

# 6<sup>th</sup> Grade Common Core Math Curriculum Unit 1

Time	Standard	The Student Will Be Able To:	Resources for the Unit
	6NS5	Order integers on a number line.	
		Represent real world situations using integers, i.e. temperature, elevation, and debt.	
		Explain the meaning of zero.	
	6NS6	Recognize that the opposite of the opposite is itself and zero is its own opposite. Ex. $-(-3) = 3$	
		Graph whole numbers on vertical and horizontal number lines.	
		Graph ordered pairs and find vertical and horizontal distance.	
		Graph ordered pairs and understand that signs indicate location on opposite side of zero.	
	6NS7	Understand that absolute value is a distance from zero and its notation.	
		Compare, order, and explain rational numbers. Example 1: $-3$ degrees $> -7$ degrees. $-3$ degrees is warmer than $-7$ degrees. Example 2: $-\$30$ is 30 dollars in debt.	
	6NS8	Solve real world math problems by graphing in all four quadrants.	
	6G3/6NS6	Graph polygons on coordinate planes and calculate vertical and horizontal side lengths. Apply in real world context.	

## \*MARS Activities for Units 1 and 2

At the Laundromat	Sewing	Percent Cards	Division	Nuts
Fractions	Smallest and Largest	Trip to the Movies		

# 6<sup>th</sup> Grade Common Core Math Curriculum Unit 2

Time	Standard	The Student Will Be Able To:	Resources
	6NS1	<p>Divide whole numbers by fractions with meaning, using stories and pictures.</p> <p>Example: 6 cups of detergent and you need <math>\frac{2}{3}</math> of a cup to do a load of laundry. How many loads can you do? Use pictures to show one cup in 3 parts and see how many groups of <math>\frac{2}{3}</math> there are, before showing algorithm.</p>	<p><b>MARS Activities</b> How Much Money Biggest</p>
		<p>Divide fractions by fractions with meaning, using stories and pictures.</p>	<p><b>MARS Assessment</b> Rabbit Costumes</p>
	6NS2	Divide multi-digit whole numbers fluently by hand, using standard algorithm.	
	6NS3	Perform all operations fluently with multi-digit decimals by hand.	<p><b>MARS Activities</b> Cans of Kola Gym</p>
		Write meaningful stories for all operations with multi-digit decimals.	
		Interpret the meaning of answers and choose appropriate representation for problem.	
	6NS6c	Graph rational numbers on vertical or horizontal number lines.	
		Graph rational numbers on a coordinate plane.	

# 6<sup>th</sup> Grade Common Core Math Curriculum Unit 3

Time	Standard	The Student Will Be Able To:	Resources
	6RP1	Write ratios from given scenarios, in different forms. Example: 3/4, 3 to 4, or 3:4.	
		Describe the ratio relationship in words. Example: the ratio of wings to beaks was 2:1. For every two wings there was one beak.	
	6RP2	Calculate unit rates from given scenarios. Example: recipes	
	6RP3a	Make tables of equivalent ratios; construct tape diagrams, and double number line diagrams to solve real world ratio problems.	FAL: Developing a Sense of Scale
	6RP3b	Solve problems using unit rates and scale factor.	MARS Activity Truffles MARS Assessment Snail Pace
	6RP3c	Solve problems with percent, part, and whole where one value is not given. Use multiple representations, i.e. percent proportion, percent equation, tape diagrams, etc.	
	6RP3d/6EE9	Use proportional reasoning to do measurement conversions. Transform units to what is appropriate for the problem.	MARS Activity Grandpa's Knitting

\*MARS Activities to be used with Unit 3

100 people

Candy Bars

# 6<sup>th</sup> Grade Common Core Math Curriculum Unit 4

Time	Standard	The Student Will Be Able To:	Resources
	6EE1	Understand the meaning of base and exponent.	
		Write and evaluate expressions with whole number exponents.	<b>MARS Activities</b> Festival Lights Crystal Earrings A Number Pattern
	6EE2a	Write, read and evaluate algebraic expressions. Example: a number less than five as $5 - n$ .	
	6EE2b	Identify the parts of an expression, i.e. terms, like terms, constants, coefficients.	
	6EE2c	Evaluate expressions that come from real world applications. Students will use given formulas.	<b>MARS Activities</b> Meals <b>MARS Assessment</b> Toy Trains
	6EE3	Use properties of operations to write equivalent expressions. Example: Distributive Property $3(2+x) = 6 + 3x$ .	
		Apply properties of operations to combine like terms to make equivalent expressions.	
	6EE4	Identify if expressions are equivalent to each other.	
	6NS4	Apply greatest common factor to express a numerical expression using the distributive property. Example: $36 + 8 = 4(9 + 2)$ . The GCF of 36 and 8 is 4.	<b>MARS Activity</b> Factors

# 6<sup>th</sup> Grade Common Core Math Curriculum Unit 5

Time	Standard	The Student Will Be Able To:	Resources
	6EE5	Use substitution to determine if an equation or inequality is true.	
		Solve an equation or inequality for a given variable and check solution.	
	6EE6	Write expressions with variables to solve real world problems.	
	6EE7	Write and solve real world equations with positive rational numbers and variables.	<b>MARS Activities</b> Number Cruncher
	6EE8	Write inequalities with variables to represent a constraint or a condition in real world mathematical problems. Represent solutions on a number line.	

\*MARS Activity to be used with Units 4 or 5

Juice

# 6<sup>th</sup> Grade Common Core Math Curriculum Unit 6

Time	Standard	The Student Will Be Able To:	Resources
	6EE9	Use tables and graphs to identify independent (x) and dependent (y) variables.	
		Analyze the relationship between independent (x) and dependent (y) variables and write an equation to represent it.	
	6NS8	Solve real world and mathematical problems by graphing points on a coordinate plane.	
		Use absolute value to find distances between points on a coordinate plane. (Vertical and horizontal distances.)	Map Activities

# 6<sup>th</sup> Grade Common Core Math Curriculum Unit 7

Time	Standard	The Student Will Be Able To:	Resources
	6SP1	Identify statistical questions. Example: How old am I? Not a statistical question. How old are the students in my school? Is a statistical question because there is variability.	
	6SP2	Use data collected to find measures of central tendency (mean, median, mode), spread (range), and over all shape.	
		Explain how outliers affect the data.	
	6SP3	Choose measures of central tendency that best represent the data and explain why it is the best choice.	<b>MARS Activity</b> Ice Cream Speech Speeds
		Describe how data points vary within the data. (Standard deviation)	
	6SP4	Display numerical data on a number line, in a scatter plot, histogram, and box plot.	
	6SP5	Summarize data by stating the number of observations.	<b>MARS Activity</b> Money Basketball
		Summarize data by describing what was measured.	
		Summarize data by how it was measured including units.	
		Summarize data by stating mean, median, mode, range, and interquartile range.	<b>MARS Assessment</b> Baseball Players
		Describe overall pattern of data and outliers.	
		State which measure of central tendency best describes the data.	

\*MARS Activities to be used with Unit 7

# 6<sup>th</sup> Grade Common Core Math Curriculum Unit 8

Time	Standard	The Student Will Be Able To:	Resources
	6G1	Find area of triangles and quadrilaterals.	<b>MARS Activities</b> In the Playground Square Elk Areas and Perimeters
		Find area of polygons by deconstructing into rectangles and triangles.	<b>MARS Assessment</b> Area and Perimeter.
		Apply areas of figures to real world and mathematical problems.	
	6G2	Apply formulas for volume to find the volume of rectangular prisms with fractional side lengths.	<b>MARS Activities</b> Tank Building Blocks
		Use $V = l \times w \times h$ and $V = B \times h$ in real world and mathematical problems. Students will be able to explain why the two formulas are equivalent.	
	6G3	Draw polygons on a coordinate plane with given coordinates.	
		Find side lengths of the polygons using the coordinate plane.	
	6G4	Represent 3-D figures as nets and use nets to find surface area.	Net manipulatives
		Solve real world and mathematical problems using surface area.	