
Coal City Unit District #1
Fourth Grade
Math Curriculum

MA.4:1 Students will use the four operations with whole numbers to solve problems. (4.OA.1, 4.OA.2, 4.OA.3)

- MA.4:1-1 Multiply whole numbers to solve problems.
- MA.4:1-2 Divide whole numbers to solve problems.
- MA.4:1-3 Demonstrate the properties of multiplication.
(e.g. commutative, distributive, zero, and identity)
- MA.4:1-4 Solve for the missing number in a basic operations problem.
- MA.4:1-5 Solve multi-step word problems with whole numbers using
addition, subtraction, multiplication, and division.
- MA.4:1-6 Solve word problems with whole numbers using addition,
subtraction, multiplication, and division.
- MA.4:1-7 Solve problems using estimation.
- MA.4:1-8 Multiply or divide to solve word problems involving comparisons.
- MA.4:1-9 Identify an expression to solve problems.
- MA.4:1-10 Interpret remainders in division word problems.
- MA.4:1-11 Determine reasonableness of answer by estimating.
- MA.4:1-12 Use mental math strategies to solve problems.
- MA.4:1-13 Identify or solve hidden questions to solve word problems.

MA.4:2 Students will gain familiarity with factors and multiples. (4.OA.4)

- MA.4:2-1 Determine all factor pairs for a whole number in the range 1-100.
- MA.4:2-2 Identify prime and composite numbers 1-100.
- MA.4:2-3 Identify multiples of whole numbers from 1-100.
- MA.4:2-4 Recognize that a whole number is a multiple of each of its factors.

MA.4:3 Students will generate and analyze patterns. (4.OA.5)

- MA.4:3-1 Create a number or shape pattern that follows a given rule.
- MA.4:3-2 Solve a given pattern without a given rule.
- MA.4:3-3 Explain features of a pattern.

MA.4:4 Students will generalize place value understanding for multi-digit whole numbers. (4.NBT.1, 4.NBT.2, 4.NBT.3)

- MA.4:4-1 Identify whole numbers up to 1,000,000 using digits or words.
- MA.4:4-2 Write whole numbers up to 1,000,000 using expanded form.
- MA.4:4-3 Compare whole numbers up to 1,000,000.
- MA.4:4-4 Round whole numbers up to 1,000,000 to any place.
- MA.4:4-5 Recognize that in a multi-digit whole number, a digit in one place

- represents ten times what it represents in the place to its right.
- MA.4:4-6 Identify value of a given digit.
- MA.4:4-7 Create place value chart.

MA.4:5 Students will use properties of operations to perform multi-digit arithmetic. (4.NBT.4, 4.NBT.5, 4.NBT.6)

- MA.4:5-1 Multiply a whole number up to four digits by a one-digit whole number.
- MA.4:5-2 Multiply two two-digit numbers.
- MA.4:5-3 Illustrate multiplication problems using bar diagrams, rectangular arrays, or area models.
- MA.4:5-4 Divide a whole number up to four digits by a one digit number.
- MA.4:5-5 Add multi-digit whole numbers up to 1,000,000.
- MA.4:5-6 Subtract multi-digit whole numbers up to 1,000,000.
- MA.4:5-7 Identify division using equations, bar diagrams, rectangular arrays, and/or area models.
- MA.4:5-8 Illustrate and explain division using equations, bar diagrams, rectangular arrays, and/or area models.
- MA.4:5-9 Use partial products to solve multiplication equations.
- MA.4:5-10 Solve multiplication and division problems by solving a basic fact.
- MA.4:5-11 Use partial quotients to find the quotient.

MA.4:6 Students will extend understanding of fraction equivalence and ordering. (4.NF.1, 4.NF.2)

- MA.4:6-1 Multiply to create equivalent fractions using denominators of 2, 3, 4, 5, 6, 8, 10, 12 and 100.
- MA.4:6-2 Compare fractions with different numerators and denominators.
- MA.4:6-3 Explain fractions by using visual fraction models.

MA.4:7 Students will build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. (4.NF.3, 4.NF.3a, 4.NF.3b, 4.NF.3c, 4.NF.3d, 4.NF.4, 4.NF.4a, 4.NF.4b, 4.NF.4c)

- MA.4:7-1 Build fractions using various numerators with denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100. (e.g. $\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$)
- MA.4:7-2 Decompose a fraction into a sum of fractions with like denominator (e.g. $2\frac{1}{8} = 1 + 1 + \frac{1}{8} = \frac{8}{8} + \frac{8}{8} + \frac{1}{8}$).
- MA.4:7-3 Add mixed numbers with like denominators.
- MA.4:7-4 Subtract mixed numbers with like denominators.
- MA.4:7-5 Solve problems involving fractions having like denominators.
- MA.4:7-6 Multiply a fraction by a whole number with denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100.
- MA.4:7-7 Understand that adding fractions is joining parts referring to the same whole.
- MA.4:7-8 Understand that subtracting fractions is separating parts referring to the same whole.

MA.4:8 Students will understand decimal notation for fractions, and compare decimal fractions. (4.NF.6, 4.NF.7)

- MA.4:8-1 Identify a fraction with denominator 10 as an equivalent fraction with denominator 100.
- MA.4:8-2 Add or subtract fractions with unlike denominators by creating a common denominator.
- MA.4:8-3 Change fractions or decimals with denominators of 10 or 100 to the corresponding fraction or decimals.
- MA.4:8-4 Compare decimals to hundredths place.
- MA.4:8-5 Identify fractions and decimals on a number line or grid.
- MA.4:8-6 Add or subtract decimals to the hundredths place to solve problems.

MA.4:9 Students will solve problems involving measurement and conversion. (4.MD.1, 4.MD.2, 4.MD.3, 4.MD.4)

- MA.4:9-1 Convert measurement units of length.
- MA.4:9-2 Convert measurement units of capacity.
- MA.4:9-3 Convert measurement units of mass.
- MA.4:9-4 Convert measurement units of time.
- MA.4:9-5 Solve word problems involving measurement units and money, including fractions, decimals and conversions.
- MA.4:9-6 Determine the area of a rectangle in a real-world math problem.
- MA.4:9-7 Determine the perimeter of a rectangle in a real world math problem.
- MA.4:9-8 Make a line plot to display fractions of a unit of measurement ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$).
- MA.4:9-9 Solve addition and subtraction of fractions by using information presented in line plots.
- MA.4:9-10 Use a two column chart to record measurement equivalents.
- MA.4:9-11 Interpret information on a line plot.

MA.4:10 Students will understand concepts of angle and measure angle. (4.MD.5, 4.MD.6, 4.MD.7)

- MA.4:10-1 Measure angles in whole-number degrees using protractor.
- MA.4:10-2 Solve problems involving line plots.
- MA.4:10-3 Sketch angles of specified measure.
- MA.4:10-4 Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems.
- MA.4:10-5 Recognize angles as geometric shapes formed from rays that share a common endpoint.
- MA.4:10-6 Measure angles using one degree or unit angles. ($\frac{1}{360^{\text{th}}}$ of a circle).
- MA.4:10-7 Recognize angle measure as additive.

MA.4:11 Students will draw and identify lines, angles, and shapes. (4.G.1, 4.G.2, 4.G.3)

- MA.4:11-1 Identify a line, line segment, points and ray.
- MA.4:11-2 Identify different types of angles. (right, acute, obtuse)
- MA.4:11-3 Identify the difference between perpendicular and parallel lines.
- MA.4:11-4 Identify two-dimensional figures.
- MA.4:11-5 Classify two-dimensional figures based on angles and lines.
- MA.4:11-6 Identify right triangles and recognize them as a category.
- MA.4:11-7 Identify and draw lines of symmetry for a two-dimensional figure.
- MA.4:11-8 Sketch points, lines, lines segments, rays, and angles.