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**Coal City Unit District #1**  
**Fifth Grade**  
**Math Curriculum**

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**MA.5:1**      **Students will write and interpret numerical expressions, analyze patterns, and describe and form relationships. (OA 1, 2, 3)**

- MA.5:1-1      Evaluate an answer given an expression with or without parentheses, brackets, or braces.
- MA.5:1-2      Write a numerical or algebraic expression with or without parentheses, brackets, or braces.
- MA.5:1-3      Generate two numerical patterns when given two starting terms and two rules to follow.
- MA.5:1-4      Form ordered pairs from corresponding terms of two given patterns and graph the ordered pairs on the coordinate plane.
- MA.5:1-5      Identify apparent relationships between corresponding terms.
- MA.5:1-6      Distinguish between the 5 properties of multiplication.

**MA.5:2**      **Students will demonstrate understanding of the place value system. (NBT 1, 2, 3, 4)**

- MA.5:2-1      Identify the value of each place value in a multi-digit number.
- MA.5:2-2      Recognize that digits in a multi-digit number represent 10 times as much as the place value to its right and  $\frac{1}{10}$  of the place value to its left.
- MA.5:2-3      Recognize patterns in the number of zeros and the placement of the decimal point in the product/quotient when multiplying or dividing a number by a power of ten.
- MA.5:2-4      Use a model to name a decimal to thousandths.
- MA.5:2-5      Write a decimal as a fraction/mixed number and vice versa.
- MA.5:2-6      Order multiple decimals.
- MA.5:2-7      Compare two decimals to thousandths place using  $<$ ,  $>$ ,  $=$ .
- MA.5:2-8      Round numbers to a specified place value.
- MA.5:2-9      Write the standard, expanded, and word form of a number, including decimals.

**MA.5:3 Students will perform operations with multi-digit whole numbers and with decimals to thousandths. (NBT 5, 6, 7)**

- MA.5:3-1 Multiply multi-digit whole numbers.
- MA.5:3-2 Calculate quotients of whole numbers with up to four-digit dividends and up to two-digit divisors with and without remainders.
- MA.5:3-3 Add and subtract decimals to thousandths using models, drawings or strategies based on place value.
- MA.5:3-4 Perform operations with multi-digit whole numbers and decimals to thousandths.
- MA.5:3-5 Use exponential terms to represent repeated multiplication of the same number and vice versa.
- MA.5:3-6 Find patterns when dividing multiples of 10.
- MA.5:3-7 Use strategies to estimate sums, differences, products, and quotients.
- MA.5:3-8 Identify equivalent decimals.

**MA.5:4 Students will write equivalent fractions as a strategy to add and subtract fractions. (NF 1, 2)**

- MA.5:4-1 Add and subtract fractions with unlike denominators using equivalent fractions.
- MA.5:4-2 Solve word problems involving adding and subtracting of fractions with unlike denominators.
- MA.5:4-3 Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of an answer.
- MA.5:4-4 Convert mixed numbers to improper fractions and vice versa.

**MA.5:5 Students will apply and extend previous understandings of multiplication and division to multiply and divide fractions. (NF 3, 4, 5, 6, 7)**

- MA.5:5-1 Solve problems involving division of whole numbers where the answer is a mixed number or fraction.
- MA.5:5-2 Calculate the product of two fractions or one fraction and a whole number.
- MA.5:5-3 Solve a real-world problem involving multiplication of fractions and/or mixed numbers.
- MA.5:5-4 Divide a unit fraction by a whole number and vice versa.
- MA.5:5-5 Compare the size of a product to the size of one factor based on the size of the other factor.
- MA.5:5-6 Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number and vice versa.
- MA.5:5-7 Calculate the area of a rectangle with fractional side lengths.
- MA.5:5-8 Interpret a fraction as division of the numerator by the denominator.
- MA.5:5-9 Solve real world problems involving division of fractions by whole numbers and division of whole numbers by fractions.

- MA.5:6**      **Students will use appropriate units and tools to measure, convert like measurement units within a given measurement system, and represent and interpret data. (MD 1, 2)**
- MA.5:6-1      Convert units of measurement within the US Customary measurement system, and use them to solve real world problems.
- MA.5:6-2      Convert units of measurement within the metric measurement system, and use them to solve real world problems.
- MA.5:6-3      Create a line plot to display a data set of measurements in fractions of a unit (ex.  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ ), and use operations on fractions to solve problems involving information presented in the line plots.
- MA.5:6-4      Measure lengths with a inch ruler to the nearest eighth inch.
- MA.5:6-5      Measure lengths with a metric ruler using millimeters and centimeters.
- MA.5:7**      **Students will understand concepts of volume and relate volume to multiplication and to addition. (MD 3, 4, 5)**
- MA.5:7-1      Calculate volume in cubic units.
- MA.5:7-2      Calculate the volume of a figure composed of two non-overlapping rectangular prisms by adding the volume of the two non-overlapping parts.
- MA.5:7-3      Solve real world and mathematical problems involving volume.
- MA.5:8**      **Students will classify two-dimensional and three-dimensional figures and demonstrate an understanding of geometric concepts. (G 1, 2, 3, 4)**
- MA.5:8-1      Classify two-dimensional figures into categories based on their properties.
- MA.5:8-2      Identify three-dimensional figures based on their properties.
- MA.5:8-3      Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.
- MA.5:8-4      Plot ordered pairs on a coordinate plane.
- MA.5:8-5      Graph and interpret points on the coordinate plane to represent and solve real world and mathematical problems.
- MA.5:8-6      Determine the number of faces, edges, and vertices of a three-dimensional figure.
- MA.5:9**      **Students will be able to complete an extended response item by using an appropriate strategy to find a correct answer and write a clear explanation of the work they did.**
- MA.5:9-1      Find the number of ways an event can occur using a mathematically correct strategy. (e.g. multiplication principle, an organized list, a tree diagram)
- MA.5:9-2      Select and perform computational procedures to solve problems.
- MA.5:9-3      Determine the mean of a set of whole numbers.
- MA.5:9-4      Solve linear equations involving a variable to represent an unknown.