Course Title:	Content Area:	Grade Level:	Credit (if applicable)
Algebra 1 Accelerated	Mathematics	Grade 8	1.0 (upon completion of 3 years HS mathematics)

Course Description:

Students begin the course with expanding their understanding of linear equations, inequalities, and systems of linear equations and inequalities. Students write, rearrange, evaluate, and solve equations and inequalities, explaining and validating their reasoning with increased precision. Next, students study functions, continuing the work begun in grade 7 Bridge. Over the next few units, they deepen their understanding of functions and deepen their ability to represent, interpret, and communicate about them—using function notation, domain and range, average rate of change, and features of graphs. They also see categories of functions, starting with linear functions (including their inverses) and piecewise-defined functions (including absolute value functions), followed by exponential and quadratic functions. For each function type, students begin their investigation with real-world and mathematical contexts, look closely at the structural attributes of the function, and analyze how these attributes are expressed in different representations. The course ends with a close look at quadratic equations. Students extend their ability to use equations to model relationships and solve problems. They develop their capacity to write, transform, graph, and solve equations—by reasoning, rearranging equations into useful forms, and applying the quadratic formula. Within the classroom activities, students have opportunities to engage in aspects of mathematical modeling. Additionally, modeling prompts are provided for use throughout the course. Modeling prompts offer opportunities for students to engage in the full modeling cycle. These can be implemented in a variety of ways. Please see the course guide for a more detailed explanation of modeling prompts.

Aligned Core Resources:	Connection to the ***BPS Vision of the Graduate***
Kendall Hunt Illustrative Mathematics	CRITICAL THINKING AND PROBLEM SOLVING • Collect, assess and analyze relevant information • Reason effectively. Use systems thinking • Make sound judgments and decisions. • Identify, define and solve authentic problems and essential questions. • Reflect critically on learning experience, processes and solutions • Transfer knowledge to other situations CONTENT MASTERY • Develop and draw from a baseline understanding of knowledge in academic disciplines from our Bristol curriculum.
Additional Course Information: ***Knowledge/Skill Dependent courses/prerequisites***	**Link to *Completed Equity Audit***
	Algebra 1 ACC - Equity Curriculum Review (2024)

Standard Matrix

Aligned Lesson	Standards
8.7.1	8.EE.A.1
8.7.2	8.EE.A.1, 8.EE.A.3, 8.EE.A.4
8.7.3	8.EE.A.1, 8.EE.A.4

8.7.4	8.EE.A.1
8.7.5	8.EE.A.1
8.7.6	8.EE.A.1
8.7.7	8.EE.A.1
8.7.8	8.EE.A.1
8.7.9	8.EE.A.3, 8.EE.A.4
8.7.10	8.EE.A.3, 8.EE.A.4
8.7.11	8.EE.A.1, 8.EE.A.3, 8.EE.A.4
8.7.12	8.EE.A.3, 8.EE.A.4
8.7.13	8.EE.A.3, 8.EE.A.4
8.7.14	8.EE.A.1, 8.EE.A.3, 8.EE.A.4
8.7.15	8.EE.A.4
8.7.16	8.EE.A.3, 8.EE.A.4
Alg1.2.1	HSA-CED.A.2, HSA-CED.A.3, HSN-Q.A.2
Alg1.2.2	HSA-CED.A.2, HSA-CED.A.3
Alg1.2.3	HSA-CED.A.2, HSA-CED.A.3, HSF-LE.A.2
Alg1.2.4	HSA-REI.A, HSA-REI.B.3
Alg1.2.5	HSA-CED.A.2, HSA-CED.A.3, HSA-REI.D.10
Alg1.2.6	HSA-CED.A.2, HSA-REI.A, HSA-REI.A.1, HSA-SSE.A.1
Alg1.2.7	HSA-REI.A, HSA-REI.A.1
Alg1.2.8	HSA-CED.A.4, HSA-REI.B.3
Alg1.2.9	HSA-CED.A.3, HSA-CED.A.4, HSA-REI.B.3
Alg1.2.10	HSA-CED.A.3, HSA-CED.A.4, HSA-REI.D.10
Alg1.2.11	HSA-CED.A.4, HSA-REI.D.10
Alg1.2.12	HSA-CED.A.3, HSA-REI.A, HSA-REI.C.6
Alg1.2.13	HSA-REI.C.6
Alg1.2.14	HSA-REI.C.5, HSA-REI.C.6
Alg1.2.15	HSA-REI.C.5, HSA-REI.C.6
Alg1.2.16	HSA-REI.C.5, HSA-REI.C.6
Alg1.2.17	HSA-CED.A.3, HSA-REI.C.6
Alg1.2.18	HSA-CED.A.3, HSN-Q.A.2
Alg1.2.19	HSA-CED.A.1, HSA-REI.B.3
Alg1.2.20	HSA-CED.A.1, HSA-CED.A.3, HSA-REI.B.3

Alg1.2.21	HSA-REI.D.12
Alg1.2.22	HSA-CED.A.3, HSA-REI.D.10, HSA-REI.D.12
Alg1.2.23	HSA-CED.A.3, HSA-REI.D.12
Alg1.2.24	HSA-CED.A.3, HSA-REI.D.12
Alg1.2.25	HSA-REI.D.12
Alg1.2.26	HSA-CED.A.3, HSA-REI.D.12, HSN-Q.A.2
Alg1.4.1	HSF-IF.A.1, HSF-IF.B.4
Alg1.4.2	HSF-IF.A.1, HSF-IF.A.2, HSF-IF.B.4
Alg1.4.3	HSF-IF.A.2, HSF-IF.B.4
Alg1.4.4	HSF-BF.A.1, HSF-BF.A.1.a, HSF-IF.A.1, HSF-IF.A.2, HSF-IF.B.4, HSF-IF.C
Alg1.4.5	HSA-REI.A.1, HSF-IF.A.2, HSF-IF.B.4, HSF-IF.C.7
Alg1.4.6	HSF-IF.B.4
Alg1.4.7	HSF-IF.B.6
Alg1.4.8	HSF-IF.B.4, HSF-IF.B.6
Alg1.4.9	HSA-REI.D.11, HSF-IF.B.4, HSF-IF.B.6
Alg1.4.10	HSF-IF.B, HSF-IF.B.5
Alg1.4.11	HSF-IF.B.4, HSF-IF.B.5
Alg1.4.12	HSF-IF.A.2, HSF-IF.B.5, HSF-IF.C, HSF-IF.C.7, HSF-IF.C.7.b
Alg1.4.13	HSF-IF.C, HSF-IF.C.7.b
Alg1.4.14	HSF-BF.A.1, HSF-BF.A.1.a, HSF-BF.B.3, HSF-IF.C, HSF-IF.C.7.b
Alg1.4.15	HSF-BF.B.4
Alg1.4.16	HSA-CED.A.4, HSF-BF.B.4
Alg1.4.17	HSF-BF.A.1, HSF-BF.B.4, HSF-BF.B.4.a, HSF-IF.A.2, HSF-IF.B.4, HSS-ID.B.6.a, HSS-ID.B.6.c
Alg1.4.18	HSF-BF.A.1, HSF-IF.B.6, HSS-ID.B.6, HSS-ID.B.6.a, HSS-ID.B.6.c
Alg1.5.1	HSF-BF.A.1.a, HSF-IF.B.4, HSF-LE.A.3
Alg1.5.2	HSF-BF.A, HSF-BF.A.1.a, HSF-IF.B.4, HSF-LE.A.1, HSF-LE.A.2
Alg1.5.3	HSA-CED.A.2, HSF-BF.A.1.a, HSF-IF.C.7, HSF-LE.B.5
Alg1.5.4	HSA-CED.A.2, HSA-SSE.A.1, HSF-BF.A, HSF-BF.A.1.a, HSF-LE.A.2, HSF-LE.B.5
Alg1.5.5	HSA-CED.A.2, HSF-BF.A, HSF-IF.B.4, HSF-IF.C.7.e, HSF-LE.A.2, HSF-LE.B.5
Alg1.5.6	HSA-CED.A.2, HSF-BF.A.1, HSF-IF.B.4
Alg1.5.7	HSA-CED.A.2, HSA-SSE.A.1, HSF-IF.B.4, HSF-IF.C.7.e, HSF-LE.B.5, HSN-Q.A.1
Alg1.5.8	HSF-IF.A.2, HSF-IF.B, HSF-IF.B.5, HSF-IF.C.7, HSF-LE.A.2, HSN-Q.A.1
Alg1.5.9	HSA-SSE.A, HSF-IF.A.2, HSF-IF.B.5, HSF-IF.C.7.e, HSF-LE.A.2

Alg1.5.10	HSF-IF.B.6
Alg1.5.11	HSF-BF.A.1, HSF-IF.A.2, HSF-IF.B.4, HSF-IF.B.5, HSF-LE.A.1, HSF-LE.A.1.c, HSF-LE.A.2, HSF-LE.B.5, HSN-Q.A.1, HSN-Q.A.3, HSS-ID.B.6.a
Alg1.5.12	HSF-IF.B.4, HSF-LE.B.5
Alg1.5.13	HSF-IF.B.4, HSF-LE.A.2, HSF-LE.B.5
Alg1.5.14	HSF-LE.A.2
Alg1.5.15	HSF-BF.A.1, HSF-BF.A.1.a, HSF-IF.B.6, HSF-IF.C.7.e, HSF-LE.A.2
Alg1.5.16	HSF-BF.A.1.a
Alg1.5.17	HSA-SSE.A, HSA-SSE.A.1, HSF-BF.A.1.a, HSF-IF.A.2, HSN-Q.A.2
Alg1.5.18	HSA-SSE.A.1.b, HSA-SSE.B.3.c, HSF-IF.A.2, HSF-IF.C.8, HSF-IF.C.8.b
Alg1.5.19	HSF-IF.A.2, HSF-IF.B.4, HSF-IF.B.5, HSF-LE.A.1, HSF-LE.A.2, HSF-LE.A.3
Alg1.5.20	HSF-LE.A.1.a, HSF-LE.A.1.b, HSF-LE.A.2
Alg1.5.21	HSF-LE.A.1, HSF-LE.A.1.b, HSF-LE.A.1.c, HSF-LE.A.2, HSN-Q.A.3, HSS-ID.B.6.a
Alg1.6.1	HSF-BF.A.1.a, HSF-LE.A
Alg1.6.2	HSA-SSE.A.1, HSA-SSE.B.3, HSF-BF.A.1.a
Alg1.6.3	HSA-SSE.A.1, HSF-BF.A.1.a, HSF-IF.A.2
Alg1.6.4	HSF-BF.A.1.a, HSF-IF.C, HSF-LE.A.3
Alg1.6.5	HSF-BF.A.1, HSF-BF.A.1.a, HSF-IF.A.2
Alg1.6.6	HSF-BF.A.1, HSF-BF.A.1.a, HSF-IF.B.5, HSF-IF.C, HSF-IF.C.7.a
Alg1.6.7	HSF-BF.A.1.a, HSF-IF.B.5, HSF-IF.C.7.a
Alg1.6.8	HSA-SSE.A, HSA-SSE.A.2, HSA-SSE.B.3, HSF-IF.C.8
Alg1.6.9	HSA-SSE.A.2, HSA-SSE.B.3, HSF-IF.C.8
Alg1.6.10	HSA-SSE.B.3
Alg1.6.11	HSA-SSE.A, HSF-IF.C.7.a
Alg1.6.12	HSF-BF.B.3, HSF-IF.C, HSF-IF.C.7, HSF-LE.A.2
Alg1.6.13	HSA-SSE.B.3, HSF-BF.B.3, HSF-IF.C.7, HSF-IF.C.7.a
Alg1.6.14	HSF-IF.A.2, HSF-IF.B.4, HSF-IF.C.7.a, HSF-IF.C.8, HSF-IF.C.9
Alg1.6.15	HSF-BF.B.3, HSF-IF.C, HSF-IF.C.7.a, HSF-IF.C.8.a
Alg1.6.16	HSF-IF.C, HSF-IF.C.7.a
Alg1.6.17	HSF-BF.B.3, HSF-IF.C, HSF-IF.C.7.a
Alg1.7.1	HSA-CED.A.1, HSA-CED.A.3
Alg1.7.2	HSA-CED.A.1, HSA-REI.B.4
Alg1.7.3	HSA-REI.A.1, HSA-REI.B.4.b

Alg1.7.4	HSA-CED.A.1, HSA-REI.B.4, HSA-REI.B.4.b, HSA-SSE.B.3
Alg1.7.5	HSA-REI.A.1, HSA-REI.B.4, HSA-REI.B.4.b, HSA-REI.D, HSA-REI.D.10
Alg1.7.6	HSA-REI.B.4.b, HSA-SSE.A.2, HSA-SSE.B.3.a
Alg1.7.7	HSA-REI.B.4.b, HSA-SSE.A.2, HSA-SSE.B.3.a
Alg1.7.8	HSA-REI.B.4.b, HSA-SSE.A.2, HSA-SSE.B.3.a
Alg1.7.9	HSA-REI.B.4, HSA-REI.B.4.b, HSA-SSE.B.3.a
Alg1.7.10	HSA-REI.B.4.b, HSA-REI.D, HSA-SSE.A, HSA-SSE.A.2, HSA-SSE.B.3.a, HSF-IF.B.4
Alg1.7.11	HSA-REI.B.4.a, HSA-REI.B.4.b, HSA-SSE.A.2
Alg1.7.12	HSA-REI.B.4.a, HSA-REI.B.4.b, HSA-SSE.A, HSA-SSE.A.2
Alg1.7.13	HSA-REI.A, HSA-REI.B.4.b
Alg1.7.14	HSA-REI.B.4.a, HSA-REI.B.4.b, HSA-SSE.A.2
Alg1.7.15	HSA-REI.B.4.a, HSA-REI.B.4.b, HSA-REI.D, HSN-RN.B
Alg1.7.16	HSA-REI.B.4.b, HSA-SSE.A
Alg1.7.17	HSA-CED.A.1, HSA-REI.A, HSA-REI.B.4, HSA-REI.B.4.b, HSF-IF.B.5
Alg1.7.18	HSA-CED.A.1, HSA-REI.B.4.b, HSF-IF.A.2
Alg1.7.19	HSA-REI.B.4.a, HSA-SSE.A.2
Alg1.7.20	HSA-REI.B.4.b, HSF-IF.C.7.a, HSN-RN.B.3
Alg1.7.21	HSA-REI.B.4.b, HSN-RN.B, HSN-RN.B.3
Alg1.7.22	HSA-SSE.A.2, HSA-SSE.B.3, HSA-SSE.B.3.b, HSF-IF.C
Alg1.7.23	HSA-SSE.B.3.b, HSF-IF.C, HSF-IF.C.9
Alg1.7.24	HSA-REI.B.4.b, HSA-REI.C.7, HSF-IF.C.8.a

Unit Links

Unit 1: Exponents and Scientific Notation (Grade 8 Algebra 1 Accelerated Only)
Unit 2: Linear Equations and Systems (Unit 2A/B)
Unit 3: Inequalities (Unit 2C)
Unit 4: Functions
Unit 5: Introduction to Exponential Functions
Unit 6: Introduction to Quadratic Functions
Unit 7: Quadratic Equations
Course Assessment Map

Unit Title:

Unit 1: Exponents and Scientific Notation (Grade 8 Algebra 1 Accelerated Only)

Relevant Standards: Bold indicates priority

Lesson	Standards Alignment
8.7.1	8.EE.A.1
8.7.2	8.EE.A.1, 8.EE.A.3, 8.EE.A.4
8.7.3	8.EE.A.1, 8.EE.A.4
8.7.4	8.EE.A.1
8.7.5	8.EE.A.1
8.7.6	8.EE.A.1
8.7.7	8.EE.A.1
8.7.8	8.EE.A.1
8.7.9	8.EE.A.3, 8.EE.A.4
8.7.10	8.EE.A.3, 8.EE.A.4
8.7.11	8.EE.A.1, 8.EE.A.3, 8.EE.A.4
8.7.12	8.EE.A.3, 8.EE.A.4
8.7.13	8.EE.A.3, 8.EE.A.4
8.7.14	8.EE.A.1, 8.EE.A.3, 8.EE.A.4
8.7.15	8.EE.A.4
8.7.16	8.EE.A.3, 8.EE.A.4

Unit Narrative:

In grade 6, students studied whole-number exponents. In this unit, they extend the definition of exponents to include all integers, and in the process codify the properties of exponents. They apply these concepts to the base-ten system, and learn about orders of magnitude and scientific notation in order to represent and compute with very large and very small quantities.

Demonstration of Learning:	**Pacing for Unit**
CFA 1: Lesson 7 CFA 2: Lesson 13 EoU: Assessment A	16 Days
Family Overview (link below)	**Integration of Technology:**
Family Resources-English Family Resources-Spanish	DESMOS Pear Assessment

Unit-specific Vocabulary:	**Aligned Unit Materials, Resources, and Technology (beyond core resources):**
Exponent, base (of an exponent), reciprocal, scientific notation	DESMOS Pear Assessment
Connections to Prior Units:	**Connections to Future Units:**
Grade 6, Unit 6	Algebra 1, Unit 5
Differentiation through *Universal Design for Learning*	
UDL Indicator	**Teacher Actions:**
Representation: Highlight patterns, critical features, big ideas, and relationships	• Highlight or emphasize key elements in text, graphics, diagrams, formulas • Use outlines, graphic organizers, unit organizer routines, concept organizer routines, and concept mastery routines to emphasize key ideas and relationships • Use multiple examples and non-examples to emphasize critical features • Use cues and prompts to draw attention to critical features • Highlight previously learned skills that can be used to solve unfamiliar problems
Supporting Multilingual/English Learners	
Related *CELP standards:*	**Learning Targets:**
An EL can . . .construct appropriate oral and written claims and support them with reasoning and evidence.	I can represent situations using exponents. • Level 1: With prompting and supports, I can represent situations using exponents. • Level 2: With prompting and supports, I can represent situations using a single exponent. • Level 3 :With guidance, I can identify expressions using exponents as equivalent. • Level 4: I can determine whether expressions using exponents are equivalent or not. • Level 5: I can explain why expressions using exponents are equivalent or not.

Lesson Sequence	**Learning Target**	**Success Criteria/Assessment**
1 Exponent Review (Lesson 1)	• I can represent situations using exponents (Lesson 1)	Lesson 1: Exponent Review ○ I can use exponents to describe repeated multiplication. ○ I understand the meaning of a term with an exponent.
2 Exponent Rules (Lessons	• I can justify and critique reasoning about multiplying and dividing powers (Lesson 2-6)	Lesson 2: Multiplying Powers of Ten • I can explain and use a rule for multiplying powers of 10. Lesson 3: Powers of Powers of 10

2-8)	• I can critique reasoning about zero exponents (Lesson 4) • I can justify whether or not expressions are equivalent to exponential expressions (Lesson 6) • I can critique applications of exponent rules (Lesson 7-8)	• I can explain and use a rule for raising a power of 10 to a power. Lesson 4: Dividing Powers of 10 • I can evaluate and explain why it makes sense. • I can explain and use a rule for dividing powers of 10. Lesson 5: Negative Exponents with Powers of 10 • I can use the exponent rules with negative exponents. • I know what it means if 10 is raised to a negative power. Lesson 6: What about Other Bases? • I can use the exponent rules for bases other than 10. Lesson 7: Practice with Rational Bases • I can change an expression with a negative exponent into an equivalent expression with a positive exponent. • I can choose an appropriate exponent rule to rewrite an expression to have a single exponent. Lesson 8: Combining Bases • I can use and explain a rule for multiplying terms that have different bases but the same exponent.
3 Scientific Notation (Lessons 9-14)	• I can represent large and small numbers using number lines, exponents, and decimals (Lesson 9–11) • I can justify reasoning about situations comparing powers of 10 (Lesson 12) • I can represent situations and critique reasoning about comparing quantities expressed in scientific notation (Lesson 13-14)	Lesson 9: Describing Large and Small Numbers Using Powers of 10 • Given a very large or small number, I can write an expression equal to it using a power of 10. Lesson 10: Representing Large Numbers on the Number Line • I can plot a multiple of a power of 10 on such a number line. • I can subdivide and label a number line between 0 and a power of 10 with a positive exponent into 10 equal intervals. • I can write a large number as a multiple of a power of 10. Lesson 11: Representing Small Numbers on the Number Line • I can plot a multiple of a power of 10 on such a number line. • I can subdivide and label a number line between 0 and a power of 10 with a negative • exponent into 10 equal intervals. • I can write a small number as a multiple of a power of 10. Lesson 12: Applications of Arithmetic with Powers of 10 • I can apply what I learned about powers of 10 to answer questions about real-world situations. • I can tell whether or not a number is written in scientific notation. Lesson 13: Multiplying, Dividing, and Estimating with Scientific Notation • I can multiply and divide numbers given in scientific notation.

		• I can use scientific notation and estimation to compare very large or very small numbers. Lesson 14: Adding and Subtracting with Scientific Notation • I can add and subtract numbers given in scientific notation.
4 Let's Put it to Work (Lesson 15)	• I can use scientific notation to compare different amounts and answer questions about real-world situations.	Lesson 15: Is a Smartphone Smart Enough to Go to the Moon? • I can use scientific notation to compare different amounts and answer questions about real-world situations.

Unit Title:

Unit 2: Linear Equations and Systems (Unit 2A/B)

Relevant Standards: Bold indicates priority

Lesson	Standards
Alg1.2.1	HSA-CED.A.2, HSA-CED.A.3, HSN-Q.A.2
Alg1.2.2	HSA-CED.A.2, HSA-CED.A.3
Alg1.2.3	HSA-CED.A.2, HSA-CED.A.3, HSF-LE.A.2
Alg1.2.4	HSA-REI.A, HSA-REI.B.3
Alg1.2.5	HSA-CED.A.2, HSA-CED.A.3, HSA-REI.D.10
Alg1.2.6	HSA-CED.A.2, HSA-REI.A, HSA-REI.A.1, HSA-SSE.A.1
Alg1.2.7	HSA-REI.A, HSA-REI.A.1
Alg1.2.8	HSA-CED.A.4, HSA-REI.B.3
Alg1.2.9	HSA-CED.A.3, HSA-CED.A.4, HSA-REI.B.3
Alg1.2.10	HSA-CED.A.3, HSA-CED.A.4, HSA-REI.D.10
Alg1.2.11	HSA-CED.A.4, HSA-REI.D.10
Alg1.2.12	HSA-CED.A.3, HSA-REI.A, HSA-REI.C.6
Alg1.2.13	HSA-REI.C.6
Alg1.2.14	HSA-REI.C.5, HSA-REI.C.6
Alg1.2.15	HSA-REI.C.5, HSA-REI.C.6
Alg1.2.16	HSA-REI.C.5, HSA-REI.C.6
Alg1.2.17	HSA-CED.A.3, HSA-REI.C.6

Unit Narrative

In this unit, students expand and deepen their prior understanding of expressions, equations, and inequalities. Students reason about equations, inequalities, and systems of equations and inequalities as ways to represent constraints, and they reason about the process of solving equations and inequalities in terms of finding values that satisfy those constraints. The process of finding solutions may involve rewriting and manipulating equations. Students learn to explain and validate the steps to do so. Throughout the unit, students practice reasoning about situations and mathematical representations, interpreting expressions and numbers in context, and using mathematical tools to model quantities and relationships.

CFA 1: Lesson 6 CFA 2: Lesson 11	20 Days

CFA 3: Lesson 14 EoU: Algebra 1 Unit 2 Mid-Unit Assessment	
Family Overview (link below)	**Integration of Technology:**
Family Resources-English	*Intentionally aligned use of digital tools and resources to support acquisition of content, researching, organizing and communicating learning.*
Unit-specific Vocabulary:	**Aligned Unit Materials, Resources, and Technology (beyond core resources):**
Constraint, model, equivalent equations, solutions to a system of equations, system of equations, substitution, elimination, equivalent systems	• DESMOS • Pear Assessment
Connections to Prior Units:	**Connections to Future Units:**
Grade 8, Unit 4	Algebra 1, Unit 3
Differentiation through *Universal Design for Learning*	
UDL Indicator	**Teacher Actions:**
Representation: Support decoding of text, mathematical notation, and symbols	• Allow the use of Text-to-Speech • Use automatic voicing with digital mathematical notation (Math ML) • Use digital text with an accompanying human voice recording (e.g., Daisy Talking Books) • Allow for flexibility and easy access to multiple representations of notation where appropriate (e.g., formulas, word problems, graphs) • Offer clarification of notation through lists of key terms
Supporting Multilingual/English Learners	
Related *CELP standards:*	**Learning Targets:**
An EL can . . .determine the meaning of words and phrases in oral presentations and literary and informational text.	Learning Target: I can represent a situation with a linear equation, table, and graph. • Level 1: Relying on context, visual aids, and knowledge of morphology in the native language, I can identify the initial value and rate of change within a context. • Level 2: Using context, visual aids, reference materials, and knowledge of morphology in the native language, I can define the initial value and rate of change using graphs and tables. • Level 3: Using context, visual aids, reference materials, and a developing knowledge of English morphology (e.g. affixes and roots words), I can determine when it is appropriate to use an equation in standard form. • Level 4: Using context, reference materials, and an increasing knowledge of English morphology, I can describe how a representation matches the description of a linear relationship.

		• Level 5: Using context, reference materials, and knowledge of English morphology, I can defend how multiple representations illustrate a given linear relationship.
Lesson Sequence	**Learning Target(s)**	**Success Criteria/ Assessment**

1 Writing and Modeling with Equations (Lessons 1-5)	• I can represent a situation with a linear equation, table, and graph (Lessons 1-5).
	• I can recognize what values make sense as solutions within a context (Lessons 1-5).
		• Lesson 1: Planning a Pizza Party
		  ○ I can explain the meaning of the term "constraints."
		  ○ I can tell which quantities in a situation can vary and which ones cannot.
		  ○ I can use letters and numbers to write expressions representing the quantities in a situation.
		• Lesson 2: Writing Equations to Model Relationships (Part 1)
		  ○ I can tell which quantities in a situation can vary and which ones cannot.
		  ○ I can use letters and numbers to write equations representing the relationships in a situation.
		• Lesson 3: Writing Equations to Model Relationships (Part 2)
		  ○ I can use words and equations to describe the patterns I see in a table of values or in a set of calculations.
		  ○ When given a description of a situation, I can use representations like diagrams and tables to help make sense of the situation and write equations for it.
		• Lesson 4: Equations and Their Solutions
		  ○ I can explain what it means for a value or pair of values to be a solution to an equation.
		  ○ I can find solutions to equations by reasoning about a situation or by using algebra.
		• Lesson 5: Equations and Their Graphs
		  ○ I can use graphing technology to graph linear equations and identify solutions to the equations.
		  ○ I understand how the coordinates of the points on the graph of a linear equation are related to the equation.
		  ○ When given the graph of a linear equation, I can explain the meaning of the points on the graph in terms of the situation it represents.

2 Manipulating Equations and Understanding Their Structure (Lessons	• I can justify why two expressions are equivalent using algebraic moves (Lessons 6 and 7).
	• I can strategically isolate a variable within an equation based on the context of the problem (Lessons 8 and 9).
		• Lesson 6: Equivalent Equations
		  ○ I can tell whether two expressions are equivalent and explain why or why not.
		  ○ I know and can identify the moves that can be made to transform an equation into an equivalent one.
		  ○ I understand what it means for two equations to be equivalent, and how equivalent equations

6-11)	• I can identify key features of linear relationships within equations and graphs (Lessons 10 and 11).	can be used to describe the same situation in different ways. • Lesson 7: Explaining Steps for Rewriting Equations ○ I can explain why some algebraic moves create equivalent equations but some do not. ○ I know how equivalent equations are related to the steps of solving equations. ○ I know what it means for an equation to have no solutions and can recognize such an equation. • Lesson 8: Which Variable to Solve for? (Part 1) ○ Given an equation, I can solve for a particular variable (like height, time, or length) when the equation would be more useful in that form. ○ I know the meaning of the phrase "to solve for a variable." • Lesson 9: Which Variable to Solve for? (Part 2) ○ I can write an equation to describe a situation that involves multiple quantities whose values are not known, and then solve the equation for a particular variable. ○ I know how solving for a variable can be used to quickly calculate the values of that variable. • Lesson 10: Connecting Equations to Graphs (Part 1) ○ I can describe the connections between an equation of the form $ax + by = c$, the features of its graph, and the rate of change in the situation. ○ I can graph a linear equation of the form $ax + by = c$. ○ I understand that rewriting the equation for a line in different forms can make it easier to find certain kinds of information about the relationship and about the graph. • Lesson 11: Connecting Equations to Graphs (Part 2) ○ I can find the slope and vertical intercept of a line with equation $ax + by = c$. ○ I can take an equation of the form $ax + by = c$ and rearrange it into the equivalent form $y = mx + b$. ○ I can use a variety of strategies to find the slope and vertical intercept of the graph of a linear equation given in different forms.
3 Systems of Linear Equations in Two Variables (Lessons 12-17)	• I can strategically solve a system of equations algebraically and graphically (Lessons 12-17). • I can interpret information about the solutions to a system of equations using the structure of the equation (Lessons 12-17).	• Lesson 12: Writing and Graphing Systems of Linear Equations ○ I can explain what we mean by "the solution to a system of linear equations" and can explain how the solution is represented graphically. ○ I can explain what we mean when we refer to two equations as a system of equations. ○ I can use tables and graphs to solve systems of equations. • Lesson 13: Solving Systems by Substitution ○ I can solve systems of equations by substituting a variable or an expression.

		○ I know more than one way to perform substitution and can decide which way or what to substitute based on how the given equations are written. ● Lesson 14: Solving Systems by Elimination (Part 1) ○ I can solve systems of equations by adding or subtracting them to eliminate a variable. ○ I know that adding or subtracting equations in a system creates a new equation, where one of the solutions to this equation is the solution to the system. ● Lesson 15: Solving Systems by Elimination (Part 2) ○ I can explain why adding or subtracting two equations that share a solution results in a new equation that also shares the same solution. ● Lesson 16: Solving Systems by Elimination (Part 3) ○ I can solve systems of equations by multiplying each side of one or both equations by a factor, then adding or subtracting the equations to eliminate a variable. ○ I understand that multiplying each side of an equation by a factor creates an equivalent equation whose graph and solutions are the same as that of the original equation. ● Lesson 17: Systems of Linear Equations and Their Solutions ○ I can tell how many solutions a system has by graphing the equations or by analyzing the parts of the equations and considering how they affect the features of the graphs. ○ I know the possibilities for the number of solutions a system of equations could have.

Unit Title:

Unit 3: Inequalities (Unit 2C)

Relevant Standards: Bold indicates priority

Lesson	Standards
Alg1.2.18	HSA-CED.A.3, HSN-Q.A.2
Alg1.2.19	HSA-CED.A.1, HSA-REI.B.3
Alg1.2.20	HSA-CED.A.1, HSA-CED.A.3, HSA-REI.B.3
Alg1.2.21	HSA-REI.D.12
Alg1.2.22	HSA-CED.A.3, HSA-REI.D.10, HSA-REI.D.12
Alg1.2.23	HSA-CED.A.3, HSA-REI.D.12
Alg1.2.24	HSA-CED.A.3, HSA-REI.D.12
Alg1.2.25	HSA-REI.D.12
Alg1.2.26	HSA-CED.A.3, HSA-REI.D.12, HSN-Q.A.2

Unit Narrative:

In this unit, students rely on their understanding of equations to explore inequalities in one and two variables. They see that inequalities are a handy way to express constraints that involve an upper or lower limit, and can be satisfied by a range of values rather than a single value. Students see that a solution to an inequality (in one or two variables) is a value or a pair of values that makes the inequality true, and a solution to a system of inequalities in two variables is any pair of values that make both inequalities in the system true. The solution set of a system of inequalities, they learn, can be best represented by graphing.

Demonstration of Learning:	**Pacing for Unit**
CFA 1: Lesson 20 CFA 2: Lesson 23 EoU: Algebra 1 Unit 2 End-of-Unit Assessment	15 Days
Family Overview (link below)	**Integration of Technology:**
Family Resources-English	Pear Assessment DESMOS
Unit-specific Vocabulary:	**Aligned Unit Materials, Resources, and Technology (beyond core resources):**
Solution to a system of inequalities, system of inequalities	• DESMOS • Pear Assessment
Connections to Prior Units:	**Connections to Future Units:**

Grade 6, Unit 6	Algebra 1, Unit 5
Differentiation through *Universal Design for Learning*	
UDL Indicator	**Teacher Actions:**
Representation: Support decoding of text, mathematical notation, and symbols	• Allow the use of Text-to-Speech • Use automatic voicing with digital mathematical notation (Math ML) • Use digital text with an accompanying human voice recording (e.g., Daisy Talking Books) • Allow for flexibility and easy access to multiple representations of notation where appropriate (e.g., formulas, word problems, graphs) • Offer clarification of notation through lists of key terms
Supporting Multilingual/English Learners	
Related *CELP standards:*	**Learning Targets:**
An EL can . . .determine the meaning of words and phrases in oral presentations and literary and informational text.	Learning Target: I can write and solve linear inequalities in two variables and justify their solutions. • Level 1: Relying on context, visual aids, and knowledge of morphology in the native language, I can use the correct inequality symbol to create an inequality. • Level 2: Using context, visual aids, reference materials, and knowledge of morphology in the native language, I can use the correct inequality symbol to create an inequality from a given representation. • Level 3: Using context, visual aids, reference materials, and a developing knowledge of English morphology (e.g. affixes and roots words), I can explain the constraint of a given inequality. • Level 4: Using context, reference materials, and an increasing knowledge of English morphology, I can explain the constraint of a given inequality and justify its solution. • Level 5: Using context, reference materials, and knowledge of English morphology, I can justify how a solution to an inequality satisfies its constraints.

Lesson Sequence	**Learning Target**	**Success Criteria/ Assessment**
1 Linear Inequalities in One Variable (Lessons 18-20)	• I can write and solve linear inequalities in one variable and justify their solutions (Lessons 18-20).	Lesson 18: Representing Situations with Inequalities • I can write inequalities that represent the constraints in a situation. Lesson 19: Solutions to Inequalities in One Variable • I can graph the solution to an inequality in one variable.

		• I can solve one-variable inequalities and interpret the solutions in terms of the situation. • I understand that the solution to an inequality is a range of values (such as x>7) that make the inequality true. Lesson 20: Writing and Solving Inequalities in One Variable • I can analyze the structure of an inequality in one variable to help determine if the solution is greater or less than the solution to the related equation. • I can write and solve inequalities to answer questions about a situation.
2 Linear Inequalities in Two Variables (Lessons 21-23)	• I can write and solve linear inequalities in two variables and justify their solutions (Lessons 21-23).	Lesson 21: Graphing Linear Inequalities in Two Variables (Part 1) • Given a two-variable inequality and the graph of the related equation, I can determine which side of the line the solutions to the inequality will fall. • I can describe the graph that represents the solutions to a linear inequality in two variables. Lesson 22: Graphing Linear Inequalities in Two Variables (Part 2) • Given a two-variable inequality that represents a situation, I can interpret points in the coordinate plane and decide if they are solutions to the inequality. • I can find the solutions to a two-variable inequality by using the graph of a related two-variable equation. • I can write inequalities to describe the constraints in a situation. Lesson 23: Solving Problems with Inequalities in Two Variables • I can use graphing technology to find the solution to a two-variable inequality. • When given inequalities, graphs, and descriptions that represent the constraints in a situation, I can connect the different representations and interpret them in terms of the situation.
3 Systems of Linear Inequalities in Two Variables (Lessons 24-26)	• I can solve systems of linear inequalities graphically and make sense of values that fall within the solution region (Lessons 24-26).	Lesson 24: Solutions to Systems of Linear Inequalities in Two Variables • I can write a system of inequalities to describe a situation, find the solution by graphing, and interpret points in the solution. • I know what is meant by "the solutions to a system of inequalities" and can describe the graphs that represent the solutions. • When given descriptions and graphs that represent two different constraints, I can find values that satisfy each constraint individually, and values that satisfy both constraints at once. Lesson 25: Solving Problems with Systems of Linear Inequalities in Two Variables

		• I can explain how to tell if a point on the boundary of the graph of the solutions to a system of inequalities is a solution or not. Lesson 26: Modeling with Systems of Inequalities in Two Variables • I can interpret inequalities and graphs in a mathematical model. • I know how to choose variables, specify the constraints, and write inequalities to create a mathematical model.

Unit Title:

Unit 4: Functions

Relevant Standards: Bold indicates priority

Lesson	Standards
Alg1.4.1	HSF-IF.A.1, HSF-IF.B.4
Alg1.4.2	HSF-IF.A.1, HSF-IF.A.2, HSF-IF.B.4
Alg1.4.3	HSF-IF.A.2, HSF-IF.B.4
Alg1.4.4	HSF-BF.A.1, HSF-BF.A.1.a, HSF-IF.A.1, HSF-IF.A.2, HSF-IF.B.4, HSF-IF.C
Alg1.4.5	HSA-REI.A.1, HSF-IF.A.2, HSF-IF.B.4, HSF-IF.C.7
Alg1.4.6	HSF-IF.B.4
Alg1.4.7	HSF-IF.B.6
Alg1.4.8	HSF-IF.B.4, HSF-IF.B.6
Alg1.4.9	HSA-REI.D.11, HSF-IF.B.4, HSF-IF.B.6
Alg1.4.10	HSF-IF.B, HSF-IF.B.5
Alg1.4.11	HSF-IF.B.4, HSF-IF.B.5
Alg1.4.12	HSF-IF.A.2, HSF-IF.B.5, HSF-IF.C, HSF-IF.C.7, HSF-IF.C.7.b
Alg1.4.13	HSF-IF.C, HSF-IF.C.7.b
Alg1.4.14	HSF-BF.A.1, HSF-BF.A.1.a, HSF-BF.B.3, HSF-IF.C, HSF-IF.C.7.b
Alg1.4.15	HSF-BF.B.4
Alg1.4.16	HSA-CED.A.4, HSF-BF.B.4
Alg1.4.17	HSF-BF.A.1, HSF-BF.B.4, HSF-BF.B.4.a, HSF-IF.A.2, HSF-IF.B.4, HSS-ID.B.6.a, HSS-ID.B.6.c
Alg1.4.18	HSF-BF.A.1, HSF-IF.B.6, HSS-ID.B.6, HSS-ID.B.6.a, HSS-ID.B.6.c

Unit Narrative:

In this unit, students expand their understanding of functions, building on what they learned in grade 8. Students develop their capacity to represent, interpret, and use functions to make sense of quantities in situations and to solve problems. They are introduced to new tools for communicating about functions: function notation, domain and range, average rates of change, and mathematical terms for describing key features of graphs. They also develop their ability to gather information about a function from its graph, by connecting features of the graph to features of the situation and other representations, and to sketch a graph that tells the story about the function. Along the way, students begin to distinguish categories of functions: linear functions, piecewise-defined functions (the absolute value function, in particular), and inverse functions. Throughout the unit, students use, interpret, and connect the different representation of functions, both in and out of context.

Demonstration of Learning:	**Pacing for Unit**
CFA 1: Lesson 5 CFA 2: Lesson 7 CFA 3: Lesson 12 CFA 4: Lesson 16 MoU: After Lesson 9 (scientific calculator) #5 identify City A as Red/dotted and City B blue/solid–reorder problems (1,7,2,6....) EoU: Assessment A	20 Days
Family Overview (link below)	**Integration of Technology:**
Family Resources- English	Pear Assessment DESMOS
Unit-specific Vocabulary:	**Aligned Unit Materials, Resources, and Technology (beyond core resources):**
dependent variable, function, independent variable, function notation, decreasing (function, horizontal intercept, increasing (function), maximum, minimum, vertical intercept, average rate of change, domain, range, piecewise function, absolute value, inverse (function)	• DESMOS • Pear Assessment
Connections to Prior Units:	**Connections to Future Units:**
Grade 8 Unit 5	Algebra 1 Unit 5
Differentiation through *Universal Design for Learning*	
UDL Indicator	**Teacher Actions:**
Representation: Highlight patterns, critical features, big ideas, and relationships	• Highlight or emphasize key elements in text, graphs, tables and formulas • Use multiple examples and non-examples to emphasize critical features • Use cues and prompts to draw attention to critical features • Highlight previously learned skills that can be used to solve unfamiliar problems
Supporting Multilingual/English Learners	
Related *CELP standards:*	**Learning Targets:**
An EL can . . . construct grade appropriate oral and written claims and support them with reasoning and evidence.	Compare key features of graphs of functions and interpret them in context. • Level 1- with prompting and supports, I can verbally or nonverbally express the key features of graphs of functions using a limited number of words and phrases.

		• Level 2-with prompting and supports, I can compare key features of graphs of functions using academic and domain specific vocabulary • Level 3- with guidance and supports, I can compare key features of graphs of functions using academic and domain specific vocabulary • Level 4- I can compare and interpret key features of graphs of functions using academic and domain specific vocabulary • Level 5- I can use academic and math vocabulary to address a counter argument about the key features of graphs of functions and interpret what they mean in a context.
Lesson Sequence	**Learning Target**	**Success Criteria/Assessment**
1 Functions and Their Representations (Lessons 1-5)	• Interpret functions represented verbally, graphically and in function notation in context of a real world situation. • Write and solve equations given in function notation, either by graphing or by reasoning algebraically.	Lesson 1 Describing and Graphing Situations • I can explain when a relationship between two quantities is a function. • I can identify independent and dependent variables in a function, and use words and graphs to represent the function. • I can make sense of descriptions and graphs of functions and explain what they tell us about situations. Lesson 2: Function Notation • I can use function notation to express functions that have specific inputs and outputs. • I understand what function notation is and why it exists. • When given a statement written in function notation, I can explain what it means in terms of a situation. Lesson 3: Interpreting & Using Function Notation • I can describe the connections between a statement in function notation and the graph of the function. • I can use function notation to efficiently represent a relationship between two quantities in a situation. • I can use statements in function notation to sketch a graph of a function. Lesson 4: Using Function Notation to Describe Rules (Part 1) • I can make sense of rules of functions when they are written in function notation, and create tables and graphs to represent the functions. • I can write equations that represent the rules of functions. Lesson 5: Using Function Notation to Describe Rules (Part 2) • I can use technology to graph a function given in function notation, and use the graph to find the values of the function.

		• I know different ways to find the value of a function and to solve equations written in function notation. • I know what makes a function a linear function.
2 Analyzing and Creating Graphs of Functions (Lessons 6-9)	• Compare key features of graphs of functions and interpret them in context. • Interpret statements about two or more functions written in function notation.	Lesson 6: Features of Graphs • I can identify important features of graphs of functions and explain what they mean in the situations represented. • I understand and can use the terms "horizontal intercept," "vertical intercept," "maximum," and "minimum" when talking about functions and their graphs. Lesson 7: Using Graphs to Find Average Rate of Change • I understand the meaning of the term "average rate of change." • When given a graph of a function, I can estimate or calculate the average rate of change between two points. Lesson 8: Interpreting and Creating Graphs • I can explain the average rate of change of a function in terms of a situation. • I can make sense of important features of a graph and explain what they mean in a situation. • When given a description or a visual representation of a situation, I can sketch a graph that shows important features of the situation. Lesson 9: Comparing Graphs • I can compare the features of graphs of functions and explain what they mean in the situations represented. • I can make sense of an equation of the form $f(x)=g(x)$ in terms of a situation and a graph, and know how to find the solutions. • I can make sense of statements about two or more functions when they are written in function notation.
3 A Closer Look at Inputs and Outputs (Lessons 10-14)	• Determine and interpret domain and range given different representations. • Understand a piecewise function as a function defined by different rules for different intervals of the domain. • Interpret an absolute value function described in words or in function notation	Lesson 10: Domain and Range (Part 1) • I know what is meant by the "domain" and "range" of a function. • When given a description of a function in a situation, I can determine a reasonable domain and range for the function. Lesson 11: Domain and Range (Part 2) • When given a description of a function in a situation, I can determine a reasonable domain and range for the function. Lesson 12: Piecewise Functions • I can make sense of a graph of a piecewise function in terms of a situation, and sketch a graph of the function when the rules are given. • I can make sense of the rules of a piecewise function when they are written in function notation and explain what they mean in the situation represented.

		• I understand what makes a function a piecewise function. Lesson 13: Absolute Value Functions (Part 1) • Given a set of numerical guesses and a target number, I can calculate absolute errors and create a scatter plot of the data. • I can analyze and describe features of a scatter plot that shows absolute error data. • I can describe the general relationship between guesses and absolute errors using words or equations. Lesson 14: Absolute Value Functions (Part 2) • I can describe the effects of adding a number to the expression that defines an absolute value function. • I can explain the meaning of absolute value function in terms of distance. • When given an absolute value function in words or in function notation, I can make sense of it, and can create a table of values and a graph to represent it.
4 Inverse Functions (Lessons 15-17)	• Interpret an inverse function in terms of the quantities in a situation. • Write a linear function and an inverse function to model data and solve problems.	Lesson 15: Inverse Functions • I understand the meaning of “inverse function” and how it could be found. • When given a linear function that represents a situation, I can use words and equations to describe the inverse function. Lesson 16: Finding and Interpreting Inverse Functions • I can explain the meaning of an inverse function in terms of a situation. • When I have an equation that defines a linear function, I know how to find its inverse. Lesson 17: Writing Inverse Functions to Solve Problems • I can write a linear function to model given data and find the inverse of the function. • When given a linear function defined using function notation, I know how to find its inverse.

Unit Title:

Unit 5: Introduction to Exponential Functions

Relevant Standards: Bold indicates priority

Lesson	Standards
Alg1.5.1	HSF-BF.A.1.a, HSF-IF.B.4, HSF-LE.A.3
Alg1.5.2	HSF-BF.A, HSF-BF.A.1.a, HSF-IF.B.4, HSF-LE.A.1, HSF-LE.A.2
Alg1.5.3	HSA-CED.A.2, HSF-BF.A.1.a, HSF-IF.C.7, HSF-LE.B.5
Alg1.5.4	HSA-CED.A.2, HSA-SSE.A.1, HSF-BF.A, HSF-BF.A.1.a, HSF-LE.A.2, HSF-LE.B.5
Alg1.5.5	HSA-CED.A.2, HSF-BF.A, HSF-IF.B.4, HSF-IF.C.7.e, HSF-LE.A.2, HSF-LE.B.5
Alg1.5.6	HSA-CED.A.2, HSF-BF.A.1, HSF-IF.B.4
Alg1.5.7	HSA-CED.A.2, HSA-SSE.A.1, HSF-IF.B.4, HSF-IF.C.7.e, HSF-LE.B.5, HSN-Q.A.1
Alg1.5.8	HSF-IF.A.2, HSF-IF.B, HSF-IF.B.5, HSF-IF.C.7, HSF-LE.A.2, HSN-Q.A.1
Alg1.5.9	HSA-SSE.A, HSF-IF.A.2, HSF-IF.B.5, HSF-IF.C.7.e, HSF-LE.A.2
Alg1.5.10	HSF-IF.B.6
Alg1.5.11	HSF-BF.A.1, HSF-IF.A.2, HSF-IF.B.4, HSF-IF.B.5, HSF-LE.A.1, HSF-LE.A.1.c, HSF-LE.A.2, HSF-LE.B.5, HSN-Q.A.1, HSN-Q.A.3, HSS-ID.B.6.a
Alg1.5.12	HSF-IF.B.4, HSF-LE.B.5
Alg1.5.13	HSF-IF.B.4, HSF-LE.A.2, HSF-LE.B.5
Alg1.5.14	HSF-LE.A.2
Alg1.5.15	HSF-BF.A.1, HSF-BF.A.1.a, HSF-IF.B.6, HSF-IF.C.7.e, HSF-LE.A.2
Alg1.5.16	HSF-BF.A.1.a
Alg1.5.17	HSA-SSE.A, HSA-SSE.A.1, HSF-BF.A.1.a, HSF-IF.A.2, HSN-Q.A.2
Alg1.5.18	HSA-SSE.A.1.b, HSA-SSE.B.3.c, HSF-IF.A.2, HSF-IF.C.8, HSF-IF.C.8.b
Alg1.5.19	HSF-IF.A.2, HSF-IF.B.4, HSF-IF.B.5, HSF-LE.A.1, HSF-LE.A.2, HSF-LE.A.3
Alg1.5.20	HSF-LE.A.1.a, HSF-LE.A.1.b, HSF-LE.A.2
Alg1.5.21	HSF-LE.A.1, HSF-LE.A.1.b, HSF-LE.A.1.c, HSF-LE.A.2, HSN-Q.A.3, HSS-ID.B.6.a

Unit Narrative:

In this unit, students are introduced to exponential relationships. Students learn that exponential relationships are characterized by a constant quotient over equal intervals, and compare them to linear relationships which are characterized by a constant difference over equal intervals. They encounter contexts with quantities that change exponentially. These contexts are presented verbally and with tables and graphs. They construct equations and use them to model situations and solve problems. They learn that the output of an increasing exponential function is eventually greater than the output of an increasing linear function for the same input.

Students view these new types of relationships as functions and employ the notation and terminology of functions (for example, dependent and independent variables). They study graphs of exponential functions both in terms of contexts they represent and abstract functions that don't represent a particular context, observing the effect of different values of and on the graph of the function f represented by $f(x) = ab^x$. The context of credit (both in terms of loans and savings) is used through several lessons.

Demonstration of Learning:	**Pacing for Unit**
CFA 1: Lesson 4 CFA 2: Lesson 7 CFA 3: Lesson 17 MoU: Assessment A EoU: Assessment A (consider removing #4)	23 Days
Family Overview (link below)	**Integration of Technology:**
Family Resources-English	Desmos Pear Assessment
Unit-specific Vocabulary:	**Aligned Unit Materials, Resources, and Technology (beyond core resources):**
Growth factor, exponential function, growth rate,	• DESMOS • Pear Assessment
Connections to Prior Units:	**Connections to Future Units:**
Grade 8 Unit 7	Algebra 1 Unit 6 Algebra 2 Units 1 and 4
Differentiation through *Universal Design for Learning*	
UDL Indicator	**Teacher Actions:**
Representation: Guide information processing and visualization	• Give explicit prompts for each step in a sequential process • Provide options for organizational methods and approaches (tables and algorithms for processing mathematical operations) • Introduce graduated scaffolds that support information processing strategies • Provide multiple entry points to a lesson and optional pathways through content (e.g., exploring big ideas through dramatic works, arts and literature, film and media) • "Chunk" information into smaller elements • Progressively release information (e.g., sequential highlighting) • Remove unnecessary distractions unless they are

	essential to the instructional goal
Supporting Multilingual/English Learners	
Related *CELP standards:*	**Learning Targets:**
participate in grade appropriate oral and written exchanges of information, ideas, and analyses, responding to peer, audience, or reader comments and questions.	Interpret equations that represent exponential growth situations or exponential decay situations. • Level 1: With prompting and supports, I can identify exponential growth or decay situations verbally or nonverbally. • Level 2: With prompting and supports, I can represent an exponential growth or decay situation with a graph or equation. • Level 3: With guidance and supports, I can describe why a situation is exponential growth or decay through written exchange or orally. • Level 4: I can participate in conversations using academic and domain specific vocabulary to compare and contrast situations that involve exponential growth or decay. • Level 5: I can summarize the impact of a negative exponent in exponential growth or decay situations and interpret what it means.

Lesson Sequence	**Learning Target**	**Success Criteria/Assessment**
1 Looking at Growth (Lessons 1-2)	• Given descriptions of linear and exponential relationships, I can create tables of values, write expressions and interpret graphs.	Lesson 1: Growing and Growing • I can compare growth patterns using calculations and graphs. Lesson 2: Patterns of Growth • I can use words and expressions to describe patterns in tables of values. • When I have descriptions of linear and exponential relationships, I can write expressions and create tables of values to represent them.
2 A New Kind of Relationship (Lessons 3-7)	• Interpret equations that represent exponential growth situations or exponential decay situations. • Write and graph an equation that represents exponential growth or exponential decay to solve problems.	Lesson 3: Representing Exponential Growth • I can explain the connections between an equation and a graph that represents exponential growth. • I can write and interpret an equation that represents exponential growth. Lesson 4: Understanding Decay • I can use only multiplication to represent "decreasing a quantity by a fraction of itself." • I can write an expression or equation to represent a quantity that decays exponentially. I know the meanings of “exponential growth” and “exponential decay.” Lesson 5: Representing Exponential Decay • I can explain the meanings of and in an equation that represents exponential decay and is written as . y = a*b^x • I can find a growth factor from a graph and write an equation to represent exponential decay.

		• I can graph equations that represent quantities that change by a growth factor between 0 and 1. Lesson 6: Analyzing Graphs • I can use graphs to compare and contrast situations that involve exponential decay. • I can use information from a graph to write an equation that represents exponential decay. Lesson 7: Using Negative Exponents • I can describe the meaning of a negative exponent in equations that represent exponential decay. • I can write and graph an equation that represents exponential decay to solve problems.
3 Exponential Functions (Lessons 8-13)	• Interpret graphs of exponential functions and equations written in function notation to answer questions about a context. • Understand that an exponential function, unlike a linear function, has different average rate of change values for different intervals. • Use exponential functions to model situations that involve exponential growth or decay.	Lesson 8: Exponential Situations as Functions • I can use function notation to write equations that represent exponential relationships. • When I see relationships in descriptions, tables, equations, or graphs, I can determine whether the relationships are functions. Lesson 9: Interpreting Exponential Functions • I can analyze a situation and determine whether it makes sense to connect the points on the graph that represents the situation. • When I see a graph of an exponential function, I can make sense of and describe the relationship using function notation. Lesson 10: Looking at Rates of Change • I can calculate the average rate of change of a function over a specified period of time. • I know how the average rate of change of an exponential function differs from that of a linear function. Lesson 11: Modeling Exponential Behavior • I can use exponential functions to model situations that involve exponential growth or decay. • When given data, I can determine an appropriate model for the situation described by the data. Lesson 12: Reasoning about Exponential Graphs (Part 1) • I can describe the effect of changing and on a graph that represents . • I can use equations and graphs to compare exponential functions. Lesson 13: Reasoning about Exponential Graphs (Part 2) • I can explain the meaning of the intersection of the graphs of two functions in terms of the situations they represent. • When I know two points on a graph of an exponential function, I can write an equation for the function.
4 Percent Growth and Decay (Lessons 14-18)	• Interpret and evaluate exponential expressions to solve problems. • Write equivalent expressions to highlight different aspects of a situation that involves	Lesson 14: Recalling Percent Change • I can find the result of applying a percent increase or decrease on a quantity. • I can write different expressions to represent a starting amount and a percent increase or decrease. Lesson 15: Functions Involving Percent Change • I can use graphs to illustrate and compare different percent increases.

	repeated percent increase or decrease. • Compare interest rates and compounding intervals to choose the better investment option.	• I can write a numerical expression or an algebraic expression to represent the result of applying a percent increase repeatedly. Lesson 16: Compounding Interest • I can explain why applying a percent increase, p, n times is like or unlike applying the percent increase $n \cdot p$. Lesson 17: Different Compounding Intervals • I can calculate interest when I know the starting balance, interest rate, and compounding intervals. • When given interest rates and compounding intervals, I can choose the better investment option. Lesson 18: Expressed in Different Ways • I can solve problems using exponential expressions written in different ways. • I can write equivalent expressions to represent situations that involve repeated percent increase or decrease.
5 Compare Linear and Exponential Functions (Lessons 19-20)	• Calculate and compare rates of change of both linear and exponential functions given graphs, equations, or tables.	Lesson 19: Which One Changes Faster? • I can use tables, calculations, and graphs to compare growth rates of linear and exponential functions and predict how the quantities change eventually. Lesson 20: Changes over Equal Intervals • I can calculate rates of change of functions given graphs, equations, or tables. • I can use rates of change to describe how a linear function and an exponential function change over equal intervals.

Unit Title:

Unit 6: Introduction to Quadratic Functions

Relevant Standards: Bold indicates priority

Lesson	Standards
Alg1.6.1	HSF-BF.A.1.a, HSF-LE.A
Alg1.6.2	HSA-SSE.A.1, HSA-SSE.B.3, HSF-BF.A.1.a
Alg1.6.3	HSA-SSE.A.1, HSF-BF.A.1.a, HSF-IF.A.2
Alg1.6.4	HSF-BF.A.1.a, HSF-IF.C, HSF-LE.A.3
Alg1.6.5	HSF-BF.A.1, HSF-BF.A.1.a, HSF-IF.A.2
Alg1.6.6	HSF-BF.A.1, HSF-BF.A.1.a, HSF-IF.B.5, HSF-IF.C, HSF-IF.C.7.a
Alg1.6.7	HSF-BF.A.1.a, HSF-IF.B.5, HSF-IF.C.7.a
Alg1.6.8	HSA-SSE.A, HSA-SSE.A.2, HSA-SSE.B.3, HSF-IF.C.8
Alg1.6.9	HSA-SSE.A.2, HSA-SSE.B.3, HSF-IF.C.8
Alg1.6.10	HSA-SSE.B.3
Alg1.6.11	HSA-SSE.A, HSF-IF.C.7.a
Alg1.6.12	HSF-BF.B.3, HSF-IF.C, HSF-IF.C.7, HSF-LE.A.2
Alg1.6.13	HSA-SSE.B.3, HSF-BF.B.3, HSF-IF.C.7, HSF-IF.C.7.a
Alg1.6.14	HSF-IF.A.2, HSF-IF.B.4, HSF-IF.C.7.a, HSF-IF.C.8, HSF-IF.C.9
Alg1.6.15	HSF-BF.B.3, HSF-IF.C, HSF-IF.C.7.a, HSF-IF.C.8.a
Alg1.6.16	HSF-IF.C, HSF-IF.C.7.a
Alg1.6.17	HSF-BF.B.3, HSF-IF.C, HSF-IF.C.7.a

Unit Narrative:

In this unit, students study quadratic functions systematically. They look at patterns which grow quadratically and contrast them with linear and exponential growth. Then they examine other quadratic relationships via tables, graphs, and equations, gaining appreciation for some of the special features of quadratic functions and the situations they represent. They analyze equivalent quadratic expressions and how these expressions help to reveal important behavior of the associated quadratic function and its graph. They gain an appreciation for the factored, standard, and vertex forms of a quadratic function and use these forms to solve problems.

Demonstration of Learning:	Pacing for Unit
CFA 1: Lesson 3 CFA 2: Lesson 9 CFA 3: Lesson 14	19 Days

MoU: Version A EoU: Version A	
Family Overview (link below)	**Integration of Technology:**
Family Resources-English	DESMOS Pear Assessment
Unit-specific Vocabulary:	**Aligned Unit Materials, Resources, and Technology (beyond core resources):**
Quadratic expression, quadratic function, vertex (of a graph), zero (of a function), factored form (of a quadratic expression) standard form (of a quadratic expression), vertex form	• DESMOS • Pear Assessment
Connections to Prior Units:	**Connections to Future Units:**
None	Algebra 1 Unit 7 Geometry Unit 6
Differentiation through *Universal Design for Learning*	
UDL Indicator	**Teacher Actions:**
Representation: Highlight patterns, critical features, big ideas, and relationships	• Highlight or emphasize key elements in word problems, graphics, diagrams, formulas • Use concept mastery routines to emphasize key ideas and relationships • Use multiple examples and non-examples to emphasize critical features • Use cues and prompts to draw attention to critical features • Highlight previously learned skills that can be used to solve unfamiliar problems
Supporting Multilingual/English Learners	
Related *CELP standards:*	**Learning Targets:**
An EL can . . .construct grade-appropriate oral and written claims and support them with reasoning and evidence.	Learning Target: I can describe (orally and in writing) how the structure of a quadratic equation expressed in standard, factored and vertex form determines the key features of its graph. • Level 1: With prompting and supports, I can identify standard, factored, and vertex forms of quadratic equations. • Level 2: With prompting and supports, I can identify key features of quadratic equations written in standard, factored, and vertex forms. • Level 3: With guidance and support, I can match key features in quadratic equations to quadratic graphs. • Level 4: I can use the structure of a quadratic equation to represent it graphically.

		• Level 5: I can describe (orally and in writing) how the structure of a quadratic equation expressed in standard, factored and vertex form determines the key features of its graph.
Lesson Sequence	**Learning Target**	**Success Criteria/Assessment**
A Different Kind of Change (Lessons 1-2)	• Describe (orally and in writing) a pattern of change associated with a quadratic relationship.	• I can create drawings, tables, and graphs that represent the area of a garden. • I can recognize a situation represented by a graph that increases then decreases. • I can describe how a pattern is growing. • I can tell whether a pattern is growing linearly, exponentially, or quadratically. • I know a quadratic expression has a squared term.
Quadratic Functions (Lessons 3-7)	• Demonstrate using visual models, graphs, tables, and calculations to show that exponential functions eventually overtake quadratic functions. • Write and interpret (orally and in writing) quadratic functions that model real world situations. represent a physical phenomenon.	• I can recognize quadratic functions written in different ways. • I can use information from a pattern of shapes to write a quadratic function. • I know that, in a pattern of shapes, the step number is the input and the number of squares is the output. • I can explain using graphs, tables, or calculations that exponential functions eventually grow faster than quadratic functions. • I can explain the meaning of the terms in a quadratic expression that represents the height of a falling object. • I can use tables, graphs and equations to represent the height of a falling object. • I can create quadratic functions and graphs that represent a situation. • I can relate the vertex of a graph and the zeros of a function to a situation. • I know that the domain of a function can depend on the situation it represents. • I can choose a domain that makes sense in a revenue situation. • I can model revenue with quadratic functions and graphs. • I can relate the vertex of a graph and the zeros of a function to a revenue situation.
Working with Quadratic Expressions (Lessons 8-10)	• Given a quadratic expression in factored form, I can rewrite it in standard form. • Interpret (orally and in writing) the meaning of y-intercepts and x-intercepts on a graph of a quadratic function that represents a context.	• I can rewrite quadratic expressions in different forms by using an area diagram or the distributive property. • I can rewrite quadratic expressions given in factored form in standard form using either the distributive property or a diagram. • I know the difference between “factored form” and “standard form.” • I can explain the meaning of the intercepts on a graph of a quadratic function in terms of the situation it represents.

		• I know how the numbers in the factored form of a quadratic expression relate to the intercepts of its graph.
Features of Graphs of Quadratic Functions (Lessons 11-17)	• Given a quadratic function in factored form, explain how to determine the vertex and x -intercept of its graph. • I can graph a quadratic function. • I can explain how a quadratic equation and its graph relate to a situation. • Describe (orally and in writing) how the structure of a quadratic equation expressed in standard, factored and vertex form determine the key features of its graph.	• I can graph a quadratic function given in factored form. • I know how to find the vertex and y-intercept of the graph of a quadratic function in factored form without graphing it first. • I can explain how the a and c in affect $y = ax^2 + bx + c$ the graph of the equation. • I understand how graphs, tables, and equations that represent the same quadratic function are related. • I can explain how the b in $y = ax^2 + bx + c$ affects the graph of the equation. • I can match equations given in standard and factored form with their graph. • I can explain how a quadratic equation and its graph relate to a situation. • I can recognize the “vertex form” of a quadratic equation. • I can relate the numbers in the vertex form of a quadratic equation to its graph. • I can graph a quadratic function given in vertex form, showing a maximum or minimum and the -intercept. • I know how to find a maximum or a minimum of a quadratic function given in vertex form without first graphing it. • I can describe how changing a number in the vertex form of a quadratic function affects its graph.

Unit Title:

Unit 7: Quadratic Equations

Relevant Standards: Bold indicates priority

Lesson	Standards
Alg1.7.1	HSA-CED.A.1, HSA-CED.A.3
Alg1.7.2	HSA-CED.A.1, HSA-REI.B.4
Alg1.7.3	HSA-REI.A.1, HSA-REI.B.4.b
Alg1.7.4	HSA-CED.A.1, HSA-REI.B.4, HSA-REI.B.4.b, HSA-SSE.B.3
Alg1.7.5	HSA-REI.A.1, HSA-REI.B.4, HSA-REI.B.4.b, HSA-REI.D, HSA-REI.D.10
Alg1.7.6	HSA-REI.B.4.b, HSA-SSE.A.2, HSA-SSE.B.3.a
Alg1.7.7	HSA-REI.B.4.b, HSA-SSE.A.2, HSA-SSE.B.3.a
Alg1.7.8	HSA-REI.B.4.b, HSA-SSE.A.2, HSA-SSE.B.3.a
Alg1.7.9	HSA-REI.B.4, HSA-REI.B.4.b, HSA-SSE.B.3.a
Alg1.7.10	HSA-REI.B.4.b, HSA-REI.D, HSA-SSE.A, HSA-SSE.A.2, HSA-SSE.B.3.a, HSF-IF.B.4
Alg1.7.11	HSA-REI.B.4.a, HSA-REI.B.4.b, HSA-SSE.A.2
Alg1.7.12	HSA-REI.B.4.a, HSA-REI.B.4.b, HSA-SSE.A, HSA-SSE.A.2
Alg1.7.13	HSA-REI.A, HSA-REI.B.4.b
Alg1.7.14	HSA-REI.B.4.a, HSA-REI.B.4.b, HSA-SSE.A.2
Alg1.7.15	HSA-REI.B.4.a, HSA-REI.B.4.b, HSA-REI.D, HSN-RN.B
Alg1.7.16	HSA-REI.B.4.b, HSA-SSE.A
Alg1.7.17	HSA-CED.A.1, HSA-REI.A, HSA-REI.B.4, HSA-REI.B.4.b, HSF-IF.B.5
Alg1.7.18	HSA-CED.A.1, HSA-REI.B.4.b, HSF-IF.A.2
Alg1.7.19	HSA-REI.B.4.a, HSA-SSE.A.2
Alg1.7.20	HSA-REI.B.4.b, HSF-IF.C.7.a, HSN-RN.B.3
Alg1.7.21	HSA-REI.B.4.b, HSN-RN.B, HSN-RN.B.3
Alg1.7.22	HSA-SSE.A.2, HSA-SSE.B.3, HSA-SSE.B.3.b, HSF-IF.C
Alg1.7.23	HSA-SSE.B.3.b, HSF-IF.C, HSF-IF.C.9
Alg1.7.24	HSA-REI.B.4.b, HSA-REI.C.7, HSF-IF.C.8.a

Unit Narrative:

In this unit, students interpret, write, and solve quadratic equations. They learn that writing and solving quadratic equations is a way to precisely describe and answer questions about quadratic functions. It is especially useful for finding input values that produce certain outputs.

Students solve quadratic equations by reasoning, by rewriting expressions in factored form and using the zero product property, by completing the square, and by applying the quadratic formula. They also rewrite expressions in vertex form to solve problems about the maximum or minimum value of a function. Along the way, students see that quadratic equations may have 2, 1, or 0 solutions, and that the solutions may be rational or irrational.

Demonstration of Learning:	**Pacing for Unit**
CFA 1: Lesson 5 CFA 2: Lesson 8 CFA 3: Lesson 14 MoU: Version A EoU: Version A	27 Days
Family Overview (link below)	**Integration of Technology:**
Family Resources-English Family Resources-Spanish	DESMOS Pear Assessment
Unit-specific Vocabulary:	**Aligned Unit Materials, Resources, and Technology (beyond core resources):**
Quadratic expression, factored form, quadratic equation, standard form, zero, zero product property, coefficient, constant term, linear term, perfect square, rational number, completing the square, irrational number, quadratic formula, vertex form, maximum, minimum	DESMOS Pear Assessment
Connections to Prior Units:	**Connections to Future Units:**
None	Geometry Unit 6 Algebra 2 Unit 2
Differentiation through *Universal Design for Learning*	
UDL Indicator	**Teacher Actions:**
Representation: Highlight patterns, critical features, big ideas, and relationships	• Highlight or emphasize key elements in text, graphics, diagrams, formulas • Use outlines, graphic organizers, unit organizer routines, concept organizer routines, and concept mastery routines to emphasize key ideas and relationships • Use multiple examples and non-examples to emphasize critical features • Use cues and prompts to draw attention to critical features • Highlight previously learned skills that can be used to solve unfamiliar problems
Supporting Multilingual/English Learners	
Related *CELP standards:*	**Learning Targets:**

An EL can . . .construct grade-appropriate oral and written claims and support them with reasoning and evidence.		Learning Target: I can recognize and solve quadratic equations in multiple ways. • Level 1: With prompting and supports, I can write a quadratic equation that represents a situation. • Level 2: With prompting and supports, I can rewrite quadratic equations from standard form to factored form. • Level 3: With guidance and support, I can solve equations in factored form. • Level 4: I can recognize the number of solutions to a quadratic equation. • Level 5: I can recognize and solve quadratic equations in multiple ways.
Lesson Sequence	**Learning Target**	**Success Criteria/Assessment**
1 Finding Unknown Inputs (Lessons 1-2)	• I can recognize a quadratic equation in multiple forms and reason about its solutions in terms of a situation. (Lessons 1-2)	Lesson 1: Finding Unknown Inputs • I can explain the meaning of a solution to an equation in terms of a situation. • I can write a quadratic equation that represents a situation. Lesson 2: When and Why Do We Write Quadratic Equations? • I can recognize the factored form of a quadratic expression and know when it can be useful for solving problems. • I can use a graph to find the solutions to a quadratic equation but also know its limitations.
2 Solving Quadratic Equations (Lessons 3-10)	• When in factored form, I can solve a quadratic equation. (Lessons 3, 4, 9, 10) • I can rewrite quadratic equations from standard form to factored form. (Lessons 6-8) • I can recognize the number of solutions to a quadratic equation. (Lesson 5, 9)	Lesson 3: Solving Quadratic Equations by Reasoning • I can find solutions to quadratic equations by reasoning about the values that make the equation true. • I know that quadratic equations may have two solutions. Lesson 4: Solving Quadratic Equations with the Zero Product Property • I can explain the meaning of the “zero product property.” • I can find solutions to quadratic equations when one side is a product of factors and the other side is zero. Lesson 5: How Many Solutions? • I can explain why dividing by a variable to solve a quadratic equation is not a good strategy. • I know that quadratic equations can have no solutions and can explain why there are none. Lesson 6: Rewriting Quadratic Expressions in Factored Form (Part 1) • I can explain how the numbers in a quadratic expression in factored form relate to the numbers in an equivalent expression in standard form. • When given quadratic expressions in factored form, I can rewrite them in standard form.

		• When given quadratic expressions in the form of $x^2 + bx + c$, I can rewrite them in factored form. Lesson 7: Rewriting Quadratic Expressions in Factored Form (Part 2) • I can explain how the numbers and signs in a quadratic expression in factored form relate to the numbers and signs in an equivalent expression in standard form. • When given a quadratic expression given in standard form with a negative constant term, I can write an equivalent expression in factored form. Lesson 8: Rewriting Quadratic Expressions in Factored Form (Part 3) • I can explain why multiplying a sum and a difference, $(x + m)(x - m)$, results in a quadratic expression with no linear term. • When given quadratic expressions in the form of $x^2 + bx + c$, I can rewrite them in factored form. Lesson 9: Solving Quadratic Equations by Using Factored Form • I can rearrange a quadratic equation to be written as an expression in factored form = 0 and find the solutions. • I can recognize quadratic equations that have 0, 1, or 2 solutions when they are written in factored form. Lesson 10: Rewriting Quadratic Expressions in Factored Form (Part 4) • I can use the factored form of a quadratic expression or a graph of a quadratic function to answer questions about a situation. • When given quadratic expressions of the form $ax^2 + bx + c$ and a is not 1, I can write equivalent expressions in factored form.
3 Completing the Square (Lessons 11-15)	• I can complete the square using perfect-square expressions. (Lessons 11-14) • I can write irrational solutions to quadratic equations. (Lesson 15)	Lesson 11: What are Perfect Squares? • I can recognize perfect-square expressions written in different forms. • I can recognize quadratic equations that have a perfect-square expression and solve the equations. Lesson 12: Completing the Square (Part 1) • I can explain what it means to “complete the square” and describe how to do it. • I can solve quadratic equations by completing the square and finding square roots. Lesson 13: Completing the Square (Part 2) • When given a quadratic equation in which the coefficient of the squared term is 1, I can solve it by completing the square. Lesson 14: Completing the Square (Part 3) • I can complete the square for quadratic expressions of the form $ax^2 + bx + c$ when a is not 1 and explain the process.

		• I can solve quadratic equations in which the squared term coefficient is not 1 by completing the square. Lesson 15: Quadratic Equations with Irrational Solutions • I can use the radical and "plus-minus" symbols to represent solutions to quadratic equations. • I know why the plus-minus symbol is used when solving quadratic equations by finding square roots.
4 The Quadratic Formula (Lessons 16-21)	• I can apply the quadratic formula to solve quadratic equations. (Lessons 16-19) • I can determine whether solutions to a quadratic equation are irrational or rational. (Lessons 20-21)	Lesson 16: The Quadratic Formula • I can use the quadratic formula to solve quadratic equations. • I know some methods for solving quadratic equations can be more convenient than others. Lesson 17: Applying the Quadratic Formula (Part 1) • I can use the quadratic formula to solve an equation and interpret the solutions in terms of a situation. Lesson 18: Applying the Quadratic Formula (Part 2) • I can identify common errors when using the quadratic formula. • I know some ways to tell if a number is a solution to a quadratic equation. Lesson 19: Deriving the Quadratic Formula • I can explain the steps and complete some missing steps for deriving the quadratic formula. • I know how the quadratic formula is related to the process of completing the square for a quadratic equation $ax^2 + bx + c = 0$. Lesson 20: Rational and Irrational Solutions • I can explain why adding a rational number and an irrational number produces an irrational number. • I can explain why multiplying a rational number (except 0) and an irrational number produces an irrational number. • I can explain why sums or products of two rational numbers are rational. Lesson 21: Sums and Products of Rational and Irrational Numbers • I can explain why adding a rational number and an irrational number produces an irrational number. • I can explain why multiplying a rational number (except 0) and an irrational number produces an irrational number. • I can explain why sums or products of two rational numbers are rational.
5 Vertex Form Revisited (Lessons 22-23)	• I can identify key features of a quadratic relationship using its equation in vertex form. (Lessons 22-23)	Lesson 22: Rewriting Quadratic Expressions in Vertex Form • I can identify the vertex of the graph of a quadratic function when the expression that defines it is written in vertex form. • I know the meaning of the term "vertex form" and can recognize examples of quadratic expressions written in this form.

		• When given a quadratic expression in standard form, I can rewrite it in vertex form. Lesson 23: Using Quadratic Expressions in Vertex Form to Solve Problems • I can find the maximum or minimum of a function by writing the quadratic expression that defines it in vertex form. • When given a quadratic function in vertex form, I can explain why the vertex is a maximum or minimum.
6 Putting It All Together (Lesson 24)	• I can model situations using quadratic equations. (Lesson 24)	Lesson 24: Using Quadratic Equations to Model Situations and Solve Problems • I can interpret information about a quadratic function given its equation or a graph. • I can rewrite quadratic functions in different but equivalent forms of my choosing and use that form to solve problems. • In situations modeled by quadratic functions, I can decide which form to use depending on the questions being asked.

Course Assessment Map

Edulastic Links to be Added at a later time

Unit	Assessment 1	Assessment 2	Assessment 3	Assessment 4	Assessment 5	Assessment 6
Unit 1-Exponents and Scientific Notation (Grade 8 Algebra 1 Accelerated Only)	CFA 1 (Lesson 7)	CFA 2 (Lesson 13)	EoU (A)			
Unit 2: Linear Equations and Systems	CFA 1 (Lesson 6)	CFA 2 (Lesson 11)	CFA 3 (Lesson14)	EoU (Unit 2 Mid Unit)		
Unit 3: Inequalities	CFA 1 (Lesson 20)	CFA 2 (Lesson 23)	EOU (A1 Unit 2 EOU)			
Unit 4: Functions	CFA 1 (Lesson 5)	CFA 2 (Lesson 7)	CFA 3 (Lesson 12)	CFA 4 (Lesson 16)	Mid Unit	EoU
Unit 5: Introduction to Exponential Functions	CFA 1 (Lesson 4)	CFA 2 (Lesson 7)	CFA 3 (Lesson 17)	Mid Unit	EoU	
Unit 6: Introduction to Quadratic Functions	CFA 1 (Lesson 3)	CFA 2 (Lesson 9)	CFA 3 (Lesson 14)	Mid Unit	EoU	
Unit 7: Quadratic Equations Course Assessment Map	CFA 1 (Lesson 5)	CFA 2 (Lesson 8)	CFA 3 (Lesson 14)	Mid Unit	EoU	