8th Grade Algebra
Curriculum Overview

Students will continue to strengthen their mathematical fluency in operations with rational numbers and solving equations. The Algebra 1 curriculum aligns with many of the 8th grade and Algebra standards. These standards include Number & Quantity, Algebra, Functions. The ability to apply previous knowledge of standards is imperative and students will be expected to use their resources to enhance their understanding.

The course uses the 2019 Big Ideas Math series. Each child has an online student edition, with additional resources for parents and students to access anytime. These resources include video tutorials, test practice, a glossary with audio, progress checks, vocabulary help, manipulative visual aids, skill reviews, and a game closet to reinforce skills. The resources and online student edition can be accessed at www.bigideasmath.com.

Standards for Mathematical Practice
- 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.

In Gower Middle 8th Grade Algebra Classrooms:
- Students will be able to….
- Students will learn…
- Students will ….

Units of Study:
- Linear Equations & Inequalities
- Graphing & Writing Linear Functions
- Solving Systems of Linear Equations
- Exponential Functions
- Polynomial Equations & Factoring
- Graphing & Solving Quadratic Functions
- Radical Functions & Equations

The Learning Standards for this course are the Common Core Standards. Priority standards should be listed and linked below:

Expressions & Equations

8.EE.C. Analyze and solve linear equations and pairs of simultaneous linear equations.

CCSS: HS: Algebra
HSA-CED.A. Create equations that describe numbers or relationships.
HSA-REI.A. Understand solving equations as a process of reasoning and explain the reasoning.
HSA-REI.B. Solve equations and inequalities in one variable.

CCSS: Mathematics

Functions

8.F.A. Define, evaluate, and compare functions.

8.F.B. Use functions to model relationships between quantities.

CCSS: HS: Algebra
Creating Equations

HSA-CED.A. Create equations that describe numbers or relationships.

Reasoning with Equations & Inequalities

HSA-REI.D. Represent and solve equations and inequalities graphically.

CCSS: HS: Functions
Interpreting Functions

HSF-IF.B. Interpret functions that arise in applications in terms of the context.

CCSS: HS: Algebra
Creating Equations

HSA-CED.A. Create equations that describe numbers or relationships.

HSA-CED.A.1. Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.

HSA-CED.A.3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.Show details

Reasoning with Equations & Inequalities

HSA-REI.B. Solve equations and inequalities in one variable.

HSA-REI.B.3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

HSA-REI.D. Represent and solve equations and inequalities graphically.

HSA-REI.D.12. Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.