



Reavis High School

Algebra I Curriculum Snapshot



Unit 1: Connections to Algebra

10
Days

Students will be able to evaluate expressions using order of operations. For example, students will need to substitute in values for variables, then follow the order of operations to evaluate. Students will also learn how to translate verbal phrases to algebraic models. The translating will include expressions, equations, and inequalities.



Unit 2: Properties of Real Numbers

14
Days

Students will explore the number line. After doing so, the students will be able to graph and compare numbers using the number line. Students will learn the properties of adding, subtracting, multiplying, and dividing real numbers. Students will then learn how to apply the Distributive Property and combine like terms. Probability and odds is introduced.



Unit 3: Solving Linear Equations

14
Days

Students will be able to solve linear equations by using inverse operations. The equations will start out with one step, then move to multi-step and equations with variables on both sides. Students will also need to apply Distributive Property and combine like terms in some equations. Students will also use rates and ratios to model and solve real-life problems.



Unit 4: Graphing Linear Equations and Functions

14
Days

Students will be able to plot points in a coordinate plane. Students will then graph lines using a table of values. After learning how to find and apply slope, students will graph lines using the slope intercept form of a linear equation. Students will also graph lines by finding x and y intercepts.



Unit 5: Writing Linear Equations

8
Days

Students will be able to write linear equations in three forms: slope intercept form, point slope form, and standard form. Students will need to do this when given slope and y-intercept; a point and a slope; a graph; two points; and, a line parallel or perpendicular and a point.



Unit 6: Proportions, Percents, Pythagorean Theorem, and Radicals

8 - 10
Days

Students will be able to solve and set up proportions involving linear equations. Students will spend time working on proportions that apply to real-life situations. After learning how to solve a proportion, the students will learn how to set up proportions involving different situations involving percents. Students will also learn how to apply the Pythagorean Theorem given two sides of a right triangle. Lastly, students will learn how to simplify, add/subtract, multiply/divide radicals.



Unit 7: Solving Linear Inequalities

13
Days

Students will be able to solve inequalities using the skills they learned to solve equations. Students will also graph linear inequalities on a number line and the coordinate plane.



Unit 8: Solving Systems of Linear Equations

15
Days

Students will first be taught that a system involves two or more equations and also understand that the solution to a system is the intersection point(s) of the graphs. The students will learn three ways to solve a linear system: one graphically and two algebraically. Using the first method, students will graph the lines and figure out where they intersect. The two algebraic methods taught will be substitution and elimination methods. Students will understand how to graphically and algebraically find the three possible solution options: one solution, no solution, and many solutions. Lastly, the students will learn how to set up and solve systems involving real-life situations.



Unit 9: Exponents and Exponential Functions

15
Days

Students will learn the definition of an exponent by showing the expanded version of several exponent examples. Based on the expansion, students will discover the multiplication properties of exponents. Students will then use the properties of exponents to learn how to simplify exponent problems involving addition, subtraction, multiplication, and division. Lastly, students will learn how to apply and graph exponential growth and decay models.



Unit 10: Quadratic Equations & Functions

14
Days

Students will learn how to solve quadratic equations by finding the square roots, using the x-intercepts of the graph, and by the quadratic formula. Students will learn how to graph quadratics in standard form. Students will also learn applications of the discriminant.



Unit 11: Polynomials and Factoring

20-22
Days

Students will learn how to classify a polynomial based on degree and number of terms. Next, the students will be able to add/subtract and multiply polynomials. The concept of Distributive Property and like terms become very important prerequisite skills. The most important concept discussed is factoring polynomials. First, we start with factoring out a GCF, then progress to factoring binomials, trinomials, and polynomials. The methods of factoring taught include difference of two squares, product-sum, borrow and payback, and grouping. Lastly, students are taught the zero product property and use that to solve polynomials in factored form.