Year at a Glance

Algebra 1/Algebra 1 Honors

1200310/1200320

2021-2022 School Year

Course Description:
The fundamental purpose of this course is to formalize and extend the mathematics that students learned in the middle grades. The critical areas, called units, deepen and extend understanding of linear and exponential relationships by contrasting them with each other and by applying linear models to data that exhibit a linear trend, and students engage in methods for analyzing, solving, and using quadratic functions. The Standards for Mathematical Practice apply throughout each course, and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

Textbook Publisher:
Big Ideas (Students have online access through My.SarasotaCountySchools.net)

Other Supplemental Resources:
Math Nation- (Students log in through My.SarasotaCountySchools.net)
Khan Academy
FSA Portal

Standards:
Available on CPalms
- Algebra 1
- Algebra 1 Honors

Benchmark Assessment Dates
AP1: Oct 4 - 22
AP2: Dec 6 – 22 (Midterm)
AP3: March 1 – 25 (Optional for Middle School)

Teachers may use additional resources as noted on an individual teacher's syllabus. For specific questions regarding individual classrooms please contact the teacher for clarification.

Quarter	Major Concepts/Topics	Resources
Quarter 1	**Unit 0: Pre-Algebra Review** • Simplifying expressions using Order of Operations • Simplifying expressions using the Distributive Property and combining like terms • Operations on integers • Operations on rational numbers	**BigIdeas:** Chapter 1 Opener (Page 1) **Math Nation (Algebra 1):** On-Ramp to Algebra
	Unit 1: Linear Equations • Solving simple equations • Solving multi-step equations • Solving equations with variables on both sides • Rewriting equations and formulas	**BigIdeas:** 1.1 - 1.3, 1.5 **Math Nation (Algebra 1):** Section 2: Topics 1 -4, 8
	Unit 2: Linear Inequalities • Writing and Graphing inequalities • Solving simple inequalities • Solving multi-step inequalities • Solving compound inequalities	**BigIdeas:** 2.1 - 2.5 **Math Nation (Algebra 1):** Section 2: Topics 5 - 7
	Unit 3a: Introduction to Functions • Define and identify functions • Function notation • Domain and Range (discrete and continuous) • Evaluate *x* given *f(x)* • Interpret statements in function notation • Linear vs. non-linear	**BigIdeas:** 3.1 - 3.3 **Math Nation (Algebra 1):** Section 2: Topic 9 Section 3: Topics 1,2,7,8
	Unit 3b: Graphing Linear Functions • Graph linear equations in standard form • Graph linear equations in slope-intercept form • Transformations of linear equations	**BigIdeas:** 3.4 - 3.6 **Math Nation (Algebra 1):** Section 3: Topic 10
Quarter 2	**Unit 4: Writing Linear Functions** • Writing equations in slope-intercept form • Writing equations in point-slope form • Scatterplots and lines of best fit • Analyzing lines of fit • Arithmetic Sequences	**BigIdeas:** 4.1- 4.2, 4.4 - 4.6 **Math Nation (Algebra 1):** Section 4: Topics 1 – 4 Section 10: Topics 4 - 6
	Unit 5a: Systems of Equations • Solving systems of linear equations by graphing • Solving systems of equations by substitution • Solving systems of linear equations by elimination • Solving special systems of equations • Linear equations word real-life applications	**BigIdeas:** 5.1 - 5.4 **Math Nation (Algebra 1):** Section 4: Topics 5 - 8
	Unit 5b: Systems of Equations • Solving equations by graphing • Graphing linear inequalities in two variables	**BigIdeas:** 5.5- 5.7 **Math Nation (Algebra 1):**

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	• Systems of linear inequalities	Section 4: Topic 9 - 10
Quarter 3	**Unit 6: Exponential Functions** • Properties of exponents • Radicals and rational exponents • Exponential functions • Exponential growth and decay • Geometric sequences • Recursively defined sequences	**BigIdeas:** 6.1 -6.4, 6.6 - 6.7 **Math Nation (Algebra 1):** Section 1: Topics 5-7 Section 7: Topics 1-6
	Unit 7a: Polynomial Expressions and Equations • Adding and subtracting polynomials • Multiplying polynomials • Special products of polynomials • Solving polynomials in factored form	**BigIdeas:** 7.1 -7.4 **Math Nation (Algebra 1):** Section 1: Topics 2 - 4
	Unit 7b: Factoring Polynomials • Factoring $x^2 + bx + c$ • Factoring $ax^2 + bx + c$ • Factoring special products • Factoring polynomials	**BigIdeas:** 7.5 – 7.8 **Math Nation (Algebra 1):** Section 5: Topics 2, 5
	Unit 8a: Quadratic Functions-Part 1 • Graphing $f(x) = ax^2$ • Graphing $f(x) = ax^2 + bx$ • Graphing $f(x) = ax^2 + bx + c$	**BigIdeas:** 8.1 – 8.3 **Math Nation (Algebra 1):** Section6: Topics 1-4
Quarter 4	**Unit 8b: Graphing Quadratic Functions-Part 2** • Graphing $f(x) = a(x-h)^2 + k$ • Transformations of graphs of quadratic equations • Comparing linear, exponential, and quadratic functions	**BigIdeas:** 8.4 - 8.6 **Math Nation (Algebra 1):** Section 6: Topics 5 - 8 Section 8: Topics 1 - 2
	Unit 9: Solving Quadratic Equations • Simplifying radicals • Solving quadratic equations by graphing • Solving quadratic equations using square roots • Solving quadratic equations by completing the square • Solving quadratic equations using the quadratic formula • Quadratic equations real-life applications	**BigIdeas:** 9.1 - 9.5 **Math Nation (Algebra 1):** Section 5: Topics 1 - 10
	Unit 10: Statistics • Measures of center and variation • Box-and-whisker plots • Shapes of distribution • Two-way tables	**BigIdeas:** 11.1 – 11.5 **Math Nation (Algebra 1):** Section 9: Topics 1 - 9 Section 10: Topics 1 - 3

Graduation Requirements:

Students earning a standard high school diploma must earn at least one math credit in Algebra 1 or an equivalent course. The student must also pass the FSA Algebra 1 End of Course Exam (EOC) or earn a concordant score. More information on graduation requirements and concordant scores can be found here: Graduation Requirements for Florida's Statewide Assessments.

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