6th GRADE MATHEMATICS

Cardinal Newman Standards: Catholic Identity Integration

- **CS.M.K6.GS2:** Develop lines of inquiry to understand why things are true and why they are false.
  (CCSSI.M.6.RP.3; NS.1; NS.5; NS.6; NS.8; EE.2; EE.4; EE.5; EE.6; EE.7; EE.8; EE.9; G.4; SP.1; SP.4; SP.5)
- **CS.M.K6.DS2:** Respond to the beauty, harmony, proportion, radiance, and wholeness present in mathematics.
  (CCSSI.M.6.RP.1; RP.2; RP.3; NS.1; NS.6; NS.7; EE.3; EE.4; EE.7; EE.8; G.1; G.2; G.3; G.4; SP.2; SP.4; SP.5)
- **CS.M.K6.DS5:** Show interest in how the mental processes evident within the discipline of mathematics help us with the development of the natural virtues.
  (CCSSI.M.6.RP.3; NS.1; NS.8; EE.3; EE.9; G.4; SP.1; SP.4; SP.5)

Priority Skills	Supporting Skills
• Use ratio and rate reasoning to solve real-world and mathematical problems. • Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem • Understand ordering and absolute value of rational numbers • Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane • Write, read, and evaluate expressions in which letters stand for numbers • Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. • Analyze the relationship between the dependent and independent variables using graphs and tables and relate these to the equation. • Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes. • Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	• Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. • Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. • Understand that positive and negative numbers are used together to describe quantities having opposite directions or values • Understand a rational number as a point on the number line. • Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number. • Summarize numerical data sets in relation to their context.

Essential Questions
• How can we use expressions to solve real-world problems? • What strategies can we use to recognize hidden shapes within known or obvious shapes? • How do algebraic expressions, fractions and ratios help us describe real or imagined relationships using numbers? • What does the harmony and proportion inherent in Mathematical reasoning and problem solving reveal to us about truth? • How can we represent a data set in different yet coherent ways, and how do we know which strategy is best in any given situation?
Vital Vocabulary
• Absolute Value, Base, Cluster, Composite, Coordinate, Dependent (Variable), Edge, Expression, Face, Factorization, Fluency, Frequency, Height, Independent (Variable), Inverse, Length, Observation, Outlier, Qualitative, Quantitative, Ratio, Trapezoid, Unit Rate, Vertices, Visual Model, Volume, Width

Additional Resources: Cardinal Newman Mathematics Resources, Appendix F