Grade 6 Mathematics

The East Greenwich School District adopted the Model Curriculum, developed by the State of New Jersey. This curriculum is aligned with the Common Core State Standards and is organized into 5 units of study. Each unit contains specific learning goals aligned to grade level content standards that are to be taught over a six week time period. Once students complete each unit, a formative assessment is given to measure student proficiency on those targeted skills.

For more information on the Model Curriculum please visit:

http://www.state.nj.us/education/modelcurriculum/math/6u1.shtm

For more information on the Common Core State Standards please visit:

http://www.corestandards.org/about-the-standards/

For more information on the Math Common Core Standards please visit:
http://www.corestandards.org/Math/

Unit 1	September/October
Standard	**STUDENT LEARNING OBJECTIVES**
6.NS.1	Compute quotients of fractions.
6.NS.1	Construct visual fraction models to represent quotients and explain the relationship between multiplication and division of fractions.
6.NS.1	Solve real-world problems involving quotients of fractions and interpret the solutions in the context given.
6.NS.2; 6.NS.3	Fluently add, subtract, multiply and divide multi-digit decimals and whole numbers using standard algorithms.
6.NS.5	Use positive and negative numbers to describe quantities in real-world situations.
6.SP.1; 6.SP.2; 6.SP.3; 6.SP.5c,d	Calculate, compare, and interpret measures of center and variability in a data set to answer a statistical question. (Including median, mean, interquartile range, mean absolute deviation and overall pattern).

Resources:

GAMES for ratio   http://www.uen.org/Lessonplan/preview?LPid=6291

If You Hopped Like a Frog http://www.k-state.edu/smartbooks/Lesson031.html

Cake Cutting Contest   http://illuminations.nctm.org/LessonDetail.aspx?ID=L284

Dan Meyer 3 act How many sugar packets in a Coke?   http://threeacts.mrmeyer.com/sugarpackets/

Dan Meyer 3 act How can I fix Nana's chocolate milk?   http://threeacts.mrmeyer.com/nana/

Pennies for Pits   http://www.uen.org/Lessonplan/preview?LPid=15434

Grid & Percent It   http://illuminations.nctm.org/LessonDetail.aspx?id=L249

Massachusetts 6th grade Ratios, Rates, and Percents Unit http://www.doe.mass.edu/candi/model/units/Mathg6-RatioRates.pdf

Prerequisite/Review: Conceptual pictures and fractions: http://www.commoncoresheets.com/Fractions.php

Learn Zillion video and resources to Compute quotients of fractions in real-world problems:http://learnzillion.com/lessons/3593-compute-quotients-of-fractions-in-realworld-problems

Learn Zillion video and resources for finding the dividing fractions rule:http://learnzillion.com/lessons/3594-computing-quotients-using-the-fractions-division-rule

Learn Zillion video: http://www.youtube.com/watch?v=tOpZKSlfhXc

Unit 2	November/December
Standard	**STUDENT LEARNING OBJECTIVES**
6.EE.2	Use mathematical language to identify parts of an expression.
6.EE.1	Write and evaluate numerical expressions involving whole number exponents.
6.EE.2	Read, write, and evaluate expressions in which letters stand for numbers (Including formulas that arise from real-world contexts).
6.EE.3, 6.NS.4	Apply the properties of operations to generate equivalent expressions (Including the distributive property; for example, *express 36 + 8 as 4(9 + 2) and y + y + y = 3y.*
6.EE.4	Identify when two expressions are equivalent; for example, *Are the two expressions equal? 81 + 18 and 9(9 + 2).*
6.NS.4	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two numbers less than or equal to 12.

Resources:

Balancing Equations:
http://www.learnalberta.ca/content/mesg/html/math6web/index.html?page=lessons&lesson=m6lessonshell11.swf

Solving Equations: http://my.hrw.com/math06_07/nsmedia/tools/Algebra_Tiles/Algebra_Tiles.html

Order of Operations:
http://www.regentsprep.org/regents/math/algebra/AOP2/Lorder.htm
http://www.quia.com/cm/16544.html
http://www.wisc-online.com/objects/ViewObject.aspx?ID=ABM101
http://web.archive.org/web/20071024215926/http:/regentsprep.org/Regents/math/orderop/Torder.htm
http://www.mathgoodies.com/lessons/vol7/order_operations.html
http://www.funbrain.com/cgi-bin/alg.cgi?A1=s&A2=3

Solving an Equation: http://www.aaamath.com/equ725-equation1.html

Practicing Algebraic Expressions: http://www.mathplayground.com/wangdoodles.html

Writing Equations: http://www.math.com/school/subject2/lessons/S2U1L3GL.html

Calculating using order of operations: http://www.321know.com/g82_orx1.htm

Unit 3	January/February
Standard	STUDENT LEARNING OBJECTIVES
6.EE.6	Use variables to represent numbers and write expressions when solving real world or mathematical problems.
6.EE.5	Solve an equation or inequality to answer the question: which values from a specified set, if any, make the equation or inequality true? and check the solution using substitution to determine whether a given number in a specified set makes an equation or inequality true. (including formulas V=lwh and V=bh) .
6.EE.7	Write and solve one step equations that represent real world or mathematical problems.
6.EE.8	Write an inequality of the form x > c or x < c to represent a constraint or condition in a real world or mathematical problem and represent them on a number line diagram.
6.G.1	Find the area of right triangles, other triangles, special quadrilaterals and polygons by composing into rectangles or decomposing into triangles and other shapes to solve real world or mathematical problems.
6.G.4	Represent three dimensional figures using nets made of rectangles and triangles, and use the nets to find the surface area of the figures in the context of solving real world and mathematical problems.
6.G.2	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes. Show that the volume is the same as it would be if found by multiplying the edge lengths.
Resources: **Coming Soon!**	

Unit 4	March/April
Standard	**STUDENT LEARNING OBJECTIVES**
6.NS.6 6.NS.7	Locate positive and negative rational numbers on the number line and explain the meaning of absolute value of a rational number as indicating locations on opposite sides of zero on the number line.
6.NS.7	Write and compare rational numbers using inequality signs.
6.NS.6	Plot ordered pairs in all four quadrants on the coordinate plane and describe their reflections.
6.NS.7	Interpret and explain absolute value as magnitude for a positive or negative quantity in a real-world situation.
6.NS.8	Solve real world problems mathematically by graphing points in all four quadrants of the coordinate plane. Use the absolute value of the differences of their coordinates to find distances between points with the same first coordinate or same second coordinate.
6.G.3	Draw polygons in the coordinate plane given the coordinates of the vertices and use the coordinates to solve real world distance, perimeter, and area problems.
6.SP.4 6.SP.5a,b	Display numerical data in plots on the number line (including dot plots, histograms, and box plots) and summarize in relation to their context.
Resources: **Coming Soon!**	

Unit 5	May/June
Standard	**STUDENT LEARNING OBJECTIVES**
6.RP.1	Explain the relationship of two quantities or measures of a given ratio and use ratio language to describe the relationship between the two quantities. For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." *"For every vote candidate A received, candidate C received nearly three votes."*
6.RP.2	Use rate language in the context of a ratio relationship to describe a unit rate a/b associated with a ratio a:b with b≠0. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."*
6.RP.3	Use ratio and rate reasoning to solve real world and mathematical problems which include making tables of equivalent ratios, solving unit rate problems, finding percent of a quantity as a rate per 100.
6.RP.3	Use ratio and rate reasoning to convert measurement units (manipulate and transform units appropriately when multiplying or dividing quantities).
6.EE.9	Use variables to represent two quantities that change in relationship to one another in a real world problem and write an equation to express one quantity, thought of as the dependent variable, in terms of another quantity, thought of as the independent variable.
6.EE.9	Analyze the relationship between the dependent and independent variables in an equation using graphs and tables. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.
6.SP.4 6.SP.5a,b	Display numerical data in plots on the number line (including dot plots, histograms, and box plots) and summarize in relation to their context.
Resources: **Coming Soon!**	