
Coal City Unit District #1
Math 6+
Math Curriculum

MA.6P:1 **Students will be able to divide and order fractions and perform mathematical operations with decimals and whole numbers. (6.NS.1, 6.NS.2, 6.NS.3)**

MA.6P:1-1 Divide fractions and mixed numbers. (e.g. How much chocolate will each person get if 3 people share $\frac{1}{2}$ lb. of chocolate equally? or How many $\frac{3}{4}$ -cup servings are in $\frac{2}{3}$ of a cup of yogurt?)

MA.6P:1-2 Add and subtract multi-digit decimals.

MA.6P:1-3 Multiply and divide multi-digit decimals.

MA.6P:1-4 Fluently divide multi-digit numbers a maximum dividend of 5 digits and maximum divisor of 2 digits.

MA.6P:2 **Students will be able to interpret rational numbers on a number line and a coordinate system. (6.NS.5, 6.NS.6, 6.NS.7, 6.NS.8, 6.G.3))**

MA.6P:2-1 Identify relationships of positive and negative numbers on a number line and in real-world.

MA.6P:2-2 Determine the opposite and absolute value of a rational number.

MA.6P:2-3 Determine the position of numbers in relationship with other integers.

MA.6P:2-4 Determine the reflection of an ordered pair across an axis on a coordinate system.

MA.6P:2-5 Plot an ordered pair of integers and rational numbers on a coordinate system.

MA.6P:2-6 Plot ordered pairs to create polygons on the coordinate system; use the coordinates to find the distance between points.

MA.6P:3 Students will be able to solve an algebraic expression. (6.EE.1, 6.EE.2, 6.EE.3, 6.EE.4, 6.EE.7, 6.NS.4)

- MA.6P:3-1 Simplify numerical expressions with whole number exponents using the order of operations.
- MA.6P:3-2 Express a word expression into a mathematical expression. (e.g. Subtract y from 5 as $5 - y$)
- MA.6P:3-3 Simplify algebraic expressions. (e.g. $y + y + y = 3y$)
- MA.6P:3-4 Identify the components of an algebraic expression using proper terminology. (sum, term, product, factor, quotient, coefficient)
- MA.6P:3-5 Calculate the greatest common factor (GCF) of any whole number less than or equal to 100.
- MA.6P:3-6 Calculate the least common multiple (LCM) of whole numbers.
- MA.6P:3-7 Apply the distributive property to create equivalent algebraic expressions. (e.g. $3(2 + x)$ is the same as $6 + 2x$, also $24x + 18y$ is the same as $6(4x + 3y)$)
- MA.6P:3-8 Evaluate algebraic expressions with whole number exponents using the order of operations.

MA.6P:4 Students will be able to solve algebraic equations and inequalities with arithmetic. (6.EE.5, 6.EE.6, 6.EE.7, 6.EE.8, 6.EE.9)

- MA.6P:4-1 Solve one-variable equations and inequalities.
- MA.6P:4-2 Write and graph one-variable inequality from a real-world problem.
- MA.6P:4-3 Determine if an equation or inequality is true.
- MA.6P:4-4 Determine if variables in the real-world setting are independent or dependent.
- MA.6P:4-5 Determine the equation from a real-world situation graph, chart, or table.

MA.6P:5 Students will be able to solve ratio concepts and use ratio reasoning to solve problems. (6.RP.1, 6.RP.2, 6.RP.3, 6.EE.9)

- MA.6P:5-1 Identify the relationships within ratio story problems. (e.g. the ratio of wings to beaks in the birdhouse at the zoo was 2:1, because for every 2 wings there was 1 beak)
- MA.6P:5-2 Write and simplify ratios to determine the unit rates. (e.g. we paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger)
- MA.6P:5-3 Determine if ratios are equivalent from a ratio table.
- MA.6P:5-4 Solve unit rate problems including those involving unit pricing, constant speed, and measurement conversions. (e.g. If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?)

MA.6P:6 **Students will be able to solve mathematical problems involving percents and their equivalent fractions and decimals. (6.RP.3)**

- MA.6P:6:1 Calculate equivalent fractions, decimals, and percents.
- MA.6P:6:2 Find the percent of a quantity as a rate per 100.
- MA.6P:6:3 Solve problems involving finding the whole, given the part and the percent.

MA.6P:7 **Students will be able to solve real-world and mathematical problems involving area, surface area, and volume. (6.G.1, 6.G.2, 6.G.4)**

- MA.6P:7:1 Find the area of polygons by decomposing into rectangles and triangles.
- MA.6P:7:2 Find the area of quadrilaterals and special quadrilaterals by decomposing into rectangles and triangles.
- MA.6P:7:3 Find the volume of a right rectangular prism.
- MA.6P:7:4 Find the surface area of three-dimensional figures using nets made up of rectangles and triangles.

MA.6P:8 **Students will be able to solve and understand statistical variability. (6.SP.1, 6.SP.2, 6.SP.3, 6.SP.4, 6.SP.5)**

- MA.6P:8:1 Recognize a statistical question as one that anticipates variability in the data.
- MA.6P:8:2 Describe the center, spread, and overall shape of a data set.
- MA.6P:8:3 Determine the mean, median, mode, and range of a data set.
- MA.6P:8:4 Create, interpret, or analyze some plots on a number line, including dot plots, histograms, and box plots.
- MA.6P:8:5 Select the most appropriate measure of the center and variability for a data set.

MA.6P.9 Students will add, subtract, multiply, and divide rational numbers fluently as well as solve real-world and mathematical problems.

- MA.6P:9-1 Identify that opposite quantities have a value of 0.
- MA.6P:9-2 Divide decimals including quotients using repeating decimals.
- MA.6P:9-3 Add and subtract positive and negative rational numbers which include fractions, mixed numbers and decimals in one problem.
- MA.6P:9-4 Multiply and divide positive and negative rational numbers, which include multiplying fractions, mixed numbers and decimals in one problem.
- MA.6P:9-5 Divide integers and demonstrate understanding that zero cannot be in the divisor.
- MA.6P:9-6 Simplify complex fractions of the form $a \div b/c \div d$
- MA.6P:9-7 Solve real world mathematical problems involving four operations with rational numbers including fractions, decimals and mixed numbers.
- MA.6P:9-8 Convert fractional, decimal and percent equivalents.
- MA.6P:9-9 Convert a number to scientific notation using both positive and negative exponents.
- MA.6P:9-10 Convert scientific notation to standard form using both positive and negative exponents.

MA.6P.10 Students will demonstrate an understanding that percent represents part of a whole, with multi-step problems involving real world concepts as percent of a number, percent increase or decrease, and simple interest.

- MA.6P:10-1 Analyze percent of a number including percents greater than 100.
- MA.6P:10-2 Solve multi step percent problems using proportions to find the unknown.
- MA.6P:10-3 Solve multi-step percent problems using equations to find the unknown.
- MA.6P:10-4 Solve real-world problems involving percent change and percent error.
- MA.6P:10-5 Solve problems with percent increase and percent decrease.
- MA.6P:10-6 Compute simple interest including sales tax, gratuity, commission, and mark up.