

Curriculum – PRE-ALGEBRA/APPLIED PRE-ALGEBRA

Content	Standard(s)
1st QUARTER	
INTEGERS UNIT	Approx. Time
Comparing and Ordering -	1 day
Addition of Integers -	3 days
Subtraction of Integers	3 days
Multiplication of Integers	3 days
Division of Integers	3 days
Patterns	1 day
Problem Solving using Integers	2 days
	Total time = 16 days
ANCHOR and/or ELIGIBLE CONTENT	
M8.A.3.3.1 Add, subtract, multiply, and/or divide integers with and without calculator (straight computations or word problems)	2.2.8.B, 2.2.8.D
M8.D.1.1.1 Continue a numeric or algebraic pattern (pattern must show 3 repetitions – may include up to 2 operations, squares, and square roots).	2.8.8.C, 2.8.8.D
OPERATIONS AND EQUATIONS UNIT	Approx. Time
Order of Operations	2 days
Scientific Notation	1 day
Variables and Expressions	2 days
Patterns	1 day
One-Step Equations	1 day
Two-Step Equations	2 days
One-Step Inequalities	1 day
Two-Step Inequalities	2 days
Problem Solving: Using Equations and Inequalities	1 day
	Total = 13 days

ANCHOR and/or ELIGIBLE CONTENT		
M8.A.2.1.1 Simplify numeric expressions using the order of operations. (May include all types of grouping symbols. No combining negatives with exponents or compound exponents.)		2.1.8.C, 2.2.8.C, 2.8.8.E
M8.D.2.1.3 Determine the value of an algebraic expression by simplifying and/or substituting a number for the variable.		2.8.8.A, 2.8.8.B, 2.8.8.E, 2.8.8.F
M8.D.2.2.1 Match a written situation to its numeric and/or algebraic expression, equation or inequality (up to two variables in equations – one variable with inequalities)		2.8.8.A, 2.8.8.B, 2.8.8.E, 2.8.8.F
M8.D.2.1.2 Use substitution to check the accuracy of a given value for an equation or inequality (simple inequalities with one variable).		2.8.8.A, 2.8.8.B, 2.8.8.E, 2.8.8.F
M8.D.2.1.1 Solve one- or two-step equations and inequalities (should not include absolute value – one variable only).		2.8.8.F
M8.D.2.2.2 Write and/or solve an equation for a given problem situation (one variable only).		2.8.8.A, 2.8.8.B, 2.8.8.E, 2.8.8.F
M8.D.1.1.1 Continue a numeric or algebraic pattern (pattern must show 3 repetitions – may include up to 2 operations, squares, and square roots).		2.8.8.C, 2.8.8.D
LINEAR FUNCTIONS AND GRAPHING UNIT	Approx. Time	
Ordered Pairs	3 days	
The Coordinate System	3 days	
Equations with Two Variables	4 days	
Graphing Linear Equations	3 days	
Arithmetic Sequences	1 day	
Geometric Sequences	1 day	Total = 15 days
ANCHOR and/or ELIGIBLE CONTENT		
M8.C.3.1.1 Plot, locate, or identify ordered pairs on a coordinate plane.		2.9.8.B, 2.9.8.C, 2.9.8.B, 2.9.8.C
M8.D.4.1.1 Graph a linear function based on an x/y table (integers only).		2.8.8.D, 2.8.8.E
M8.D.4.1.2 Match the graph of a linear function to its x/y table (integers only).		2.8.8.D, 2.8.8.E
M8.D.4.1.3 Match the linear equation ($y = mx + b$ form) to the x/y table (integers only in the table)		2.8.8.D, 2.8.8.E
M8.D.1.1.3 Determine the rule of a function (given elements in an input-output table, chart, or list – limit to linear functions).		2.8.8.C, 2.8.8.D
M8.D.1.1.2 Find a missing elements in numeric or geometric patterns and/or functions (may be given a table or rule – pattern must show 3 repetitions)		2.8.8.C, 2.8.8.D

		1st quarter = 44 days
2nd QUARTER		
GEOMETRY UNIT		Approx. Time
Basic Ideas in Geometry	2 day	
Measuring and Classifying Angles	2 days	
Angle Relationships	3 days	
Parallel Lines and Transversals	3 days	
Triangles and Classifications	2 days	
Congruent Triangles	2 days	
Similar Triangles and Figures	3 days	
Quadrilaterals	2 days	
Polygons	2 days	
		Total = 21 days
ANCHOR and/or ELIGIBLE CONTENT		
M8.C.1.1.2 Define, identify, and/or use properties of angles forms by intersecting lines (complementary, supplementary, adjacent and/or vertical angles).		2.3.8.B, 2.3.8.C, 2.9.8.A, 2.10.8.A
M8.C.1.1.3 Define, identify, and/or use properties of angles formed when two parallel lines are cut by a transversal (alternate interior, alternate exterior, vertical, corresponding).		2.3.8.B, 2.3.8.C, 2.9.8.A, 2.10.8.A
M8.B.2.1.1 Determine the total number of degrees in the interior angles of a polygon in 3-8 sided figures (formula provided on the reference sheet).		2.3.8.A, 2.3.8.B, 2.3.8.C, 2.9.8.A
M8.B.2.1.2 Determine the measurement of one interior angle of a regular polygon (3-8 sided polygons, formula provided on the reference sheet)		2.3.8.A, 2.3.8.B, 2.3.8.C, 2.9.8.A
M8.B.2.1.3 Determine the number of sides of a polygon given the total number of degrees in the interior angles (3-8 sided polygons, formula provided on the reference sheet).		2.3.8.A, 2.3.8.B, 2.3.8.C, 2.9.8.A
PERIMETER AND AREA UNIT		Approx. Time
Perimeter of Polygons	2 days	
Circumference of Circles	2 days	
Perimeter of Irregular Figures	2 days	
The Pythagorean Theorem	2 days	

Area of Parallelograms, Rectangles, and Squares	1 day	
Area of Triangles	1 day	
Area of Trapezoids	2 days	
Area of Circles	2 days	
Area of Irregular Figures	2 days	
Surface Area of Cubes	1 day	
Surface Area of Rectangular Prisms	1 day	
Volume of Cubes	1 day	
Volume of Rectangular Prisms	1 day	Total Time = 20 days
ANCHOR and/or ELIGIBLE CONTENT		
M8.A.1.1.2 Find the square (single digit) and/or the square root of a perfect square (without a calculator) and explain the relationship between the two (i.e. square and square root)		2.1.8.A 2.1.8.B
M8.C.1.2.1 Use the Pythagorean Theorem to find the measure of a missing side of right triangle (formula provided on the reference sheet-whole numbers only).		2.3.8.B, 2.3.8.C, 2.9.8.A, 2.10.8.A
M8.C.1.1.1 Match the three-dimensional figure with its net (cube, cylinder, cone, prism, pyramid). Any measurements used should be consistent in the stem and answer choices.		2.3.8.B, 2.3.8.C, 2.9.8.A, 2.10.8.A
M8.B.2.2.1 Calculate the surface areas of cubes and rectangular prisms (formula provided on the reference sheet)		2.3.8.A, 2.3.8.B, 2.3.8.C, 2.9.8.A
M8.B.2.2.2 Calculate the volume of cubes and rectangular prisms (formulas provided on the reference sheet)		2.3.8.A, 2.3.8.B, 2.3.8.C, 2.9.8.A
M8.B.2.2.3 Determine the appropriate type of measurement (circumference, perimeter, area, surface ares, volume) for a given situation (e.g. which measurement is needed to determine the amount of carpeting for a room).		2.3.8.A, 2.3.8.B, 2.3.8.C, 2.9.8.A
2nd quarter = 41 days		

3rd QUARTER		
FRACTION UNIT	Approx. Time	
Prime and Composite Numbers	1 day	
Prime Factorization of a Composite Number	1 day	
Simplifying Fractions	1 day	
Comparing and Ordering	1 day	
Addition of Fractions	1 day	
Subtraction of Fractions	2 days	
Multiplication of Fractions	1 day	
Division of Fractions	1 day	
Patterns	1 day	
Problem Solving using Fractions	1 day	Total Time = 11 days
ANCHOR and/or ELIGIBLE CONTENT		
M8.A.3.3.1 Add, subtract, multiply, and/or divide fractions with and without calculator (straight computations or word problems)		2.2.8.B, 2.2.8.D
M8.B.1.1.4 Convert from Fahrenheit to Celsius or Celsius to Fahrenheit (formulas provided on the reference sheet)		2.3.8.D
M8.D.1.1.1 Continue a numeric or algebraic pattern (pattern must show 3 repetitions – may include up to 2 operations, squares, and square roots).		2.8.8.C, 2.8.8.D
DECIMAL UNIT		
	Approx. Time	
Rational Numbers	1 day	
Writing Fractions as Decimals	1 day	
Writing Decimals as Fractions		
Comparing and Ordering		
Addition of Decimals	1 day	
Subtraction of Decimals	1 day	
Multiplication of Decimals	1 day	
Division of Decimals	1 day	

Patterns	1 day	
Problem Solving using Decimals		
		Total Time = 7 days
ANCHOR and/or ELIGIBLE CONTENT		
M8.A.3.3.1 Add, subtract, multiply, and/or divide integers, fractions, and/or decimals with and without calculator (straight computations or word problems)		2.2.8.B, 2.2.8.D
M8.B.1.1.1 Convert among metric measurements (milli, centi, and kilo, using meter, liter, and gram (table of equivalency provided on the reference sheet)		2.3.8.D
M8.A.1.1.1 Represent numbers using scientific notation and/or exponential forms		2.1.8.A, 2.1.8.B
M8.D.1.1.1 Continue a numeric or algebraic pattern (pattern must show 3 repetitions – may include up to 2 operations, squares, and square roots).		2.8.8.C, 2.8.8.D
M8.A.3.1.1 Identify, use, and/or explain when it is appropriate to round up or round down.		2.2.8.B, 2.2.8.D
M8.A.3.1.2 Identify, use, and/or explain when an exact answer is needed or when estimation is appropriate.		2.2.8.B, 2.2.8.D
PROPORTION AND PERCENT UNIT		
	Approx. Time	
Ratios	1 day	
Unit Rates	1 day	
Scale Drawings	1 day	
Simple Interest	1 day	
Customary Measurements and Time	1 day	
Writing Fractions and Decimals as Percents	1 day	
Writing Percents as Fractions and Decimals	1 day	
Find a Percent of a Number	1 day	
Find the Percent	1 day	
Find the Original Number	1 day	
Problem Solving Using Percents	1 day	
		Total Time = 11 days

ANCHOR and/or ELIGIBLE CONTENT		
M8.A.2.2.2 Represent or solve rate problems (e.g. unit rates, simple interest, distance, etc.) Students may be asked to solve for any term (formulas provided on the reference for distance and interest)		2.1.8.C, 2.2.8.C
M8.A.2.2.1 Solve problems involving percents (e.g. tax, discounts, etc). Do not include percent increase or decrease.		2.1.8.C, 2.2.8.C
M8.A.3.2.1 Estimate answers to problems involving percents (percents limited to: 1%, 10%, 15%, 20% , 25%, 50%, or 75%)		2.2.8.B, 2.2.8.D
M8.B.1.1.2 Convert customary measurements up to 2 units above or below the given unit (e.g., inches to yards, pints to gallons) (table of equivalency provided on the reference sheet)		2.3.8.D
M8.B.1.1.3 Convert time measurements up to 2 units above or below the given unit (e.g., seconds to hours) (table of equivalency provided on the reference sheet)		2.3.8.D
PROBABILITY AND STATISTICS UNIT	Approx. Time	
Measures of Central Tendency	1 day	
Stem-and-Leaf Plots	1 day	
Measures of Variation	1 day	
Box-and-Whiskers Plots	1 day	
Scatter Plots	1 day	
Line Plots	1 day	
Bar Graphs	1 day	
Histograms	1 day	
Circle Graphs	1 day	
Multiple Line Graphs	1 day	
Simple Events	1 day	
Fundamental Counting Principle	1 day	
Permutations	1 day	
Combinations	1 day	
Theoretical and Experimental Probability	1 day	
		Total Time = 15 days

ANCHOR and/or ELIGIBLE CONTENT	
M8.E.1.1.1 Choose and/or explain the correct representation (graph) for a set of data.	
M8.E.1.1.2 Analyze data and/or answer questions pertaining to data shown in multiple line graphs, circle graphs, or histograms.	
M8.E.1.1.3 Interpret data shown in stem-and-leaf or box-and-whisker plots.	
M8.E.4.1.1 Fit a line to a scatter plot and/or describe any correlation between the two variables (positive, negative, strong, weak, or none).	2.6.8.A, 2.6.8.B, 2.6.8.C
M8.E.4.1.2 Make predictions based on survey results or graphs (bar, line, circle, scatterplots, etc.)	2.6.8.A, 2.6.8.B, 2.6.8.C
M8.E.3.1.1 Find the probability for a mutually exclusive or an independent event (written as a fraction in simplest form)	2.7.8.A, 2.7.8.C, 2.7.8.E
M8.E.3.2.1 Determine/show the number of permutations and/or combinations for an event using up to four choices (e.g. organized list, etc.)	2.7.8.A, 2.7.8.C, 2.7.8.E
4th Quarter	3rd Quarter Total = 44 days
MORE EQUATIONS AND INEQUALITIES	
Equations with variables on each side	2.8.11.B
Multi-Step Equations involving parenthesis	
Multi-Step Inequalities	
MORE LINEAR EQUATIONS AND GRAPHING	
Slope of a Line	2.8.11.B
Intercepts of a Line	
Slope-Intercept Form	
Graphing Inequalities	
Systems of Equations	
MORE GEOMETRY	
Polygons and Tessellations	2.9.8.B
Translations	
Translations	

