# West Carroll Special School District
# Instructional Plan/Pacing Guide, 2016-2017

| | | | |
|---|---|---|---|
| **Teacher:** | Marcia Miller | **Co-Teacher:** | |
| **Subject:** | Math | **Grade Level:** | 6 |

| Unit Title | TN Standard # ACT Standard # (When Applicable) | Major Topics and Concepts Addressed | Major Activities Assignments Field Trips | Assessing Student Mastery<br>What student generated product will demonstrate that he/she has met the learning expectation? | Pacing (Beginning and ending dates of instruction) |
|---|---|---|---|---|---|
| Ratios and Proportions | 6.NO.4<br>6.RP.1<br>6.RP.2<br>6.RP.3 | Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.<br><br>Understand the concept of a ratio, and use ratio language to describe a ratio relationship between two quantities.<br><br>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.<br><br>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).<br><br>Make tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs | The students will:<br>- Take notes on pages from book<br>- Complete assignments<br>- Make foldables to go in binder to give additional examples of the material<br>- Use manipulative to represent models of ratios and rates<br>- Complete work in pairs, groups, and on the board.<br>- Complete a unit rate project in class with a partner | **1.** Find greatest common factors.<br>**2.** Find least common multiples<br>**3**. Write and interpret ratios.<br>**4.** Find unit rates related to ratios.<br>**5.** Write equivalent ratios, including ratio tables.<br>**6.** Use ratios to convert measurements.<br>**7.** Plot pairs of ratios on the coordinate plane.<br>**8.** Solve unit rate problems such as unit pricing<br>**9.** Write a fraction or ratio as a percent.<br>**10.** Find a number given the part and the percent.<br>**11.** Find a percent of a number. | August 8-September 23 |

| | | | | | |
|---|---|---|---|---|---|
| | | of values on the coordinate plane. Use tables to compare ratios.<br><br>Solve unit rate problems including those involving unit pricing and constant speed.<br><br>Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.<br><br>Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. | | | |
| Numbers and Operation | 6.NS.1<br>6.NS.2<br>6.NS.3<br>6.NS.5<br>6.NS.6<br>6.NS.7<br>6.NS.8 | Fluently divide multi-digit numbers using the standard algorithm.<br><br>Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.<br><br>Use the Distributive Property to express a sum of two whole numbers 1–100 with common factor as a multiple of a sum of two whole numbers with no common factor.<br><br>Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, | The students will:<br>-Take notes on pages from book<br>-Complete assignments<br>-Make foldables to go in binder to give additional examples of the material<br>- Complete work in pairs, groups, and on the board.<br>-Use counters to represent integers.<br>-Use a number line to explore the absolute value of an integer.<br>-Model rational numbers using a number line.<br>integers. | The students will:<br>-Add and subtract decimals.<br>-Estimate the products and quotients of decimals and judge the reasonableness of the results.<br>-Multiply decimals by decimals<br>-Multiply by powers of 10 numbers.<br>-Divide decimals by whole numbers and decimals.<br>-Estimate products with fractions<br>-Multiply fractions and whole numbers, fractions and fractions, mixed numbers<br>-Change units of measure in the customary system | September 26-December 20 |

| | | | | | |
|---|---|---|---|---|---|
| | | elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.<br><br>Understand a rational number as a point on the number line.<br><br>Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.<br><br>Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on a 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.<br><br>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.<br><br>Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other | -Use a number line to explore the absolute value of an integer.<br>-Model rational numbers using a number line | -Divide whole numbers by fractions, and fractions by fractions, and mixed numbers<br>-Use integers to represent real-world situations.<br>-Find the absolute value of an integer.<br>-Compare and order integers.<br>-Write positive and negative fractions as decimals.<br>-Compare and order rational numbers<br>-Graph ordered pairs on the coordinate plane.<br>-Find the distance between 2 points on the coordinate plane. | |

| | | | | | |
|---|---|---|---|---|---|
| | | rational numbers on a coordinate plane.<br><br>Understand ordering and absolute value of rational numbers.<br><br>Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.<br><br>Write, interpret, and explain statements of order for rational numbers in real-world contexts.<br><br>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.<br><br>Distinguish comparisons of absolute value from statements about order.<br><br>Solve real-world 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. | | | |
| Expressions | 6.EE.1<br>6.EE.2<br>6.EE.3<br>6.EE.4 | 1. Write and evaluate numerical expressions involving whole-number exponents. | The students will:<br>- Take notes on pages from book | The students will:<br>- Represent numbers using exponents | January 9-February10 |

| | | | | | |
|---|---|---|---|---|---|
| | 6.EE.6<br>6.NS.4 | 2. Write, read, and evaluate expressions in which letters stand for numbers. a. Write expressions that record operations with numbers and with letters standing for numbers.. c. Evaluate expressions at specific values of their variables. Include expressions 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 (Order of Operations<br>3. Apply the properties of operations to generate equivalent expressions.<br>4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them<br>5. 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. | - Complete assignments<br>- Make foldables to go in binder to give additional examples of the material<br>- Explore parts of an expression in an inquiry lab | - Find the value of expressions using order of operations<br>- Evaluate algebraic expressions<br>- Translate verbal/algebraic expressions<br>- Use properties to simplify expressions<br>- Use Distributive property to computer problems mentally and simplify expressions<br>- Solve and write addition, subtraction, multiplication, and division equation<br>- Complete function tables for given function rules<br>- Solve inequalities by using mental math.<br>- Write and graph inequalities<br>- Solve 1-step inequalities<br>.<br>.<br>. | |
| Geometry | 6.G.1<br>6.G.2<br>6.G.3<br>6.G.4<br>6.NS.8 | 1. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. | The students will:<br>- Model the area formula for parallelograms, triangles, trapezoids<br>- Draw polygons in the coordinate | The students will:<br>- Find the area of parallelograms<br>- Find the areas and missing dimensions of triangles<br>- Find the area of trapezoids | February 13-March 3 |

| | | | | | |
|---|---|---|---|---|---|
| | | 2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.<br>3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world an mathematical problems.<br>4. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.<br>5. Solve real-world 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. | plane and use coordinates to find the length<br>- Use models to find the volume of rectangular prisms<br>- Draw polygons in the coordinate plane and use coordinates to find the length<br>- Use nets to find surface area of triangular prisms square pyramid and rectangular prisms<br>- Take notes on pages from book<br>- Complete assignments<br>- Make foldables to go in binder to give additional examples of the material | - Find the area of irregular figures<br>- Fine the areas of composite figures<br>- Draw polygons in the coordinate plane and use coordinates to find the length<br>- Find the volume of rectangular prisms, triangular prisms<br>- Find the surface area of rectangular and triangular prisms, and pyramids | |

| | | | | | |
|---|---|---|---|---|---|
| Measurement | 6.SP.1<br>6.SP.2<br>6.SP.3<br>6.SP.4<br>6.SP.5 | 1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers<br>2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.<br>3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number. Summarize and describe distributions.<br>4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.<br>5. Summarize numerical data sets in relation to their context, such as by:<br>a. Reporting the number of observations.<br>b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.<br>c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.<br>d. Relating the choice of measures of center and variability to the shape of | The students will:<br>- Collect and display data<br>- Select an appropriate display for a set of data<br>- Take notes on pages from book<br>- Complete assignments<br>- Make foldables to go in binder to give additional examples of the material<br>- | The students will:<br>- Summarize data using the mean, median, and mode<br>- Find the measures of variation<br>- Find and interpret the mean absolute deviation for a data set<br>- Choose an appropriate measure of central tendency<br>- Construct and analyze line plots, histograms<br>- Display and interpret data in box plots<br>- Draw and interpret line graphs<br>- Choose an appropriate unit and tool to measure an object | March 6 – April 21 |

| | | | | | |
|---|---|---|---|---|---|
| | | the data distribution and the context in which the data were gathered. | | | |
| | | | | | |
| | | | | | |