Curriculum Mapping Template

Name: **K. Lagueux** Subject Area: **Mathematics** Grade: 6

Year: 2014-2015

Last updated: 8/10/14

Timeline	Essential Question/Big Ideas	Content	Skills	Assessments
Start- ~Sep 12		**Prime Time** • Review Factors/Multiples • Play factor game • Play product game • U-Method for Finding Factors & GCF • Work on Investigation 3.1, 3.2, 3.3, 3.4	Pre-Assess Prime Time Concepts and Make a Decision as to where you need to focus attention – which students are weak in these areas? This year's students should be doing Investigation 3. They will not have had it in 5th grade. In 2015-2016, this unit may not be necessary – REVISE IN JUNE 2015. Use ACE questions from Prime Time throughout Quarter 1 to ensure students are proficient with concepts from this unit. CMP3	•
UNIT 1 ~ 5 Weeks Book says 25 days. Sep 15-Oct 17	• How do I know whether to use ratios or subtraction when comparing? • What strategies can I use to find equivalent forms of these ratios, decimals, ratios, or percents? • What strategies can I use to compare or order a set of fractions, decimals and percents? • Can models or diagrams be helpful in	**Comparing Bits & Pieces CMP3** • Use ratio language and notation to compare quantities. • Distinguish between fractions as numbers and ratios as comparisons. • Use a variety of scaling and partitioning strategies to reason proportionally. • Think of fractions and decimals as both locations and distances on the number line • Move flexibly among fraction, decimal and percent expressions	**6.RP.1** Understand the concept of a ratio and use ratio language to describe a ration relationship between two quantities. **6.RP.2** Understand the concept of a unit rate *a/b* associated with a ratio *a : b* with *b=0*, and use rate language in the context of a ratio relationship. **6.RP.3** Use ratio and rate reasoning to solve real-world and mathematical problems. e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams or equations. **6.RP.3a** Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables… **6.RP.3b** Solve unit rate problems including those involving unit pricing and constant speed. **6.RP.3c** Find a percent of a quantity as a rate per 100; solve problems involving finding the whole, give a part and the percent.	• Daily Warm Ups • Homework Assignments • Weekly Quizzes (based on homework assignments and investigations during class) • Math Reflections (write short answer questions summarizing knowledge gained from the unit.

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	understanding relationships among quantities?	• Find absolute values and opposites, and use them to describe real-world quantities • Use fraction, decimal, and percent benchmarks to estimate numbers • Use context, models, drawing, or estimation to reason about situations • Use equivalence of fractions and ratios to solve problems • Use rate tables and unit rates to solve problems	**6.RP.3d** Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. **6.NS.6** Understand a rational number as a point on the number line… **6.NS.6a** Recognize the opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g. –(-3) = 3, and that 0 is its own opposite. **6.NS.6c** Find and position integers and other rational numbers on a horizontal or vertical number line diagram. **6.NS.7b** Write, interpret, and explain statements of order for rational numbers in real-world contexts. **6.NS.7c** Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.	• Unit Exam ~Multiple Choice ~Short Answer ~Open Response

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UNIT 2 ~ 4 Weeks Book Says 20 Days Oct 20-Nov17	• What models or diagrams are helpful in understanding the problem situation and the relationships among quantities? • What models or diagrams might help you decide which operation is useful in solving a problem? • What is a reasonable estimate for an answer? • How do I know that an answer is reasonable?	**LET'S BE RATIONAL – CMP3** Use: CMP2 Investigations Below: • 1.1 & 1.2 • 2.1 & 2.2 • 3.1, 3.3 and 3.4 • *** 4 (Follow TM for CMP3 Investigation #3…) • USE CMP3 Investigation 4.3 *Becoming and Operations Sleuth* to reinforce problem solving with the four operations. • Use benchmarks and other strategies to make reasonable estimates for results of oeprations with fractions, including mixed numbers. • Model sums, differences, products, and quotients, including the use of areas, fraction strips and number lines. • Look for rules to generalize patterns in fraction operations. • Use your knowledge of fractions, equivalence of fractions, and properties of numbers to develop algorithms for adding, subtracting, multiplying, and dividing fractions.	**6.NS.1** Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions… **6.NS.3** Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. **6.NS.4** Find the GCF of two whole numbers less than or equal to 100 and the LCM of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor. **6.EE.2** Write, read, and evaluate expressions in which letters stand for numbers. **6.EE.2a** Write expressions that record operations with numbers and with letters standing for numbers. **6.EE.2b** Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. **6.EE.2c** Evaluate expressions at specific values of their variables. Include expression that arise from formulas used in real world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order. **6.EE.3** Apply the properties of operations to generate equivalent expressions. **6.EE.6** Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at	• Daily Warm Ups • Homework Assignments • Weekly Quizzes (based on homework assignments and investigations during class) • Math Reflections (write short answer questions summarizing knowledge gained from the unit. • Unit Exam ~Multiple Choice ~Short Answer ~Open Response

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		• Recognize when addition, subtraction, multiplication, or division is the appropriate operation to solve a problem. • Solve problems using operations on fractions, including mixed numbers. • Find values for variables by using operations on fractions, including mixed numbers.	hand, any number in a specified set. **6.EE.7** Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all non-negative rational numbers.	
UNIT 3 ~ 5 Weeks+ (w/circles) Nov 17 – Jan 7	What are the formulas for finding the areas of rectangles, parallelograms, triangles and circles? Why do they work? How can you find the area of a polygon drawn on a coordinate plane? On grid paper?	**CMP2: Covering & Surrounding** **Unit Outline follows CMP3 and includes CMP3 Investigations for** • Polygons on Coordinate Grids • CMP3 Investigation 4.1-4.3 Volume & Surface Area and we return to CMP2 for a mini-unit on Circles (Investigations 4.1-4.4 in CMP2)		• Pre-Assess before beginning Investigation 1 to see if it can be shortened or omitted. • Daily Warm Ups • Homework Assignments • Weekly Quizzes (based on homework assignments and investigations during class) • Math Reflections

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	What are strategies for finding the surface area of rectangular prisms? Why do they work? What is the strategy for finding the volume of a rectangular prism? Why does the strategy work?			(write short answer questions summarizing knowledge gained from the unit. • Unit Exam ~Multiple Choice • ~Short Answer
<u>UNIT 5</u> ~ 5 Weeks Book Says 24 Days	• What is the whole (unit) in a situation? • How big are the numbers in this problem? • About how large will the sum (difference, product or quotient) be? • How do decimals compare to fractions?	**CMP3: Decimal Ops –** Computing with Decimals and Percents **Use…** **CMP2: Bits & Pieces III** Develop and use benchmarks and other strategies to estimate the answers to computations with decimals. Develop the meaning of and algorithms for operations with decimals.	**6.NS.1** Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions… **6.NS.2** Fluently divide multi-digit numbers using the standard algorithm. **6.NS.3** Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. **6.RP.1** Understand the concept of a ratio and use ratio language to describe a ration relationship between two quantities. **6.RP.2** Understand the concept of a unit rate *a/b* associated with a ratio *a : b* with *b=0*, and use rate language in the context of a ratio relationship.	• Daily Warm Ups • Homework Assignments • Weekly Quizzes (based on homework assignments and investigations during class) • Math Reflections

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Jan 8 – Feb 13	• Why are percents useful in a problem?	Use the relationship between decimals and fractions to develop and understand why decimal algorithms work. Generalize number patterns to help make sense of decimal operations. Choose appropriate operations to solve a given problem. Solve problems using operations and the meaning of perents to solve percent problems of the forms *a% of b equals c* for any one of the variables *a, b,* or *c*. Create and interpret circle graphs.	**6.RP.3** Use ratio and rate reasoning to solve real-world and mathematical problems. e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams or equations. **6.RP.3b** Solve unit rate problems including those involving unit pricing and constant speed. **6.RP.3c** Find a percent of a quantity as a rate per 100; solve problems involving finding the whole, give a part and the percent. **6.EE.2** Write, read, and evaluate expressions in which letters stand for numbers. **6.EE.2a** Write expressions that record operations with numbers and with letters standing for numbers. ***6.EE.6*** *Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.******	(write short answer questions summarizing knowledge gained from the unit. • Unit Exam ~Multiple Choice ~Short Answer ~Open Response
UNIT 6 ~ 5 Weeks	• How can relationships be displayed and analyzed with tables, graphs, and equations? • What does it mean when we see regular and predictable changes in a table of data or a graph? • How can we use	**CMP3: Variables & Patterns** **USE: CMP2 + Supplement w/ CMP3 Investiagations 2.3, 3.2, and INSERT Investigation 4 in place of the CMP2 Investigation 4** • Identify quantitative variables in situations	**6.RP.2** Understand the concept of a unit rate *a/b* associated with a ratio *a : b* with *b=0*, and use rate language in the context of a ratio relationship. **6.RP.3a** Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables… **6.RP.3b** Solve unit rate problems including those involving unit pricing and constant speed. **6.RP.3d** Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or	• Daily Warm Ups • Homework Assignments • Weekly Quizzes (based on homework assignments and investigations during class) • Math Reflections (write short

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Feb 23 – Mar 30	predictable changes to solve problems? • What are the variables in the problem? • Which variables depend on or change in relation to others? • How can tables, graphs, equations, or inequalities be used to represent and analyze a relationship between variables?	• Recognize situations where changes in variables are related in predictable ways • Describe patterns of change in words, data tables, graphs, and equations • Construct tables and graphs to display relations among variables • Describe how the relationships among two variables can be seen in a table, graph, or equation • Use algebraic symbols to write rules and equations relating variables • Use data tables, graphs, equations, and inequalities to solve problems	dividing quantities. **6.NS.6b** Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.. **6.NS.6c** Find and position integers and other rational numbers on a horizontal or vertical number line diagram. **6.NS.8** Solve real-word and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. **6.EE.1** Write and evaluate numerical expressions involving whole number exponents. **6.EE.2** Write, read, and evaluate expressions in which letters stand for numbers. **6.EE.2a** Write expressions that record operations with numbers and with letters standing for numbers. **6.EE.2b** Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. **6.EE.2c** Evaluate expressions at specific values of their variables. Include expression that arise from formulas used in real world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order.	answer questions summarizing knowledge gained from the unit. • Unit Exam ~Multiple Choice ~Short Answer ~Open Response

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			6.EE.3 Apply the properties of operations to generate equivalent expressions. **6.EE.4** Identify when two expressions are equivalent. **6.EE.5** Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true. **6.EE.6** Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set. **6.EE.7** Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all non-negative rational numbers. **6.EE.8** Write an inequality of the for x>c or x<c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the for x>c or x<c have infinitely many solutions; represent solutions of such inequalities on number line diagrams. **6.EE.9** Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity (dependent variable), in terms of another quantity (independent variable). Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.	

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UNIT 7 Mar 31 – May 1	• Organize, construct and use a variety of data displays to draw conclusions and predict outcomes • Display and use measures of central tendency and measures of variability in problem solving situations • Describe how to use fractions, percents and ratios as ways to compare data sets of equal and unequal sizes • Evaluate arguments that are based on statistical claims •	**CMP2: Data Distributions (Grade 7)** **or** **CMP2: Data About Us + CC Inv. 5 Histograms & Box Plots** …		• Daily Warm Ups • Homework Assignments • Weekly Quizzes (based on homework assignments and investigations during class) • Math Reflections (write short answer questions summarizing knowledge gained from the unit. • Unit Exam ~Multiple Choice ~Short Answer ~Open Response

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Early May until MCAS (≈ 1 week)	Are you ready for the math MCAS?	Review for MCAS	**All standards**	•
End of May – June 15 (≈2.5 weeks)		Project	Review of all skills from throughout the year.	Class work, observations, grading of projects