

HPS Scope & Sequence  
K-8 Grade Level Essential Skills  
DRAFT  
August 2009

Grade Level: 6  
Subject: Math






Howell Public Schools (HPS), like many of our fellow Michigan districts, has studied the work of Dr. Robert Marzano and other educational consultants. In his book *What Works in Schools: Translating Research into Action*, Marzano points to the necessity of school districts having a “guaranteed and viable curriculum.” Marzano stresses the importance of everyone in the school community understanding what skills will be taught for mastery at each grade level, and then guaranteeing that happens. Using this research, our district is undertaking the task of creating an aligned curriculum that prepares students to successfully meet the academic rigors of Michigan’s Grade Level Content Expectations (GLCEs).

During the 2008-09 school year, small groups of teachers worked under the guidance of curriculum consultants and HPS administrators to study the core content curriculums of English, math, science and social studies. Through professional development efforts, these groups learned to identify subsets of fundamental, non-negotiable content expectations that require a higher degree of mastery than the other expectations within the content area. HPS has chosen to call these fundamental, non-negotiable content expectations for each grade level subject “Essential Skills”. Teacher groups then assigned a recommended number of lessons, per quarter, needed to successfully teach each GLCE, thus securing the curriculum as viable. Vocabulary, a researched component to uniform student achievement, was identified by quarter (nine-week sessions). Examples of formative assessments were provided for each expectation, with the creation of uniform summative assessments to follow the final approval of this document. Upon completion of draft essential skills for each subject, the teacher groups used supporting MDE documents to align their chosen skills horizontally for grades kindergarten through eight.

The essential skills found within this document will be piloted in the 2009-2010 school year. Our teaching staff will provide on-going feedback on the document during this pilot. At the conclusion of each semester the original teacher groups will re-assemble under the guidance of educational consultants and HPS administration to review the edit suggestions. These steps will culminate in revisions for a final document.

It should be noted that as a subset of Michigan’s Grade Level Content Expectations, the overall number of expectations identified as essential skills is smaller than the total articulated within the State’s course expectation documents. This is the intentional result of a process that asked teacher leaders to identify fundamental content expectations that require a higher degree of mastery than others included within the discipline. Expectations that were not considered fundamental to the success of all students are not included in this document, but may be found on the MDE web site at [http://www.michigan.gov/mde/0,1607,7-140-28753\\_33232---,00.html](http://www.michigan.gov/mde/0,1607,7-140-28753_33232---,00.html)






## Quarter 1

Standard or GLCE #	Standard or GLCE Language	What this means:	Q	Lessons or Days	Examples of Formative Assessments	Vocabulary	Resource Lessons that Correspond to GLCE
	Students will . . . .			43			
							Resources L=lessons/G=games/R=routine






## Number and Numeration

	<b>Solve decimal, percentage and rational number problems</b>					decimal operation integer exponent powers base scientific notation rational number opposites negative number quotient integer partial-quotients division algorithm dividend divisor remainder rational number	
N.FL.06.15	Solve applied problems that use the four operations with appropriate decimal numbers.	Solve problems that use the four operations with appropriate decimal numbers.	1	4	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		2.03, 2.05, 2.06, 2.08
	<b>Use exponents</b>						
N.ME.06.16	Understand and use integer exponents, excluding powers of negative bases; express numbers in scientific notation.	An exponent is a superscript that shows how many times a number or expression is to be multiplied by itself: $43 = 4 \times 4 \times 4 = 64$ ; $102 = 10 \times 10$ (10 to the second power). Exponents are often used to make very large or very small numbers (in the case of negative exponents) easier to use. As an example, 1,000,000 can be written as $10^6$ . Since scientists often work with very big or very small numbers they often take advantage of exponents by putting numbers in "scientific notation". As an example, the distance from the Earth to the Sun is approximately 150,000,000 km. Converted to scientific notation this distance is now $1.5 \times 10^8$ km which means that 1.5 is multiplied by 10, 8 times.	1	4	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		2.04, 2.09, 2.11, 9.12
	<b>Understand rational numbers and their location on the number line</b>						
N.ME.06.17	Locate negative rational numbers (including integers) on the number line; know that numbers and their negatives add to 0, and are on opposite sides and at equal distance from 0 on a number line.	Know that numbers and their negatives add up to 0, and are on opposite sides at an equal distance from 0 on the number line. $-2 + 2 = 0$	1	1	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		3.01
	<b>Represent rational numbers as fractions or decimals</b>						

## Quarter 1

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	Students will . . . .			43			
							Resources L=lessons/G=games/ R=routine
N.ME.06.07	Understand that a fraction or a negative fraction is a quotient of two integers, e.g., $-8/3$ is $-8$ divided by 3.	Understand that a fraction or a negative fraction is a quotient of two integers* (non-zero denominators) and that rational numbers are quotients of integers, therefore a rational number is either a fraction or a negative fraction. Example: $-24 = -4 \div 3$ . $38$ is $8 \div 3$ ; $38$ and $-24$ are both rational numbers.	1	2	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		2.07
<b>Add and subtract integers and rational numbers</b>							
N.FL.06.10	Add, subtract, multiply and divide positive rational numbers fluently.	Add, subtract, multiply, and divide positive rational numbers fluently. (This includes integers, fractions and decimals.)	1	25	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		1.10, 2.03, 2.04, 2.05, 2.06, 2.09, 2.11, 4.06, 4.07, 4.11, 6.01, 7.05, 7.07, 7.08, 8.03, 8.04, 8.09, 8.10, 8.11, 9.02, 9.03, 9.04, 9.05, 9.07, 9.12

## Quarter 2

Standard or GLCE #	Standard or GLCE Language	What this means:	Q	Lessons or Days	Examples of Formative Assessments	Vocabulary	Resource Lessons that Correspond to GLCE
	Students will . . . .			42			
							Resources L=lessons/G=games/R=routine






## Number and Numeration

	<b>Represent rational numbers as fractions or decimals</b>						
N.ME.06.11	Find equivalent ratios by scaling up or scaling down.	Find equivalent ratios* by scaling up or scaling down. 21 increased by a scale factor of 2=42 (21x22); 124 decreased by a scale factor of 4 = 31(124÷44).	2	5	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework	equivalent scale factor scale transformation operation	4.01, 4.02, 4.04, 8.06, 8.07
	<b>Solve decimal, percentage and rational number problems</b>					rational number quotient	
N.FL.06.14	For applied situations, estimate the answers to calculations involving operations with rational numbers.	Estimate the answers to calculations involving operations with rational numbers.	2	3	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework	integer ordered pairs integers	
	<b>Understand rational numbers and their location on the number line</b>					quadrants	
N.ME.06.18	Understand that rational numbers are quotients of integers (non zero denominators), e.g., a rational number is either a fraction or a negative fraction.	Understand that a fraction or a negative fraction is a quotient of two integers* (non-zero denominators) and that rational numbers are quotients of integers, therefore a rational number is either a fraction or a negative fraction. Example: -24=-4÷ 2. 38 is 8÷ 3; 38 and -24 are both rational numbers.	2	4	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework	coordinate plane coordinate geometry coordinate system units quantities algebraic expressions input/output table box & whisker plot outliers scatter plot table representations	2.07, 4.09, 6.05, 8.06






## Algebra

	<b>Understand the coordinate plane</b>					lines angles triangles triangle	
A.RP.06.02	Plot ordered pairs of integers and use ordered pairs of integers to identify points in all four quadrants of the coordinate plane.	Plot ordered pairs of integers and use ordered pairs of integers to identify points in all four quadrants of the coordinate plane. Example: (x,y) is a point in Quadrant I of the coordinate plane.	2	2	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework	inequality vertical angles supplementary angles corresponding angles alternate interior angles transversal	3.05, 06
	<b>Use variables, write expressions and equations, and combine like terms</b>					interior/exterior angles of a triangle	
A.FO.06.03	Use letters, with units, to represent quantities in a variety of contexts, e.g., y lbs., k minutes, x cookies.	Use letters with units to represent quantities in a variety of contexts; Example: y lbs., k minutes, x cookies.	2	1	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework	Convex Polygon polygons corresponding sides corresponding angles	3.03






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A.FO.06.05	Use standard conventions for writing algebraic expressions, e.g., $2x + 1$ means "two times x, plus 1" and $2(x + 1)$ means "two times the quantity (x + 1)."	Use standard conventions for writing algebraic expressions. Example: $2x+1$ means "two times x, plus 1" and $2(x+1)$ means "two times the quantity (x+1)."	2	6	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework	similarity vs congruence reflections rotations slide transformation congruence perpendicular lines midpoint line segment angle bisector	3.03
	<b>Represent linear functions using tables, equations, and graphs</b>						
A.RP.06.08	Understand that relationships between quantities can be suggested by graphs and tables.	A function describes the relationship between an input and an output. For example, the amount of money earned can be a function of the number of hours worked. This relationship can be represented in table or graph form.	2	6	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		1.06, 3.05, 3.06, 3.10, 8.01, 9.10
	<b>Understand and apply basic properties</b>						






## Quarter 2

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	Students will . . . .			42			
							Resources L=lessons/G=games/R=routine
G.GS.06.01	Understand and apply basic properties of lines, angles, and triangles, including: • triangle inequality • relationships of vertical angles, complementary angles, supplementary angles • congruence of corresponding and alternate interior angles when parallel lines are cut by a transversal, and that such congruencies imply parallel lines • locate interior and exterior angles of any triangle, and use the property that an exterior angle of a triangle is equal to the sum of the remote (opposite) interior angles • know that the sum of the exterior angles of a convex polygon is $360^\circ$ .	Triangle inequality: The length of the third side of a triangle is always less than the sum of the other two sides and greater than their difference. Relationships of vertical angles, complementary angles, and supplementary angles. Vertical: Angles 1 & 2 and 3 & 4 are vertical angles because they are opposite each other. Supplementary: Pair of angles whose measures add up to $180^\circ$ : angles 1&3 are supplementary as are angles 2&3, 1&4, & 2&4. Complementary: Pair of angles whose measures add up to $90^\circ$ . Congruence* of corresponding and alternate interior angles when parallel lines are cut by a transversal*, and that such congruencies imply parallel lines. Angles are congruent ( $\cong$ ), if they have the same measure. In this example, lines a and b are parallel and they are cut by line t, the transversal*. Corresponding angles are the angles formed by lines a and t that "correspond" to the angles formed by lines b and t. For example, angle 1 corresponds to angle 5 so angle $1 \cong$ angle 5. Alternate interior angles in this figure include angles 5 & 3; so, angle $5 \cong 3$ .	2	4	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		5.02, 5.09, 5.10
	<b>Understand the concept of congruence and basic transformations</b>						
G.GS.06.02	Understand that for polygons, congruence means corresponding sides and angles have equal measures.	Understand that for polygons, congruence means corresponding sides and corresponding angles have equal measures.	2	4	Polygons, Corresponding Sides, Corresponding Angles		5.05, 5.06, 5.09, 10.03
G.TR.06.03	Understand the basic rigid motions in the plane (reflections, rotations, translations), relate these to congruence, and apply them to solve problems.	Understand the basic rigid motions in the plane (reflections, rotations, translations), relate these to congruence, and apply them to solve problems.	2	6	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		5.05, 5.06, 5.08, 5.10, 10.02, 10.04
	<b>Construct geometric shapes</b>						

## Quarter 2

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	Students will . . . .			42			
							Resources L=lessons/G=games/ R=routine
G.SR.06.05	Use paper folding to perform basic geometric constructions of perpendicular lines, midpoints of line segments and angle bisectors; justify informally.	Use paper folding to perform basic geometric constructions of perpendicular lines, midpoints of line segments and angle bisectors; justify informally.	2	1	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework	perpendicular lines, midpoint, line segment, angle, bisector	4.06

## Quarter 3






Standard or GLCE #	Standard or GLCE Language	What this means:	Q	Lessons or Days	Examples of Formative Assessments	Vocabulary	Resource Lessons that Correspond to GLCE
	Students will . . . .			45			
							Resources L=lessons/G=games/R=routine






## Number and Numeration

	<b>Multiply and divide fractions</b>						
N.MR.06.01	Understand division of fractions as the inverse of multiplication, e.g., if $4/5 \div 2/3 = \underline{\quad}$ , then $2/3 \cdot \underline{\quad} = 4/5$ , so $\underline{\quad} = 4/5 \cdot 3/2 = 12/10$ .	Understand division of fractions as the opposite of multiplication.	3	1	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework	inverse fraction unknown variable general pattern formula for missing value mixed number quotient integers mixed numbers decimal percent integer common denominator least common denominator least common multiple quick common denominator percents above 100 percents below 1 prime factor rational numbers terminating decimals	6.02
N.MR.06.03	Solve for the unknown in equations such as $1/4 + \underline{\quad} = 1$ , $3/4 + \underline{\quad} = 1/4$ , and $1/2 = 1 \cdot \underline{\quad}$ .	Example: $1/4 + \underline{\quad} = 1 \frac{1}{4}$	3	2	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		3.01, 6.02
N.FL.06.04	Multiply and divide any two fractions, including mixed numbers, fluently.	Multiply and divide any two fractions, including mixed numbers.	3	6	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		4.06, 4.07, 6.01, 6.02, 7.05, 7.07
	<b>Represent rational numbers as fractions or decimals</b>						
N.ME.06.05	Order rational numbers and place them on the number line.	A rational number is any number that can be expressed as a quotient* of any two integers*(non-zero denominators) and can be in the form of fractions, mixed numbers, decimals, percents, integers*, etc.	3	4	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		4.02, 6.03, 6.05, 6.12
N.ME.06.06	Represent rational numbers as fractions or terminating decimals when possible, and translate between these representations.	$1/8 = .125$ ; is a rational number because it can be represented as a fraction even though it cannot be represented by a /terminal decimal (386=2.6).	3	4	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		1.10, 4.09, 4.10, 7.03, 7.08
	<b>Add and subtract integers and rational numbers</b>						








## Quarter 3






Standard or GLCE #	Standard or GLCE Language	What this means:	Q	Lessons or Days	Examples of Formative Assessments	Vocabulary	Resource Lessons that Correspond to GLCE
	Students will . . . .			45			
							Resources L=lessons/G=games/R=routine
N.MR.06.08	Understand integer subtraction as the inverse of integer addition. Understand integer division as the inverse of integer multiplication.	Students' understanding of the relationship between addition and subtraction becomes more sophisticated as they recognize that integer subtraction is really the opposite of integer addition (adding 3 goes the opposite way on the number line than subtracting 3; adding -3 is the same as subtracting 3). Furthermore, they learn the rules of the signs (negative times a negative is a positive; negative times a positive is a negative) by using the relationship between multiplication and repeated addition; and between multiplication and division. (-3+3=-6 □ -3 x 2=-6 □ -6÷2=-3).	3	3	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework	integer subtraction inverse integer multiplication number property integer number line absolute value value sign distance sides of equation solution non-zero number coefficient probability event experiment likely outcome outcome	6.03, 6.09, 6.10, 6.11, 9.05
N.FL.06.09	Add and multiply integers between -10 and 10; subtract and divide integers using the related facts. Use the number line and chip models for addition and subtraction.	Add, subtract, multiply, and divide integers between -10 and 10.	3	8	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		3.07, 3.08, 5.04, 6.06, 6.11, 9.03, 9.04, 9.05
	<b>Understand rational numbers and their location on the number line</b>						
N.ME.06.19	Understand that 0 is an integer that is neither negative nor positive.	Understand that 0 is an integer that is neither negative nor positive.	3	1	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		6.05
N.ME.06.20	Know that the absolute value of a number is the value of the number ignoring the sign; or is the distance of the number from 0.	Know that the absolute value* of a number is the value of the number, ignoring the sign, or is the distance of the number from 0. The absolute value of a number is indicated with . For example: the absolute value of 3 is written as 3 and the absolute value of -3 is also written as 3.	3	1	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		6.03
	<b>Solve equations</b>						

Quarter 3							
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	Students will . . . .			45			
							Resources L=lessons/G=games/R=routine
A.FO.06.12	Understand that adding or subtracting the same number to both sides of an equation creates a new equation that has the same solution.	Understand that adding or subtracting the same number to both sides of an equation creates a new equation that has the same solution. Example: $x+8=15$ $x+8-8=15-8$ $x=7$ ;	3	3	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		6.09, 6.10, 6.11
A.FO.06.13	Understand that multiplying or dividing both sides of an equation by the same non-zero number creates a new equation that has the same solutions.	Understand that multiplying or dividing both sides of an equation by the same non-zero number creates a new equation that has the same solutions. Example: $x+8=15$ $2(x+8)=2(15)$ $2x+16=30$ $16=30$ $2x=14$ $x=7$	3	3	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		6.09, 6.10, 6.11
A.FO.06.14	Solve equations of the form $ax + b = c$ , e.g., $3x + 8 = 15$ by hand for positive integer coefficients less than 20, use calculators otherwise, and interpret the results.	Relate simple linear equations with integer coefficients* to particular contexts, and solve. Example: A triangle has three sides and if an unknown number of triangles (x) had 12 sides this could be represented by the linear equation $3x=12$ .	3	2	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		6.10, 9.05
Data and Probability							
	Understand the concept of probability and solve problems						

## Quarter 3

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	Students will . . . .			45			
							Resources L=lessons/G=games/R=routine
D.PR.06.01	Express probabilities as fractions, decimals, or percentages between 0 and 1; know that 0 probability means an event will not occur and that probability 1 means an event will occur.	Express probabilities as fractions, decimals, or percentages between 0 and 1. Example: When a coin is flipped there is 1 out of 2 chances it will be heads. This probability can be written as 21, 0.50 or 50%. Know that 0 probability means an event will not occur and that probability 1 means an event will occur. Example: There is 0 probability that if a child reaches into a drawer with 8 white socks (and only white socks), the child will pull out a red sock (0 out of 8, 80, 0.0 or 0%). There is a probability of 1 that the child will pull out a white sock (8 out of 8, 88, 1.0 or 100%)	3	4	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		7.01, 7.02, 7.03, 7.05, 7.07, 7.08
D.PR.06.02	Compute probabilities of events from simple experiments with equally likely outcomes, e.g., tossing dice, flipping coins, spinning spinners, by listing all possibilities and finding the fraction that meets given conditions.	Compute probabilities of events from simple experiments with equally likely outcomes by listing all possibilities and finding the fraction that meets given conditions. Examples: tossing dice, flipping coins, spinning spinners	3	3	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		7.01, 7.03, 7.04

## Quarter 4

Standard or GLCE #	Standard or GLCE Language	What this means:	Q	Lessons or Days	Examples of Formative Assessments	Vocabulary	Resource Lessons that Correspond to GLCE
	Students will . . . .			45			
							Resources L=lessons/G=games/R=routine






## Number and Numeration

	<b>Multiply and divide fractions</b>						
N.FL.06.02	Given an applied situation involving dividing fractions, write a mathematical statement to represent the situation.	Write a number sentence representing a situation involving dividing fractions.	4	2	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework	fraction percentage convert large numbers to small numbers convert small numbers to large numbers sales tax tip rate algebraic expressions algebraic equation written representation expressions combine like terms ordered pairs linear functions input values quantities input/output table box & whisker plot outliers scatter plot table representations	8.06
	<b>Solve decimal, percentage and rational number problems</b>						
N.FL.06.12	Calculate part of a number given the percentage and the number.	Calculate part of a number given the percentage and the number.	4	3	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		1.09, 8.05, 8.07, 8.08
N.MR.06.13	Solve contextual problems involving percentages such as sales taxes and tips.	Solve word problems involving percentages related to sales taxes and tips. 15.00. What is the total cost with 6% sales tax? Example: A CD is priced at \$determine the amount of the tax by finding 6% of 15. They can do this by multiplying 15 by Students first need to 1006or by .06 to come up with \$.90. This makes the total cost of the CD 15+.90=\$15.90	4	4	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		1.09, 8.05, 8.07, 8.08






## Algebra

	<b>Calculate rates</b>						
A.PA.06.01	Solve applied problems involving rates, including speed, e.g., if a car is going 50 mph, how far will it go in 3 1/2 hours?	Relate simple linear equations with integer coefficients* to particular contexts, and solve. Example: A triangle has three sides and if an unknown number of triangles (x) had 12 sides this could be represented by the linear equation $3x=12$	4	4	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework	linear equation integer coefficients unit measurement face cube rectangular prisms sides volume of prism volume surface area cube rectangular prisms sides volume of prism slide	3.05, 8.01, 8.02, 8.05
	<b>Use variables, write expressions and equation</b>	table					
A.FO.06.04	Distinguish between an algebraic expression and an equation.	An algebraic expression does not contain an equal sign. Example: $2, 5a, 7+x$ . An equation does contain an equal sign. Example: $5x = 10$ .	4	1	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		9.04
A.FO.06.06	Represent information given in words using algebraic expressions and equations.	Represent information given in words using algebraic expressions and equations. Convert a written problem to a math sentence.	4	4	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		3.03, 6.07, 9.05, 9.06

## Quarter 4

Standard or GLCE #	Standard or GLCE Language	What this means:	Q	Lessons or Days	Examples of Formative Assessments	Vocabulary	Resource Lessons that Correspond to GLCE
	Students will . . . .			45			
							Resources L=lessons/G=games/R=routine
A.FO.06.07	Simplify expressions of the first degree by combining like terms, and evaluate using specific values.	Example: Simplify $3x+5x \square 8x$ Simplify $a+2a+3b$ : $3a+3b \square 3(a+b)$ Evaluate $8x$ if $x$ is 5: $8(5) = 40$ Evaluate $3(a+b)$ if $a$ is 4 and $b$ is 5: $3(4+5) = 3(9) = 27$ .	4	4	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework	transformation reflection rotation	6.08, 9.03, 9.04, 9.05
<b>Represent linear functions using tables, equations, and graphs</b>							
A.PA.06.09	Solve problems involving linear functions whose input values are integers; write the equation; graph the resulting ordered pairs of integers, e.g., given $c$ chairs, the "leg function" is $4c$ ; if you have 5 chairs, how many legs?; if you have 12 legs, how many chairs?*	Graph and write equations for linear functions of the form $y=mx$ , and solve related problems	4	4	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		8.03, 8.04, 8.06, 8.07, 9.05, 9.06, 9.07
A.RP.06.10	Represent simple relationships between quantities using verbal descriptions, formulas or equations, tables, and graphs, e.g., perimeter-side relationship for a square, distance-time graphs, and conversions such as feet to inches.	Generate formulas, equations, tables and graphs to represent real life problems. Example: speed in miles/hr, 300 miles in 5 hours: $300\text{mi}/5\text{hr} = 60\text{mi/hr}$	4	7	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		3.05, 3.06, 3.10, 8.10, 8.03, 8.04, 8.06, 8.07, 9.05, 9.06, 9.07, 9.10
<b>Solve equations</b>							
A.FO.06.11	Relate simple linear equations with integer coefficients, e.g., $3x = 8$ or $x + 5 = 10$ , to particular contexts and solve.	Relate simple linear equations with integer coefficients* to particular contexts, and solve. Example: A triangle has three sides and if an unknown number of triangles ( $x$ ) had 12 sides this could be represented by the linear equation $3x=12$ .	4	4	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		8.01, 8.02, 8.03, 8.06, 8.07, 9.06
<b>Convert within measurement systems</b>							
M.UN.06.01	Convert between basic units of measurement within a single measurement system, e.g., square inches to square feet.	Convert between basic units of measurement within a single measurement system. Example: Convert square inches to square feet; minutes to hours, etc.	4	2	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		8.04, 9.11
<b>Find volume and surface area</b>							
M.PS.06.02	Draw patterns (of faces) for a cube and rectangular prism that, when cut, will cover the solid exactly (nets).	Draw patterns (of faces*) for a cube* and rectangular prism* that, when cut, will cover the solid exactly (nets). Students need to visualize what a cube looks like if it is opened flat.	4	2	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		9.09, 9.11

## Quarter 4

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	Students will . . . .			45			
							Resources L=lessons/G=games/ R=routine
M.TE.06.03	Compute the volume and surface area of cubes and rectangular prisms given the lengths of their sides, using formulas.	Compute the volume and surface area of cubes and rectangular prisms given the lengths of their sides using formulas. Example: Volume formula: length x width x height Surface area: the sum of the surface area of all 6 faces	4	2	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		9.09, 9.11
<b>Geometry</b>							
	<b>Understand the concept of congruence and basic transformations</b>						
G.TR.06.04	Understand and use simple compositions of basic rigid transformations, e.g., a translation followed by a reflection.	Understand and use simple compositions of basic rigid transformations. Example: A translation followed by a reflection.	4	2	Quizzes, Tests Journals, Games, Projects, Select problems, Discussion, Homework		10.01, 10.02, 10.03