# Hamilton-Wenham Regional School District

# MRMS Common Core Standards Grade 8

## Grade 8 Units

Unit 1 Equations

Unit 2 Transformations

Unit 3 Angles and Triangles

Unit 4 Graphing and Writing Linear Equations

Unit 5 Systems of Linear Equations

Unit 6 Functions

Unit 7 Real Numbers and the Pythagorean Theorem

Unit 8 Volume and Similar Solids

Unit 9 Data Analysis and Displays

Unit 10 Exponents and Scientific Notation

## Grade 8 Overview

The grade 8 will address concepts in the areas of the number system, expressions and equations, functions, geometry , and statistics and probability. The students will expand their understanding of the number system by exploring irrational numbers and learning how to approximate their value. Also deepened will be the students’ ability to simplify more complex and abstract expressions and solve multi-step equations. Instructional time will include multiple ways to solve systems of linear equations and modeling an association of bivariate data. Included is a more in depth exploration of functions and their use as a means to model quantitative relationships. Topics focusing on two-dimensional and three-dimensional space will examine angle relationships, similarity, and congruence. The students will study The Pythagorean Theorem and it’s converse and be able to apply it to find the distance between points.

## Grade 8 Prerequisites

Grade 6: The students study four critical areas. They will be using concepts ratio and rate to solve problems and complete the study of division of fractions. Their understanding of integers will extend to include negative numbers. The students will use expressions and equations, and increase their statistical thinking skills.

Grade 7: The students will study proportional relationships. They will develop an understanding of operations with rational numbers. They will expand their skill of working with expressions and linear equations. Geometry will include scale drawings, area, surface area and volume of two and three dimensional shapes.

The curriculum map that follows for the eighth grade uses a sequence represented by the Big Ideas Common Core Curriculum. Our current math curriculum Math Connects Course 3 is not aligned to the Common Core. We anticipate using Big Ideas Math when we fully implement Common Core instruction in school year 2014-2015. The Big Ideas Math curriculum will be piloted during the 2013-2014 year in several classes.

Instructional activities are from Big Ideas Math (BI), and “Teaching the Common Core Math Standards with Hands-On Activities (HOCC).

## Common Core (CC) Standards Curriculum Map Grade 8

## Susan Jedrey Quarter 1

## Critical Areas

Expressions and equations

### Unit 1 Equations 12 Days

|  |  |  |  |
| --- | --- | --- | --- |
| CC Standard and Content | Mathematical Practices and Essential Questions | Prior Learning | Instructional Activities(IA)Formative Assessments(FA)Summative Assessments(SA) |
| Unit 1.1 Solving Simple Equations8.EE.7a8.EE.7b | SMP 1, 3, 7, What steps would you use to solve any linear equation in one variable? | 6.EE.3Simplifying Algebraic Expressions7.NS.1dAdding and Subtracting Integers | (IA) Activitities 1-3 Sums of the Angles of a Triangle (BI pg. T2) Writing and Applying a Rule  (IA) Unit 1.1 Practice and Application(FA) Unit 1.1 Quiz |
| Unit 1.2Solving Multi-StepEquations8.EE.7b | SMP 1, 4, 6How can you solve a multi-step linear equation? |  | (IA) Solving for the Angles of a Triangle, Problem- Solving Strategy, and Puzzle Act. 1-3  (BI pg. 10-11)(IA) Unit 1.2 Practice and Application- solving two step, combining like-terms , distributive property(FA) Unit 1.1-1.2 Quiz |
| Unit 1.3Solving Equation with Variables on Both Sides8.EE.7b | SMP 1, 5, 6How do you solve equations that have variables on both sides? |  | (IA) Equal Perimeter and Area Problems, Act.1-3 (BI pg 16)(IA) Unit 1.3 Practice and Application-Solving an Equation with Variables on Both Sides, Multi-Step with Distributive Property  |

 Common Core (CC) Standards Curriculum Map Grade 8

## Susan Jedrey Quarter 1

### Critical Areas – Expressions and Equations

### Unit 1 Equations 12 Days

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| --- | --- | --- | --- |
| CC Standard and Content | Mathematical Practices and Essential Questions | Prior Learning | Instructional Activities(IA)Formative Assessments(FA)Summative Assessments(SA) |
| Unit 1.3bSolutions of Linear Equations8.EE.7b | SMPWhat indicates an equation has one solution, infinitely many or no solutions? |  | (IA) Unit 1.3b Practice and ApplicationMid Unit Quiz 1.1-1.3b |
| Unit 1.4Rewriting Equations and Formulas | SMPHow can you use a formula for one measurement to write the formula for different measurement? |  | (IA) Using Perimeter and Area Formulas (BI pg 24) (solve equations for a specified variable)(IA) Unit 1.4 Practice and Application |
| Unit 1.5Converting Units of Measurement | SMPHow can you convert from one measurement system to another? |  | (IA) Converting Units of Measurement (IA) Unit 1.5 Practice and Application(FA) Unit 1 Test |

Common Core (CC) Standards Curriculum Map Grade 8

## Susan Jedrey Quarter 1

## Critical Areas - Geometry

### Unit 2 Transformations 19 Days

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| --- | --- | --- | --- |
| CC Standard and Content | Mathematical Practices and Essential Questions | Prior Learning | Instructional Activities(IA)Formative Assessments(FA)Summative Assessments(SA) |
| Unit 2.1Congruent Figures8.G. 2 | SMP 1, 5, 6How can you identify congruent triangles? | 6.NS.6bReflecting Points6.G.3Drawing a Polygon in a Coordinate Plane | (IA) Activity 1-2 Identify Congruent Triangles and Forming Congruent Triangles BI pg. T42(IA) Practice and Problem Solving |
| Unit 2.2 Translations8. G. 18. G. 28. G. 3 | SMP 3, 8 How can you arrange tiles to make a tessellation? |  | (IA) Describing Tessellations Tessellations and Basic Shapes Designing Tessellations (BI pg 48)(IA) Practice and Problem Solving (BI pg.52) |
| Unit 2.3Reflections8. G. 18. G. 28. G. 3 | SMP 3, 4, 6How can you use reflections to classify a frieze pattern? |  |  (IA) Frieze Reflections and Reflections Reflecting in the Coordinate Plane (BI pg. 54)(IA) Practice and Problem Solving  |
| Unit 2.4Rotations | SMP 3, 6What are the three basic ways to move an object in a plane? |  | (IA) Activity 1-2 Three Basic Ways to Move Things Rotating in the Coordinate Plane (BI pg. 60)(IA) Practice and Problem Solving(FA) 2.1-2.4 Quiz |

Common Core (CC) Standards Curriculum Map Grade 8

## Susan Jedrey Quarter 1

## Critical Areas - Geometry

### Unit 2 Transformations

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| --- | --- | --- | --- |
| CC Standard and Content | Mathematical Practices and Essential Questions | Prior Learning | Instructional Activities(IA)Formative Assessments(FA)Summative Assessments(SA) |
| Unit 2.5Similar Figures8. G. 4 | SMP 4, 6 How can you use proportions to help make decisions in art, design, and magazine layouts? |  | (IA) Activity 1-2 Reducing Photographs Creating Designs (BI pg. 70)(IA) Practice and Problem-Solving |
|  Unit 2.6Perimeter and Area of Similar Figures8. G. 4 | SMP 1, 4, 6, 8How do changes in dimensions of similar geometric figures affect the perimeter and area of the figures? |  | (IA) Activity 1-4 Creating Similar Figures Finding Patterns for Perimeters Finding Patterns for Areas Drawing and Labeling Similar Figures(IA) Practice and Problem-Solving |
| Unit 2.7Dilations8. G. 38. G. 4 | SMP 3, 4, 6How can you enlarge or reduce a figure in the coordinate plane? |  |  (IA) Activity 1-3 Comparing Triangles in a Coordinate PlaneDrawing Triangles in a Coordinate PlaneSummarizing Transformations(IA) Practice and Problem-Solving(FA) 2.5-2.7 Quiz(FA) Chapter Review and Test |

Common Core (CC) Standards Curriculum Map Grade 8

## Susan Jedrey Quarter 2

## Critical Areas - Geometry

### Unit 3 Angles and Triangles 13 Days

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| CC Standard and Content | Mathematical Practices and Essential Questions | Prior Learning | Instructional Activities(IA)Formative Assessments(FA)Summative Assessments(SA) |
| Unit 3.1Parallel Lines and Transversals8.G.5 | SMP 6How can you describe angles formed by parallel lines and transversals? | 7.G.5Adjacent and Vertical AnglesComplementary and Supplementary Angles | (IA) Activity 1-3 (BI)1. A Property of Parallel Lines2. Creating Parallel Lines3. Using Technology(IA) Angles, Parallel Lines and Transversals(HOCC)(IA) Practice and Problem Solving |
| Unit 3.2Angles of Triangles8.G.5 | SMP 1, 7, 8How can you describe the relationships among the angles of a triangle? |  | (IA) Activity 1-3 (BI)1.Exploring the Interior Angles of a Triangle2.Interior Angles #23.Exploring an Exterior Angle of a Triangle4.Measuring the Exterior Angles of a Triangle(IA) Finding the Sum of the Interior Angles of a Triangle (HOCC)(IA) Practice and Problem SolvingMid-Unit Quiz 3.1-3.2 |
| Unit 3.3Angles of Polygons8.G.5 | SMP 5, 8How can you find the sum of the interior angle measures and the sum of the exterior angle measures of a polygon? |  | (IA) Activity 1-2 (BI)1. Exploring the Interior Angles of a Polygon2. Exploring the Exterior Angles of a Polygon(IA) Practice and Problem Solving  |
| Unit 3.4Using Similar Triangles8.G.5 | SMP 2, 5, 8How can you use angles to tell whether triangles are similar? |  | (IA) Activity 1-3 (BI)1. Constructing Similar Triangles2. Using Technology to Explore Triangles3. Indirect Measurement(IA) Angle-Angle Similarity (HOCC)(IA) Practice and Problem Solving(FA) Unit Quiz 3.3-3.4 (FA) Unit 3 Test  |

Common Core (CC) Standards Curriculum Map Grade 8

## Susan Jedrey Quarter 2

### Critical Areas -Expressions and Equations

### Unit 4 Graphing and Writing Linear Equations 19 Days

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| CC Standard and Content | Mathematical Practices and Essential Questions | Prior Learning | Instructional Activities(IA)Formative Assessments(FA)Summative Assessments(SA) |
| Unit 4.1Graphing Linear Equations8.EE.5 | SMP 3, 4, 5How can you recognize a linear equation? How do you draw its graph?How does slope represent a unit rate? | 6.EE.2cEvaluating Expressions6.NS.6cPlotting Points | (IA) Activity 1-2Graphing a Linear EquationUsing a Graphing Calculator(IA) Practice Exercises |
| Unit 4.2Slope of a Line8.EE.6 | SMP 1, 2, 6How can you use the slope of a line to describe the line? |  | (IA) Activity 1-2Finding the Slope of a LineUsing Similar TrianglesDrawing Lines with Given Slopes(IA) Practice Exercises |
| Unit 4.3Graphing Proportional Relationships8.EE.58.EE.6 | SMP 2, 3a, 6How can you describe the graph of the equation y=mx? |  |  (IA) Activity 1-3Identifying Proportional RelationshipsAnalyzing Proportional RelationshipsDeriving an Equation(IA) Practice and Problem Solving(SA) Reflective Focus Question Summarize the similarities and differences on proportional and nonproportional linear relationshipsMid-Unit Quiz 4.1-4.3 |
| Unit 4.4Graphing Linear Equations in Slope-Intercept Form8.EE.6 | SMP 1, 2, 3, 6How can you describe the graph of the equation y = mx + b? |  | (IA) Activity 1-2Analyzing Graphs of LinesDeriving an Equation(IA) Practice and Problem Solving |

Common Core (CC) Standards Curriculum Map Grade 8

## Susan Jedrey Quarter 2

## Critical Areas – Expressions and Equations

### Unit 4 Graphing and Writing Linear Equations 19 Days

|  |  |  |  |
| --- | --- | --- | --- |
| CC Standard and Content | Mathematical Practices and Essential Questions | Prior Learning | Instructional Activities(IA)Formative Assessments(FA)Summative Assessments(SA) |
| Unit 4.5Graphing Linear Equations in Standard Form8.EE.6 | SMP 7,How can you describe the graph of the equation ax + by = c? |  | (BI-IA)Activity 1 -2 Using a Table to Plot Points Rewriting an Equation(IA) Practice and Problem Solving(FA) 4.4-4.5 Quiz |
| Unit 4.6Writing Equations in Slope-Intercept Form8.F.4 | SMP 1, 4How can you write an equation of a line when you are given the slope and y-intercept of the line? |  | (BI-IA) Activity 1 -3Writing Equation of LinesDescribing a ParallelogramInterpreting the Slope and the y-intercept(IA) Practice and Problem Solving |
| Unit 4.7Writing Equations in Point-Slope Form8.F.4 | SMP 1, 3, 7How can you write the equation of a line if given the slope and a point? |  |  (BI-IA) Activity 1 -3 pg. 184Writing Equations of LinesDeriving an EquationWriting an Equation(IA) Practice and Problem Solving(FA) 4.6-4.7 Quiz(FA) Unit 4 Test |

Common Core (CC) Standards Curriculum Map Grade 8

## Susan Jedrey Quarter 3

**Critical Areas – Expressions and Equations**

### Unit 5 Systems of Linear Equations 13 Days

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| CC Standard and Content | Mathematical Practices and Essential Questions | Prior Learning | Instructional Activities(IA)Formative Assessments(FA)Summative Assessments(SA) |
| Unit 5.1Solving Systems of Linear Equations by Graphing8.EE.8a8.EE.8b8.EE.8c | SMP 1, 2, 5, 6How can you solve a system of linear equations? | 6. EE.3Combining Like-Terms8.EE.7bSolving Multi-Step Equations | (BI-IA) Activities 1-4Writing a System of Linear EquationsUsing a Table to Solve a SystemUsing a Graph to Solve a SystemUsing a Graphing Calculator(IA) Practice and Problem Solving |
| Unit 5.2Solving Systems of Linear Equations by Substitution8.EE.8b8.EE.8c | SMP 1, 7How can you use substitution to solve a system of linear equations? |  | (BI-IA) Activities 1-3Using Substitution to Solve a SystemWriting and Solving a System of EquationsSolving a Secret Code(IA) Practice and Problem SolvingMid-Unit Quiz 5.1-5.2 |
| Unit 5.3Solving Systems of Linear Equations by Elimination8.EE.8b8.EE.8c | SMP 1, 3a, 7How can you use elimination to solve a system of equations? |  |  (BI-IA) Activities 1-3Using Elimination to Solve a System 1 + 2Solving a Secret Code(IA) Practice and Problem Solving |
| Unit 5.4Solving Special Systems of Linear Equations8.EE.7 8.EE.8b8.EE.8a 8.EE.8c | SMP 1, 7, 8Can a system of equations have no solution or many solutions? |  | (BI-IA) Activities 1-3Writing a System of Linear EquationsUsing a Table to Solve a SystemUsing a Graph to Solve a Puzzle(IA) Practice and Problem Solving(FA) Unit 5 Test |

Common Core (CC) Standards Curriculum Map Grade 8

## Susan Jedrey Quarter 3

## Critical Areas - Functions

### Unit 6 Functions 14 Days

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| CC Standard and Content | Mathematical Practices and Essential Questions | Prior Learning | Instructional Activities(IA)Formative Assessments(FA)Summative Assessments(SA) |
| Unit 6.1Relations and Functions8. F. 1 | SMP 1b, 2,How can you use a mapping diagram to show the relationship between two data sets? | 5.OA.3Identifying Patterns7.NS.3Evaluating Algebraic Expressions | (IA) Activities 1-3 (BI)Constructing Mapping DiagramsDescribing SituationsInterpreting Mapping Diagrams(IA) Using a Function Machine (HOCC)(IA) Practice and Problem Solving (BI) |
| Unit 6.2Representations of Functions8. F. 1 | SMP 3What are different ways a function can be represented? |  | (IA) Activities 1-3 (BI)Describing a FunctionUsing a TableUsing a GraphInterpreting a Graph(IA) What’s My Function (HOCC)(IA) Practice and Problem Solving (BI) |
| Unit 6.3Linear Functions8. F. 28. F. 38. F. 4 | SMP 1, 8How can you use a function to describe a linear pattern? |  |  (IA) ACTIVITY 1-2 (BI)1. Finding Linear Patterns2. Finding Linear Patterns #2(IA) “What’s My Function?”(HOCC)(IA) Practice and Problem Solving (BI)Mid-Unit Quiz 6.1-6.3 |
| Unit 6.4Comparing Linear and Nonlinear Functions8. F. 3 | SMP 4, 6, 7, 8How can you recognize what a pattern is linear or nonlinear? |  | (IA) ACTIVITY 1-2 (BI)1. Finding Patterns for Similar Figures2. Comparing Linear and Nonlinear Functions(IA) “A Function Scavenger Hunt” (HOCC)(IA) Practice and Problem Solving (BI) |
| Unit 6.5Analyzing and Sketching Graphs8. F. 5 | SMP 2, 3, 6How can you use a graph to represent relationships between quantities without using numbers? |  | (IA) ACTIVITY 1-4 (BI)1. Interpret a Graph2. Matching Situations to Graphs3.Comparing Graphs4.Comparing Graphs #2(IA) Describing a Graph (HOCC)(IA) Practice and Problem Solving (BI) |

Common Core (CC) Standards Curriculum Map Grade 8

## Susan Jedrey Quarter 3

## Critical Areas - Geometry

### Unit 7 Real Numbers and the Pythagorean Theorem 15 Days

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| CC Standard and Content | Mathematical Practices and Essential Questions | Prior Learning | Instructional Activities(IA)Formative Assessments(FA)Summative Assessments(SA) |
| Unit 7.1Finding Square Roots8.EE.2 | SMP 1a, 6How can you find the dimensions of a square or a circle when you are given its area? | 5.NBT.3bComparing Decimals7.NS.17.NS.2Using Order of Operations | (IA) Activities 1-3 (BI)-Finding Square Roots-Using Square Roots-The Period of a Pendulum(IA) Creating Squares and Cubes (HOCC)(IA) Practice and Problem Solving |
| Unit 7.2Finding Cube Roots 8.EE.2 | SMP 1, 2, 5, 6How is a cube root of a number different from the square root of a number? |  | (IA) Activities 1-2 (BI)-Finding Cube Roots-Using Prime Factorization to Find Cube Roots(IA) Practice and Problem Solving |
| Unit 7.3The Pythagorean Theorem8.EE.28.G.68.G.78.G.8 | SMP 3, 4, 6How are the lengths of the sides of a right triangle related? |  |  (IA) Activities 1-3 (BI)-Discovering the Pythagorean Theorem-Using the Pythagorean Theorem in Two Dimensions-Using the Pythagorean Theorem in Three Dimensions(IA) “I Can Explain It”  “The Pythagorean Theorem”(HOCC)(IA) Practice and Problem Solving(FA) 7.1-7.3 Quiz |
| Unit 7.4Approximating Square Roots8.NS.18.NS.28.EE.2 | SMP 1a, 3, 4, 5How can you find decimal approximations of square roots that are not rational? |  | (IA) Activities 1-3 (BI)1. Approximating Square Roots2 -3 Approximating Square Roots Geometrically(IA) “Math Tic-Tac-Toe” (HOCC) “Zeroing-In” “Irrational Numbers-They’re Insane”(IA) Practice and Problem Solving |
| Unit 7.5Using the Pythagorean Theorem8.EE.28.G.68.G.78.G.8 | SMP 3, 4, 7In what other ways can you use the Pythagorean Theorem? |  | (IA) Activities 1-3 (BI)1. Analyzing Converses of Statements2. The Converse of the Pythagorean Theorem3. Developing the Distance Formula(IA) “Applying the Pythagorean Theorem”(HOCC) “Finding the Distance”(IA) Practice and Problem Solving(FA) 7.4-7.5 Quiz(FA) Unit 7 Test |

Common Core (CC) Standards Curriculum Map Grade 8

## Susan Jedrey Quarter 4

## Critical Areas - Geometry

### Unit 8 Volume and Similar Solids 13 Days

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| --- | --- | --- | --- |
| CC Standard and Content | Mathematical Practices and Essential Questions | Prior Learning | Instructional Activities(IA)Formative Assessments(FA)Summative Assessments(SA) |
| Unit 8.1Volume of Cylinders8.G.9 | SMP 1, 2, 3, 4, How can you find the volume of a cylinder? | 7.G.6Finding the Area of a Composite Figure7.G.4Finding the Areas of Circles | (IA) Activity 1-4 (BI)1. Finding a Formula Experimentally2.Making a Business Plan3. Science Experiment4. Comparing Cylinders(IA) “Finding the Volume”(HOCC)(IA) Practice and Problem Solving |
| Unit 8.2Volume of Cones8.G.9 | SMP 2, 4How can you find the volume of a cone? |  | (IA) Activity 1-3 (BI)1. Finding a Formula Experimentally2. Summarizing Volume Formulas3. Volumes of Oblique Solids(IA) “Finding the Volume”(HOCC)(IA) Practice and Problem Solving(FA) 8.1-8.2 Quiz |
| Unit 8.3Volume of Spheres8.G.9 | SMP 1, 4, 7How can you find the volume of a sphere? |  |  (IA) Activity 1-3 (BI)1. Exploring the Volume of a Sphere2. Deriving the Formula for the Volume of a Sphere3. Formula for the Volume of a Sphere 2(IA) Practice and Problem Solving |
| Unit 8.4Surface Areas and Volumes of Similar Solids8.G.9 | SMP 8When the dimensions of a solid increase by a factor of k, how does the surface area change? How does the volume change? |  | (IA) Activity 1-2 (BI)1. Comparing Surface Areas and Volumes #12. Comparing Surface Areas and Volumes #2(IA) “Out of This World”(HOCC)(IA) Practice and Problem Solving(FA) 8.3-8.4 Quiz(FA) Unit 8 Test |

Common Core (CC) Standards Curriculum Map Grade 8

## Susan Jedrey Quarter 4

## Critical Areas

### Unit 9 Data Analysis and Displays 12 Days

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| CC Standard and Content | Mathematical Practices and Essential Questions | Prior Learning | Instructional Activities(IA)Formative Assessments(FA)Summative Assessments(SA) |
| Unit 9.1Scatter Plots8.SP.1 | SMP 1a, 3, 4, 5, 6How can you construct and interpret a scatter plot? | 6.NS.6cPlotting Points8.F.4Writing an Equation Using Two Points | (IA) Activities 1-31. Constructing a Scatter Plot2. Constructing a Scatter Plot #23. Identifying Scatter Plots(IA) Height-Arm Span Scatter Plot |
| Unit 9.2Lines of Fit8.SP.18.SP.28.SP.3 | SMP 1a, 4, 5,How can you use data to predict an event? |  | (IA) Activities 1-2 (BI)1. Representing Data by a Linear Equation2. Representing Data by a Linear Equation #2(IA) “Drawing the Line of Best Fit” (HOCC)(IA) Practice and Problem Solving(FA) 9.1-9.2 Quiz |
| Unit 9.3Two-Way Tables8.SP.4 | SMP 2, 3aHow can you read and make a two-way table? |  |  (IA) Activities 1-2 (BI)1. Reading a Two-Way Table2. Analyzing Data(IA) “Analyzing Two-Way Tables” (HOCC)(IA) Practice and Problem Solving |
| Unit 9.4Choosing a Data Display8.SP.1 | SMP 3, 4. 6How can you display data in a way that helps you make decisions? |  | (IA) Activities 1-21. Displaying Data2. Statistics Project(IA) Practice and Problem Solving |

Common Core (CC) Standards Curriculum Map Grade 8

## Susan Jedrey Quarter 4

## Critical Areas – Expressions and Equations

### Unit 10 Exponents and Scientific Notation 18 Days

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| CC Standard and Content | Mathematical Practices and Essential Questions | Prior Learning | Instructional Activities(IA)Formative Assessments(FA)Summative Assessments(SA) |
| Unit 10.1Exponents8.EE.1 | SMP 6, 8How can you use exponents to write numbers? | 6.EE.1Using Order of Operations6.NS.3Multiplying and Dividing Decimals | (IA) Activity 1-4 (BI)1. Using Exponent Notation2. Using Exponent Notation #23. Writing Powers as Whole Numbers4. Writing a Power(IA) What Does It Equal? (HOCC)(IA) Practice and Problem Solving |
| Unit 10.2Product of Powers Property8.EE.1 | SMP How can you use inductive reasoning to observe patterns and write general rules involving properties of exponents? |  | (IA) Activity 1-4 (BI)1. Finding Products of Powers2. Writing a Rule for Powers of Powers3. Writing a Rule for Powers of Products4. The Penny PuzzleIA) Practice and Problem Solving |
| Unit 10.3Quotient of Powers Property8.EE.1 | SMP 4, 6, 7, 8How can you divide two powers that have the same base? |  |  (IA) Activity 1-2 (BI)1. Finding the Quotient of Powers2. Comparing VolumesIA) Practice and Problem Solving |
| Unit 10.4Zero and Negative Exponents8.EE.1 | SMP 1a, 2, 3, 8How can you evaluate a nonzero number with an exponent of zero? How can you evaluate a nonzero number with a negative integer exponent? |  | (IA) Activity 1-4 (BI)1. Using the Quotient of Powers Property2. Using the Product of Powers Property3. Using the Product of Powers Property #24. Using a Place Value Chart(IA) Practice and Problem SolvingMid-Unit Quiz 10.1-10.4 |

Common Core (CC) Standards Curriculum Map Grade 8

## Susan Jedrey Quarter 4

## Critical Areas – Expressions and Equations

### Unit 10 Exponents and Scientific Notation 18 Days

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| CC Standard and Content | Mathematical Practices and Essential Questions | Prior Learning | Instructional Activities(IA)Formative Assessments(FA)Summative Assessments(SA) |
| Unit 10.5Reading Scientific Notation8.EE.38.EE.4 | SMP 2, 5, 7How can you read numbers that are written in scientific notation? |  | (IA) Activity 1-41. Very Large Numbers2. Very Small Numbers3. Powers of 10 Matching Game4. Choosing Appropriate Units(IA) Practice and Problem Solving |
| Unit 10.6Writing Scientific Notation8.EE.38.EE.4 | SMP 1a, 2, 4, 5, 6How can you write a number in scientific notation? |  | (IA) Activity 1-3 (BI)1. Finding pH Levels2. Writing Scientific Notation3. Making a Scale Drawing(IA) Practice and Problem Solving |
| Unit 10.7Operations in Scientific Notation8.EE.38.EE.4 | SMP 1, 3a, 5, 7How can you perform operations with numbers written in scientific notation? |  |  (IA) Activity 1-4 (BI)1. Adding Numbers in Scientific Notation2. Adding Numbers in Scientific Notation #23. Multiplying Numbers in Scientific Notation4. Using Scientific Notation to Estimate(IA) Practice and Problem Solving(FA) Mid-Unit Quiz 10.5-10.7(FA) Unit 10 Test |