

Mathematics: (Big Ideas Math)

Middle School students acquire math skills through problem solving utilizing technology, & project-based learning. The Standards for Mathematical Practice are developed & connected to the Standards for Mathematical Content. There is a grade level class and an accelerated class for each grade in middle school. In grades 7 and 8, math classes are also differentiated by gender.

Mathematical Practices:

- Make sense of problems and persevere in solving them
- Reason abstractly and quantitatively
- Construct viable arguments and critique the reasoning of others
- Model with mathematics
- Use appropriate tools strategically
- Attend to precision
- Look for and make use of structure
- Look for and express regularity in repeated reasoning

Grade 6 Grade Level Classes - 6th Grade Math**Mathematical Content:**

- Numerical expressions and factors
- Fractions and Decimals
- Ratios and Rates
- Percents
- Algebraic expressions and properties
- Equations
- Area, surface area, and volume
- Integers, number lines, and the coordinate plane
- Statistical measures
- Data Displays

Grade 6 Accelerated Classes and Grade 7 Grade Level Classes - 7th Grade Math**Mathematical Content:**

- Adding and subtracting rational numbers
- Multiplying and dividing rational numbers
- Expressions
- Equations and inequalities
- Ratios and proportions
- Percents
- Geometric shapes and angles
- Statistics and probability
- Surface area and volume
- Transformations
- Angles and triangles
- Graphing and writing linear equations
- Exponents and scientific notation
- Real numbers and the pythagorean theorem
- Volume and similar solids

Grade 7 Accelerated Classes and Grade 8 Grade Level Classes - Pre-Algebra

This is an Introduction to Algebra class. Eighth-grade students matriculating to a Catholic high school will be prepared for Algebra I as a freshman. Eighth grade students matriculating to a public high school will be prepared for Integrated Math I as a freshman.

Mathematical Content:

- Equations
- Transformations
- Angles and Triangles
- Graphing and writing linear equations
- Systems of linear equations
- Data analysis and displays
- Functions (3 different functions)
- Exponents and scientific notation
- Real numbers and Pythagorean Theorem
- Volume and similar solids

Grade 8 Accelerated Classes - Algebra

Students will expand on their knowledge of Algebra and Geometry skills learned in 7th grade and will add new skills listed below. Students matriculating to a Catholic high school will be prepared for Algebra I, Algebra II, Geometry, Geometry Honors, or Algebra II/Trigonometry as a freshman depending on the extent they have mastered the curriculum. Students matriculating to a public high school will be prepared for Integrated Math I or

Mathematical Content:

- Solving linear equations
- Solving linear inequalities
- Graphing linear functions
- Solving systems of linear equations
- Exponential functions and sequences
- Polynomial equations and factoring
- Graphing and solving quadratic equations
- Radical functions and equations
- Data analysis and displays