

High Bluff Academy  
Integrated Math 1

Course Description

Integrated Math 1 is the first course of a three year college preparatory integrated math sequence. This course is a college prep course that meets the minimum graduation requirement for the state of California, and follows the Integrated Math Pathway in the Common Core State Standards. Students will extend their understanding of numerical manipulation to algebraic manipulation; synthesize understanding of function; deepen and extend understanding of linear relationships; apply linear models to data that exhibit a linear trend; establish criteria for congruence based on rigid motions; and apply the Pythagorean Theorem to the coordinate plane. Students will be expected to work collaboratively, individually and demonstrate their learning through the Standards of Mathematical Practice. Students will be exposed to rich instruction that develop their conceptual understanding, procedural skill, problem solving skills, critical thinking abilities, and strengthen situational analysis abilities.

At the conclusion of the course, students will be proficient in the following topics:

- Solving equations and inequalities
- Characteristics of functions
- Linear functions
- Solving systems of equations and inequalities
- Exponential and radical functions
- Data analysis
- Tools of geometry
- Transformations
- Connecting algebra and geometry
- Reasoning and proof
- Congruent triangles
- Proving theorems about lines and angles, triangles, and quadrilaterals

This course is the 1st year of a 3 year integrated mathematics series. These three courses incorporate a strategic interweaving of mathematics with authentic connections among theory and application, algorithm, and mathematical practices, designed to naturally scaffold the learning of a constantly deepening material. As a consequence, students increasing understanding and recognize that all math is interrelated, purposeful and applicable. The purpose of this course is to formalize and extend the mathematics that students learned in middle school. The critical areas of focus, organized into modules, deepen and extend understanding of linear relationships, in part by contrasting them with exponential and in part by applying linear models to data that exhibit a linear trend. Integrated Math I uses properties and theorems involving congruent figures to deepen, prove, and extend understanding of geometric knowledge from prior grades. There is a module in the course which ties together the algebraic and geometric ideas studied. The Mathematical Practice Standards apply throughout the course and together with the content standards provide students with a math experience that is coherent, useful, and logical. Students make use of their sense making in problem situations. This integrated math course prepares students to enroll in the next course in the sequence, Integrated Math II.