressions and Equations**	MA.7.7.EE.B.4a Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. MA.7.7.NS The Number System MA.K-12.2 Reason abstractly and quantitatively. MA.7.7.NS.A Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. MA.7.7.EE Expressions and Equations MA.7.7.NS.A.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. MA.7.7.EE.B.4b Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.	• Test on Inequalities • MPA 2 • Project • Test on Expressions and Equations • Mid Chapter Test - Inequalities • Choral Responses • Constructive Responses • Exit cards • Guided Practice • Mid Chapter Test Expressions and Equations • Quiz - • Self Assessments • Teacher Observation • Think - Pair - Share • Thumbs-up for understanding • Turn to your partner	• The Distributive Property • Simplifying Algebraic Expressions • Solving Equations by adding or Subtracting • Solving Equations by Multiplying or Dividing • Solving Two Step Equations • Writing Equations • Perimeter and Area • Inequalities	• Apply prior knowledge of rational numbers to help them solve equations. • Solve multi-step equations involving different techniques. • Solve real world problems using rational numbers. • Translate equations into a written form • Evaluate the Area or Perimeter of a given figure • Graph inequalities • Identify like terms, constants, coefficients and terms • Identify properties • Simplify Algebraic Expressions • Solving equations by adding or subtracting • Solving equations by multiplying and dividing • Translate inequalities into written form • Use Properties to solve equations • Use the Distributive Property

MONTH	UNIT	STANDARDS/SKILLS	ASSESSMENTS What evidence (formative/summative) is utilized to establish that the content, standards, & skills have been mastered?	CONTENT Topics being covered? What do students need to know? (*nouns*)	ACTIVITIES w/Integration of Technology & Career Ready Practices
Jan - Mar	3	MA.7.7.RP Ratios and Proportional Relationships MA.7.7.RP.A Analyze proportional relationships and use them to solve real-world and mathematical problems. MA.7.7.RP.A.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. MA.7.7.RP.A.2 Recognize and represent proportional relationships between quantities. MA.7.7.RP.A.2a Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. MA.7.7.RP.A.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. MA.7.7.RP.A.2c Represent proportional relationships by equations. MA.7.7.RP.A.2d Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate. MA.7.7.RP.A.3 Use proportional relationships to solve multistep ratio and percent problems.	• Mid Chapter Test on Comparing and ordering Fraction, decimals, and percents, and percent of a number.. • Mid Chapter Tests on ratios, rates, unit rates • Project - Graphing Unit Rates • Test on Percent topics • Test on Ratios, Rates and Unit Rates • Marking Period Assessment • Exit Card - Proportions • PARCC Questions - • Quiz - • Choral Responses • Collaborative work • Constructed Responses • Crossmatics • Guided Practice • Hand Signals • Independent Practice • PARCC Vocabulary • Quick Quizzes • Rubrics • Self Assessments • Senteo Response • Teacher Observation • Think Pair Share • Turn to your partner	• Ratios • Unit Rates • Rate of Change • Converting Rates and Measurements • Proportional and Nonproportional Relationships • Solving Proportions • Scale Drawings and Models • Similar Figures • Indirect Measurement • Fraction and Percents • Fraction, Decimals, Percents • Using Percent Proportions • Find a Percent of a Number Mentally • Using Percent Equations • Percent of Change • Simple Interest • Circle Graphs	• Calculate unit rate • Determine an unknown in an equivalent ratio • Determine if ratios are equivalent • Find the constant of proportionality in a graph or table • Find unit rate and rate in a graph • Solve Real world word problems by using proportions • Solve real world word problems with unit rate • Use proportions to determine the relationship in a table and graph • Use proportions to solve problems involving scale drawings and similar figures • Write ratios for various situations

MONTH	UNIT	STANDARDS/SKILLS	ASSESSMENTS What evidence (formative/summative) is utilized to establish that the content, standards, & skills have been mastered?	CONTENT Topics being covered? What do students need to know? (*nouns*)	ACTIVITIES w/Integration of Technology & Career Ready Practices
March - April	**4 - Geometry**	MA.7.7.G.A Draw, construct, and describe geometrical figures and describe the relationships between them. MA.7.7.G.A.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. MA.7.7.G.A.2 Draw (with technology, with ruler and protractor, as well as freehand) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle. MA.7.7.G.A.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids. MA.7.7.G.B Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. MA.7.7.G.B.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle. MA.7.7.G.B.5 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure. MA.7.7.G.B.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	• PARCC Questions - • Quiz - • Choral Responses • Collaborative work • Constructed Responses • Crossmatics • Guided Practice • Hand Signals • Independent Practice • PARCC Vocabulary • Quick Quizzes • Rubrics • Self Assessments • Senteo Response • Teacher Observation • Think Pair Share • Turn to your partner • Unit Tests	• Triangles • Angles and Line Relationships • Congruent Triangles • Polygons • Area of Parallelograms, Triangles, and Trapezoids • Circles and Circumference • Area of Circles • Area of Composite Figures • 3-D Figures • Volume of Prisms • Volume of Cylinders • Volume of Pyramids and Cones • Surface Area of Prisms • Similar Solids • Quadrilaterals	• Calculate the area of rectangles, parallelograms, triangles and trapezoids. • Calculate the circumference and area of different circles. • Calculate the perimeter of different 2D geometrical figures • Compute the surface are of different 3D figures. • Determine whether a triangle is possible or not with given lengths. • Discover special pairs of triangles and the relationships they yield. • Induction to 3D solids and cross sections of these figures • Use previous knowledge of area formulates to calculate the area of irregular and shaded figures. • Use the given formulas to compute the volume of different 3D figures.

MONTH	UNIT	STANDARDS/SKILLS	ASSESSMENTS What evidence (formative/summative) is utilized to establish that the content, standards, & skills have been mastered?	CONTENT Topics being covered? What do students need to know? (*nouns*)	ACTIVITIES w/Integration of Technology & Career Ready Practices
April - June	**Unit 5 - Statistics and Probability**	MA.7.7.SP.C.6 Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. MA.7.7.SP.C.7 (a, b,) Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. MA.7.7.SP.C.8 (a, b, c) Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. MA.7.7.SP.A.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences. MA.7.7.SP.A.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. MA.7.7.SP.B Draw informal comparative inferences about two populations. MA.7.7.SP.C.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.	• PARCC Questions - • Quiz - • Choral Responses • Collaborative work • Constructed Responses • Crossmatics • Guided Practice • Hand Signals • Independent Practice • PARCC Vocabulary • Quick Quizzes • Rubrics • Self Assessments • Senteo Response • Teacher Observation • Think Pair Share • Turn to your partner • Unit Tests	• Understanding Random Samples • Making Statistical inferences • Using Mean and Mean Absolute Deviation to Compare Data • Using Measures of Center and Variability to Compare Data • Understanding Probability Concepts • Experimental Probability • Probability Models • Probability of Compound Events	• Distinguish between valid and invalid samples from a population by determining if the sample is representative of the subgroups within the population. • Use random sampling to produce a representative sample, develop valid inferences about a population with an unknown characteristic of interest, and compare the variation in estimates using multiple samples of the same and different size. • Visually and numerically compare the means and variations of two distinct populations to draw informal comparative inferences about measures of center and variability using graphical representations and statistical calculations. • Interpret and express the likelihood of a chance event as a number between 0 and 1, relating that the probability of an unlikely event happening is near 0, a likely event is near 1, and 1/2 is neither likely nor unlikely. • Conduct experimental probability events that are both uniform and non-uniform to collect and analyze data to make predictions for the approximate relative frequency of chance events. • Develop uniform and non-uniform theoretical probability models by listing the probabilities of all possible outcomes in an event, for instance, the probability of the number cube landing on each number being 1/6. Then, conduct an experiment of the event using frequencies to determine the probabilities of each outcome and use the results to explain possible sources of discrepancies in theoretical and experimental probabilities. • Design a simulation of a compound probability event and determine the sample space using organized lists, tables, and tree diagrams, calculate the fractional probabilities for each outcome in the sample space, and conduct the simulation using the data collected to determine the frequencies of the outcomes in the sample space.