

Prerequisite: Successful completion of 8th grade mathematics with a grade of C or better. Having completed Algebra 1 Part A.

Course Description:

Travel around the world and discover the applications of algebra by experiencing field trips, web searches, and labs. The course is a foundation mathematics course for all future mathematics courses! This course meets all the state and NCTM (National Council of Teachers of Mathematics) standards. The emphasis in this course is on student success by way of varied learning styles using applications, hands-on activities, group interactions, discoveries, and, of course, technology.

Course Objectives:

- structure and properties of the real number system, including rational and irrational numbers
- exponents, square roots, radicals, rational expression, absolute value, and scientific notation
- varied means for analyzing and expressing patterns, relations, and functions, including words, tables, sequences, graphs, and algebraic equations
- variables, algebraic expressions, polynomials, and operations with polynomials
- coordinate geometry and graphing of equations and inequalities
- data analysis concepts and techniques including introductory statistics and probability
- varied solution strategies, algebraic and graphic, for inequalities, linear and quadratic equations, and for systems of equations

Scope & Sequence

Module 6 - Poly wants a what?

Defining Polynomials

Performing operations with polynomials

Combining like terms, FOIL method, distributing.

Simplifying radical expressions

Multiplying/dividing/adding/subtracting radical expressions.

Honors assignment - extension on computing radical expressions

Pythagorean Theorem applications

Packaging Lab - students compute surface area, volume of cylinders, boxes in hands on activity.

Web Search - Business

Final Assessment and three quizzes throughout module.

Honors Assessment

Module 7 - Power to the Quads

Factoring and Greatest Common Factor covered
Factoring trinomials and quadratics
Learning to factor through different methods and the perfect square
Solving quadratics and the quadratic formula
Graphing quadratic equations and identifying parabolas
Lab - Builds on packaging lab from previous module with quadratics.
field trip - Algebra at work
Final Assessment and three quizzes throughout module
Honors Assessment

Module 8 - Let's be Rational Here...

Simplifying rational expressions by factoring
Simplifying rational expressions after multiplying/dividing/adding/subtracting.
Honors assignment adding/subtracting rational expressions - extension.
Solving equations with rational expressions
Final Assessment and two quizzes given throughout module
Honors Assessment.

Module 9 - Things are Not as Equal as They Seem

Inequality graphing on a number line
Solving inequalities and continued graphing on number line.
Solving systems of inequalities and graphing
Solving inequality word problems
Standardized test check
Final Assessment and one quiz throughout module
Honors Assessment

Module 10 - The Finish Line

Review Modules 4-5
Review Module 6-9
Final Exam and Portfolio submitted