

5th Grade Gifted Math Curriculum

Students will be able to:

NUMBER SENSE AND OPERATIONS

- Apply expanded notation, standard, and exponential forms using superscripts.
- Determine the least common multiple and the greatest common factor for two whole numbers.
- Express a whole number as a product of its prime factors, using exponents when appropriate.
- Express fractions as ratios, comparing two whole numbers.
- Compare and order proper fractions, improper fractions or mixed numbers.
- Select grade-level appropriate operations to solve word problems.
- Solve word problems using appropriate operations and numbers.
- Calculate multiplication and division with two-digit divisors and remainders.
- Round in context (e.g. percentages and money).
- Simplify fractions to lowest terms.
- Add and subtract proper fractions and mixed numbers with unlike denominators with regrouping.
- Multiply and divide proper fractions and mixed numbers.
- Calculate common percent of a given number.
- Solve problems involving fractions or decimals in contextual situations.
- Simplify numerical expressions using the order of operations rule (), \times , \div , $+$, $-$.
- Solve logic problems from given information.
- Use estimation to verify the reasonableness of a calculation.

DATA ANALYSIS AND PROBABILITY

- Construct a histogram, line graph, scatter plot, and stem and leaf plot with appropriate labels and title from organized data.
- Interpret data displays including double bar graphs, tally charts, circle graphs frequency tables, and line graphs.
- Find the mean, median, mode, range and extreme values of a given data set.
- Identify and compare trends.
- Express probability as a decimal.
- Make predictions from student generated experiments using objects.
- Determine all possible arrangements given a set of four or fewer objects using a systematic list, table or tree diagram.
- Find the shortest route on a map from one site to another (vertex-edge graph)

PATTERNS, ALGEBRA, AND FUNCTIONS

- Solve problems in a contextual situation using iterative patterns.
- Evaluate expressions involving the four basic operations by substituting give fractions for the variable.
- Translate a written phrase to an algebraic expression.
- Solve one-step equations with one variable represented by a letter or symbol.
- Identify values on a given line graph or scatter plot.

GEOMETRY

- Identify, classify, label, draw and make models of geometric shapes, including circles, polygons, and triangles.
- Classify 3-dimensional figures by their attributes using proper terminology.
- Identify supplementary or complementary angles.
- Identify reflections and translations using pictures.
- Perform elementary translations to create a tessellation.
- Graph a polygon in the first quadrant using ordered pairs.

MEASUREMENT

- Determine the appropriate measure of accuracy within a system.
- Determine the appropriate tool needed to measure to the needed accuracy.
- Measure angles using a protractor.
- Add, subtract, multiply, and divide using customary and metric measurement units.
- Estimate and measure for the area and perimeter of polygons.
- Compare and measure length and weight in customary and metric units.
- Convert measurement units to equivalent units within a given system (customary or metric) including fraction and decimal units.