

Howell Township Public Schools

Middle School Mathematics Course Progression Document

6th Grade

Grade 6 Mathematics – students enrolled in this class will learn rigorous standards and mathematical practices through the Big Ideas Math program. The students will use concepts of ratio and rate to solve problems. Division and multiplication of fractions will continue from 5th grade into 6th grade. Students understanding of the number system will expand into negative numbers. Students will write expressions and equations that relate to real world situations. Solving real-world situations in geometry as well as the introduction of statistical thinking will also occur.

Pre-Algebra – students enrolled in this class will learn the necessary skills required for a successful transition into algebra. In preparation for algebra the students will evaluate expressions, solve systems of linear equations, apply the Pythagorean Theorem, and identify relations and functions.

****This is a Project Plus course only at this grade level.***

7th Grade

Grade 7 Mathematics – students enrolled in this class will understand and apply proportional relationships, operations with rational numbers, expressions, and linear equations. The students will solve real world measurement and geometry problems involving perimeter, area, circumference, surface area, and volume. Students will use proportional reasoning and percentages when using random sampling to draw inferences about a population in addition to experimenting with probability.

Prerequisite: 6th grade math

Pre-Algebra – students enrolled in this class will learn the necessary skills required for a successful transition into algebra. In preparation for algebra the students will evaluate expressions, solve systems of linear equations, apply the Pythagorean Theorem, and identify relations and functions.

Prerequisite: 6th grade math

Algebra I – students enrolled in this high school level course will deepen their understanding of the number system by explaining the meaning of rational and irrational numbers; solve, write, and graph linear equations in one or two variables using various methods; use scientific notation to apply real life situations; solve quadratic equations by factoring; use the Pythagorean Theorem to solve for the missing side in a right triangle; and distinguish between experimental and theoretical probability.

Prerequisite: Pre-Algebra

****This is a Project Plus course only at this grade level.***

8 th Grade

Pre-Algebra – students enrolled in this class will learn the necessary skills required for a successful transition into algebra. In preparation for algebra the students will evaluate expressions, solve systems of linear equations, apply the Pythagorean Theorem, and identify relations and functions.

Prerequisite: 7th grade math

Algebra I – students enrolled in this high school level course will deepen their understanding of the number system by explaining the meaning of rational and irrational numbers; solve, write, and graph linear equations in one or two variables using various methods; use scientific notation to apply real life situations; solve and graph quadratic equations by factoring; use the Pythagorean Theorem to solve for the missing side in a right triangle; and distinguish between experimental and theoretical probability.

Prerequisite: Pre-Algebra

Geometry – students enrolled in this high school level course will investigate Euclidean geometry and its real world applications. The students will prove theorems; derive equations; experiment with transformations; derive and use trigonometric ratios of unknown angles to find lengths and distances; and identify patterns used to develop formulas including permutations and combinations.

Prerequisite: Algebra

****This is a Project Plus course only at this grade level.***