

## Pre-Algebra Prep (Fifth-Grade Math) Curriculum

The Pre-Algebra Prep (5th-grade Math) curriculum is based on common core standards and references the Virginia SOLs. It utilizes several resources, including but not limited to *Fifth-Grade Simplified Math*, *Eureka Math*, *Prodigy*, *Frax*, and *Reflex*. Pre-Algebra Prep's objectives are to develop whole-number, fraction, and decimal arithmetic fluency and reasoning, multi-step problem-solving, and other skills to help students complete Pre-Algebra in later years. The following skills are covered in Pre-Algebra Prep:

- Place value:
  - Writing numbers in words
  - Writing numbers in expanded form
  - Comparing numbers using  $<$ ,  $>$ ,  $=$
  - Rounding
  - Moving whole numbers and decimals by powers of ten
- Decimal arithmetic:
  - Comparing and ordering decimals
  - Rounding decimals
  - Adding and subtracting decimals
  - Single, double, and then multi-digit multiplication and division with whole numbers and decimals
- Fraction arithmetic:
  - Equivalent fractions
  - Comparing fractions and mixed numbers
  - Converting mixed numbers into improper fractions and vice versa
  - Adding and subtracting fractions with like and unlike denominators
  - Adding and subtracting mixed numbers with like and unlike denominators
  - Interpreting fractions as division problems
  - Multiplying fractions
  - Dividing fractions
  - Convert fractions to decimals and decimals to fractions
- Unit conversion and measurement
  - Introduction to metric and customary unit conversions
  - Measuring using different units
  - Solving word problems that require unit conversions
  - Representing data with units on a line plot
- Volume
  - Introduction to diagramming and calculating the volume of rectangular prisms
  - Diagramming and calculating the volume of complex figures made of several rectangular prisms

- Introduction to coordinate planes
  - Locating points and graphing on a coordinate plane using ordered pairs
  - Extending number patterns of linear functions using coordinate planes
  - Analyzing the relationship between two sets of numbers using a function table
  - Using coordinate planes to solve word problems
- Multi-step problem-solving and logic
  - Introduction to the order of operations and using parentheses or brackets to solve multi-step problems
  - Introduction to exponents
  - Practice solving word problems
  - Using estimation and logic to test if an answer is reasonable
  - Using models and illustrations to visualize and solve complex word problems