SOMERSET COUNTY VOCATIONAL & TECHNICAL SCHOOLS
P.O. Box 6350 • 14 Vogt Drive • Bridgewater, NJ 08807-0350 • (908) 526-8900 • www.scvths.org

Algebra I Curriculum

Topic/ Pacing	**Unit 1** -*Modeling with Linear Equations and Inequalities* **Concepts:** Units are associated with variables in expressions and equations in context. Quantities may be used to model attributes of real world situations. Measurement tools have an inherent amount of uncertainty in measurement. **Pacing:** Approx 5 days	**Unit 1** -*Modeling with Linear Equations and Inequalities* **Concepts:** Literal equations can be rearranged using the properties of equality. **Pacing:** Approx 5 days	**Unit 1** -*Modeling with Linear Equations and Inequalities* **Concepts:** Interpret terms, factors, coefficients, and other parts of expressions in terms of a context. **Pacing:** Approx 5 days	**Unit 1** -*Modeling with Linear Equations and Inequalities* **Concepts:** Equations and inequalities describe relationships. Equations can represent real-world and mathematical problems. **Pacing:** Approx 5 days
NJSLS	N.Q.A.1 N.Q.A.2 N.Q.A.3	A.SSE.B.3c A.REI.B.3 A.REI.A.1 A.CED.A.4	A.SSE.A.1 A.SSE.A.1a A.SSE.B.3c A.CED.A.2 FBF.A.1b FBF.A.1c FBF.A.2	A.REI.D.10 A.SSE.A.1 A.SSE.A.1a A.CED.A.2
Interdisciplinary Connections	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

	HS-ESS3-6	HS-ESS3-6	HS-ESS3-6	HS-ESS3-6
Technology Integration	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5
21st Century Knowledge & Skills	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12
Skills (SWBAT)	use units to understand real world problems. use units to guide the solution of multi-step real world problems (e.g. dimensional analysis). choose and interpret units while using formulas to solve problems. identify and define appropriate quantities for descriptive modeling. choose a level of accuracy when reporting measurement quantities.	solve linear equations with coefficients represented by letters in one variable. use the properties of equality to justify steps in solving linear equations. solve linear inequalities in one variable. rearrange linear formulas and literal equations, isolating a specific variable. **Learning Goal 2.** Solve linear equations and inequalities in one variable (including literal equations); justify each step in the process.	identify different parts of an expression, including terms, factors and constants. explain the meaning of parts of an expression in context. **Learning Goal 3:** Interpret terms, factors, coefficients, and other parts of expressions in terms of a context .	identify and describe relationships between quantities in word problems. create linear equations in one variable. create linear inequalities in one variable. use equations and inequalities to solve real world problems. explain each step in the solution process. **Learning Goal 4:** Create linear equations and inequalities in one variable and use them in contextual situations to solve problems. Justify

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

	Learning Goal 1: Solve multi-step problems, using units to guide the solution, interpreting units consistently in formulas and choosing an appropriate level of accuracy on measurement quantities. Develop descriptive models by defining appropriate quantities. **CC**: Students may use units to guide the solution of multi-step problems about how variations in the flow of energy into and out of the Earth's systems result in climate change. Students may define appropriate quantities for a descriptive model of how variations in the flow of energy into and out of Earth's systems result in climate change.			each step in the process and the solution.
Formative Assessments/Benchmarks*	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 1-5	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 1-5	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 1-5	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 1-5
Summative Assessments	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

Resources	**Text -** Pearson Algebra I Common Core Edition 2015 Including online resources available through savvasrealize.com Section 2.6 Section 2.7 Section 2.9 Section 2.10 Section 3.3 Section 4.4 Section 4.5 Section 5.2	Section 1.8 Section 2.1 Section 2.2 Section 2.4 Section 2.5 Section 2.7 Section 3.1 Section 3.2 Section 3.3 Section 3.4 Section 3.5 Section 3.6	Section 1.1 Section 1.2 Section 1.7 Section 3.7 Section 4.5 Section 5.3	Section 1.8 Section 2.1 Section 2.3 Section 2.4 Section 2.5 Section 2.8 Section 3.2 Section 3.3 Section 3.4 Section 3.6 Section 3.7 Section 3.8
Supplemental Resources	Online Videos	Online Videos	Online Videos	Online Videos
Accommodations	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes
Enrichment	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

Topic/ Pacing	**Unit 1** -*Modeling with Linear Equations and Inequalities* **Concepts:** Equations represent quantitative relationships. **Pacing:** Approx 10 days	**Unit 1** -*Modeling with Linear Equations and Inequalities* **Concepts:** Scatter plots represent the relationship between two variables. Scatter plots can be used to determine the nature of the association between the variables. Linear models may be developed by fitting a linear function to approximately linear data. The correlation coefficient represents the strength of a linear association. **Pacing:** Approx 5 days	**Unit 2** - *Modeling with Linear Functions, Linear Systems, & Exponential Functions* **Concepts:** Systems of equations can be solved exactly (algebraically) and approximately (graphically). **Pacing:** Approx 10 days	**Unit 2** - *Modeling with Linear Functions, Linear Systems, & Exponential Functions* **Concepts:** Model real world situations by creating a system of linear inequalities **Pacing:** Approx 10 days
NJSLS	A.CED.A.2 A.APR.D.6 A.APR.D.7 A.REI.D.10 N.Q.A.1	S.ID.B.6 S.ID.B.6a S.ID.B.6c S.ID.C.7 S.ID.C.8 A.SSE.B.4 FIF.C.7a-f HS-ESS3-6	A.CED.A.3 A.REI.C.5-9 A.REI.D.10	A.REI.C.6 A.REI.D.12 A.CED.A.3
Interdisciplinary Connections	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

	HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-LS2-2 HS-ESS1-4 HS-ESS3-6
Technology Connections	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5
21st Century Knowledge & Skills	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12
Skills (SWBAT)	create linear equations in two variables, including those from a context select appropriate scales for constructing a graph interpret the origin in graphs graph equations on coordinate axes, including labels and scales identify and describe the solutions in the graph of an equation. **Learning Goal 5:** Create linear equations in two	distinguish linear models representing approximately linear data from linear. equations representing "perfectly" linear relationships create a scatter plot and sketch a line of best fit fit a linear function to data using technology solve problems using prediction equations interpret the slope and the intercepts of the linear model in context	identify and define variables representing essential features for the model model real world situations by creating a system of linear equations solve systems of linear equations using the elimination or substitution method solve systems of linear equations by graphing interpret the solution(s) in context	Students are able to: model real world situations by creating a system of linear inequalities given a context. interpret the solution(s) in context. **Learning Goal 2:** Graph linear inequalities and systems of linear inequalities in two variables and explain that the solution to the system. **CC:** Students may rearrange formulas related to the economic impact of climate change to highlight a

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

	variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. **CC:** Students may represent constraints describing the economic impact of climate change by equations, inequalities, and/or by systems of inequalities, and interpret solutions as viable or nonviable options.	determine the correlation coefficient for the linear model using technology **Learning Goal 6**: Represent data on a scatter plot, describe how the variables are related and use technology to fit a function to data.	**Learning Goal 1:** Solve multistep contextual problems by identifying variables, writing equations, and solving systems of linear equations in two variables algebraically and graphically.	quantity of interest, using the same reasoning as in solving equations.
Formative Assessments/Benchmarks*	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 1-5	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 1-5	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 6-7	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 6-7
Summative Assessments	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.
Resources	Section 1.9 Section 2.6 Section 2.7 Section 4.2 Section 4.3 Section 4.4 Section 4.5 Section 5.2 Section 5.4 Section 5.5	Section 5.7	Section 6.1 Section 6.2 Section 6.3 Section 6.4 Section 6.5	Section 6.5 Section 6.6
Supplemental Resources	Online Videos	Online Videos	Online Videos	Online Videos

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

Accommodations	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes
Enrichment	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension

Topic/ Pacing	**Unit 2** - *Modeling with Linear Functions, Linear Systems, & Exponential Functions* **Concepts:** f(x) is an element in the range and x is an element in the domain. **Pacing:** Approx 5 days	**Unit 2** - *Modeling with Linear Functions, Linear Systems, & Exponential Functions* **Concepts:** Linear functions grow by equal differences over equal intervals. Exponential functions grow by equal factors over equal intervals. **Pacing:** Approx 5 days	**Unit 2** - *Modeling with Linear Functions, Linear Systems, & Exponential Functions* **Concepts:** Sequences are functions, sometimes defined and represented recursively. Sequences are functions whose domain is a subset of integers. **Pacing:** Approx 5 days	**Unit 2** - *Modeling with Linear Functions, Linear Systems, & Exponential Functions* **Concepts:** Write explicit expressions, recursive processes and steps for calculation from a context that describes a linear or exponential relationship between two quantities. **Pacing:** Approx 5 days
NJSLS	A.REI.D.11 F.IF.A.1 F.IF.A.2	A.REI.D.10 F.LE.A.1 F.LE.A.1a-c	F.LE.A.2 F.IF.A.3	F.BF.A.1 A.SSE.A.1 A.SSE.A.1a A.SSE.A.1b

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

				A.REI.A.2
Interdisciplinary Connections	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6
Technology Connections	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5
21st Century Knowledge & Skills	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12
Skills (SWBAT)	use the definition of a function to determine whether a relationship is a function use function notation once a relation is determined to be a function evaluate functions for given inputs in the domain	identify and describe situations in which one quantity changes at a constant rate identify and describe situations in which a quantity grows or decays by a constant percent	create arithmetic and geometric sequences from verbal descriptions create arithmetic sequences from linear functions create geometric sequences from exponential functions identify recursively defined sequences as functions	given a context, write an explicit expression, a recursive process or steps for calculation for linear and exponential relationships interpret parts of linear and exponential functions in context **Learning Goal 6:** Write explicit expressions,

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

	explain statements involving function notation in the context of the problem **CC:** Students may use function notation to determine the amount of carbon dioxide produced by burning a given number of molecules of ethane (gasoline), m, where c(m) is the number of molecules of carbon dioxide.	show that linear functions grow by equal differences over equal intervals show that exponential functions grow by equal factors over equal intervals. **Learning Goal 4:** Distinguish between and explain situations modeled with linear functions and with exponential functions.	create linear and exponential functions given **Learning Goal 5:** Write linear and exponential functions given a graph, table of values, or written description; construct arithmetic and geometric sequences.	recursive processes and steps for calculation from a context that describes a linear or exponential relationship between two quantities.
Formative Assessments/Benchmarks*	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 6-7	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit Chapters 6-7	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 6-7	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 6-7
Summative Resources	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.
Resources	Review Section 4.6	Review Section 5.1 Section 7.7	Review Section 5.5 Section 7.6 Section 7.8	Review Section 1.7 Review Section 5.3 Section 7.8
Supplemental Resources	Online Videos	Online Videos	Online Videos	Online Videos
Accommodations	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

Enrichment	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension
Topic/ Pacing	**Unit 2** - *Modeling with Linear Functions, Linear Systems, & Exponential Functions* **Concepts:** Sketch graphs of linear and exponential functions expressed symbolically or from a verbal description. Show key features and interpret parameters in context. **Pacing:** Approx 5 days	**Unit 2** - *Modeling with Linear Functions, Linear Systems, & Exponential Functions* **Concepts:** Rate of change of non-linear functions varies. **Pacing:** Approx 5 days	**Unit 2** - *Modeling with Linear Functions, Linear Systems, & Exponential Functions* **Concepts:** Piecewise-defined functions may contain discontinuities. Absolute value functions are piecewise functions. **Pacing:** Approx 5 days	**Unit 3** - *Quadratic Equations, Functions & Polynomials* **Concepts:** Polynomials form a system analogous to the integers. Polynomials are closed under the operations of addition, subtraction, and multiplication. **Pacing:** Approx 5 days
NJSLS	F.IF.C.7a-f F.IF.B.4 F.IF.B.5 F.LE.B.5	F.IF.B.6 F.IF.C.7E F.IF.C.9	F.IF.C.7 F.IF.C.7a F.IF.C.7b	A.APR.B.2 A.APR.A.1 A.SSE.A.2
Interdisciplinary Connections	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

Technology Connections	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5
21st Century Knowledge & Skills	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12
Skills (SWBAT)	given a verbal description of a relationship, sketch linear and exponential functions identify intercepts and intervals where the function is positive/negative interpret parameters in context determine the *practical* domain of a function. **Learning Goal 8:** Sketch graphs of linear and exponential functions expressed symbolically or from a verbal description. Show key features and interpret parameters in context.	compare key features of two linear functions represented in different ways compare key features of two exponential functions represented in different ways calculate the rate of change from a table of values or from a function presented symbolically. estimate the rate of change from a graph. **Learning Goal 9:** Calculate and interpret the average rate of change of a function presented symbolically or as a table; estimate the rate of change from a graph.	graph linear, square root, cube root, and piecewise-defined functions graph more complicated cases of functions using technology identify and describe key features of the graphs of square root, cube root, and piecewise-defined functions **Learning Goal 10:** Graph linear, square root, cube root, and piecewise-defined functions (including step and absolute value functions) expressed symbolically. Graph by hand in simple cases and using technology in more complex cases, showing key features of the graph.	add and subtract polynomials multiply polynomials recognize numerical expressions as a difference of squares and rewrite the expression as the product of sums/differences recognize polynomial expressions in one variable as a difference of squares and rewrite the expression as the product of sums/differences. **Learning Goal 1:** Add, subtract, and multiply polynomials, relating these to arithmetic operations with integers. Factor to produce equivalent forms of quadratic expressions in one variable.

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

	CC: Students may relate the domain of a function c(m) representing the amount of carbon dioxide produced by burning m molecules of ethane (gasoline), to its graph in order to determine the appropriate domain for c(m).		**CC:** Students may calculate the average rate of change of a function c(m) presented symbolically or as a table, where c(m) represents the amount of carbon dioxide produced by burning a given number of molecules of ethane (gasoline).	
Formative Assessments/Benchmarks*	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 6-7	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 6-7	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. **The Benchmark Assessment Test should be administered at the end of this unit.** Chapters 6-7	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 8-9
Summative Assessments	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.
Resources	Review Section 4.1 Review Section 4.4 Review Section 5.4 Review Section 5.5 Section 7.6	Review Section 5.1 Section 7.6	Review Section 5.3 Review Section 5.4 Review Section 5.5 Section 7.6	Section 8.1 Section 8.2 Section 8.3 Section 8.4 Section 8.8
Supplemental Resources	Online Videos	Online Videos	Online Videos	Online Videos
Accommodations	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

Enrichment	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension
Topic/ Pacing	**Unit 3** - *Quadratic Equations, Functions & Polynomials* **Concepts:** Multiple methods for solving quadratic equations. Transforming a quadratic equation into the form $(x - p)^2 = q$ yields an equation having the same solutions. **Pacing:** Approx 10 days	**Unit 3** - *Quadratic Equations, Functions & Polynomials* **Concepts:** Create quadratic equations in one variable and use them to solve problems. **Pacing:** Approx 5 days	**Unit 3** - *Quadratic Equations, Functions & Polynomials* **Concepts:** Interpret key features of quadratic functions from graphs and tables. **Pacing:** Approx 5 days	**Unit 3** - *Quadratic Equations, Functions & Polynomials* **Concepts:** Alternate, equivalent forms of a quadratic expression may reveal specific attributes of the function that it defines. **Pacing:** Approx 10 days
NJSLS	A.REI.B.4 A.REI.B.4a A.REI.B.4b FLE.A.4 FBF.B.3 FBF.B.4 FBF.B.5 HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4	A.CED.A.1 FIF.D.8a FIF.D.8b HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	F.IF.B.4 F.IF.B.5 HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	A.APR.C.4 A.APR.C.5 A.SSE.B.3 A.SSE.B.3a A.SSE.B.3b HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

	HS-ESS3-6			
Computer Science and Design	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5
21st Century Knowledge & Skills	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12
Skills (SWBAT)	use the method of completing the square to transform a quadratic equation in *x* into an equation of the form $(x - p)^2 = q$. derive the quadratic formula from $(x - p)^2 = q$. solve a quadratic equation in one variable by inspection. solve quadratic equations in one variable by taking square roots. solve a quadratic equation in one variable by completing the square.	create quadratic equations in one variable. use quadratic equations to solve real world problems. **Learning Goal 3:** Create quadratic equations in one variable and use them to solve problems. **CC:** Students may create equations and/or inequalities to represent the economic impact of climate change.	Students are able to: interpret maximum/minimum and intercepts of quadratic functions from graphs and tables in the context of the problem. sketch graphs of quadratic functions given a verbal description of the relationship between the quantities. identify intercepts and intervals where function is increasing/decreasing determine the practical domain of a function.	factor a quadratic expression for the purpose of revealing the zeros of a function. complete the square for the purpose of revealing the maximum or minimum of a function. **Learning Goal 5:** Use factoring and completing the square to produce equivalent forms of quadratic expressions in one variable that highlight particular properties such as the zeros or the maximum or minimum value of the function.

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

	solve a quadratic equation in one variable using the quadratic formula. solve a quadratic equation in one variable by factoring. strategically select, as appropriate to the initial form of the equation, a method for solving a quadratic equation in one variable. write complex solutions of the quadratic formula in $a \pm bi$ form. analyze the quadratic formula, recognizing the conditions leading to complex solutions (discriminant). **Learning Goal 2:** Derive the quadratic formula by completing the square and recognize when there are no real solutions.		**Learning Goal 4:** Interpret key features of quadratic functions from graphs and tables. Given a verbal description of the relationship, sketch the graph of a quadratic function, showing key features and relating the domain of the function to its graph.	
Formative Assessments/Benchmarks*	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 8-9	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 8-9	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 8-9	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 8-9
Summative Assessments	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

Resources	Section 9.3 Section 9.4 Section 9.5 Section 9.6	Review Section 2.1 Review Section 2.3 Review Section 2.5 Review Section 2.8 Review Section 3.2 Review Section 3.4 Review Section 3.6 Review Section 3.7 Review Section 3.8	Review Section 4.4 Review Section 5.4 Review Section 5.5 Review Section 7.6 Section 9.1	Section 9.3 Section 9.4 Section 9.5 Section 9.6
Supplemental Resources	Online Videos	Online Videos	Online Videos	Online Videos
Accommodations	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes
Enrichment	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

Topic/ Pacing	**Unit 3** - *Quadratic Equations, Functions & Polynomials* **Concepts:** Given a context, write an explicit expression, a recursive process or steps for calculation for quadratic relationships. **Pacing:** Approx 5 days	**Unit 3** - *Quadratic Equations, Functions & Polynomials* **Concepts:** Graph quadratic functions by hand in simple cases and with technology in complex cases **Pacing:** Approx 10 days	**Unit 3** - *Quadratic Equations, Functions & Polynomials* **Concepts:** A quantity increasing exponentially eventually exceeds a quantity increasing quadratically. **Pacing:** Approx 5 days	**Unit 3** - *Quadratic Equations, Functions & Polynomials* **Concepts:** Characteristics of even and odd functions in graphs and algebraic expressions Vertical and horizontal shifts **Pacing:** Approx 5 days
NJSLS	F.BF.A.1 F.BF.A.1a	F.IF.C.7 F.IF.C.7a F.IF.C.8 F.IF.C.8a F.IF.C.9	F.IF.B.6 F.LE.A.3	F.BF.B.3
Interdisciplinary Connections	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6
Technology Connections	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

21st Century Knowledge & Skills	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12
Skills (SWBAT)	given a context, write explicit expressions, a recursive process or steps for calculation for quadratic relationships. **Learning Goal 6:** Given a context, write an explicit expression, a recursive process or steps for calculation for quadratic relationships.	graph quadratic functions expressed symbolically. graph more complicated cases of quadratic functions using technology. identify and describe key features of the graphs of quadratic functions. given two quadratic functions, each represented in a different way, compare the properties of the functions. **Learning Goal 7:** Graph quadratic functions by hand in simple cases and with technology in complex cases, showing intercepts, extreme values and symmetry of the graph. Compare properties of two quadratic functions, each represented in a different way. **CC:** Students may calculate the average rate of change of a function c(m) presented symbolically or as a table, where c(m) represents the	calculate the rate of change of a quadratic function from a table of values or from a function presented symbolically. estimate the rate of change from a graph of a quadratic function. analyze graphs and tables to compare rates of change of exponential and quadratic functions. **Learning Goal 8:** Calculate and interpret the average rate of change of a quadratic function presented symbolically or as a table. Estimate and compare the rates of change from graphs of quadratic and exponential functions.	perform transformations on graphs of linear and quadratic functions. identify the effect on the graph of replacing f(x) by – $f(x) + k$; – $k\,f(x)$; – $f(kx)$; – *and* $f(x + k)$ for specific values of k (both positive and negative). identify the effect on the graph of combinations of transformations. given the graph, find the value of k. illustrate an explanation of the effects on linear and quadratic graphs using technology. recognize even and odd functions from their graphs and from algebraic expressions for them.

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

		amount of carbon dioxide produced by burning a given number of molecules of ethane (gasoline).		**Learning Goal 9:** Identify the effects of transformations and combinations of transformations [$f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$] on a function; find the value of k given the graph.
Formative Assessments/Benchmarks*	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 8-9	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 8-9	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 8-9	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 8-9
Summative Assessments	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.
Resources	Section 9.3 Section 9.4 Section 9.5 Section 9.6	Review Section 5.3 Review Section 5.4 Review Section 5.5 Review Section 7.6 Review Section 7.7 Review Section 7.8 Section 9.1 Section 9.2	Review Section 5.1	Review Section 5.8
Supplemental Resources	Online Videos	Online Videos	Online Videos	Online Videos
Accommodations	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

Enrichment	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

Topic/ Pacing	**Unit 3** - *Quadratic Equations, Functions & Polynomials* **Concepts:** Find approximate solutions of f(x) = g(x) **Pacing:** Approx 10 days	**Unit 3** - *Quadratic Equations, Functions & Polynomials* **Concepts:** General shape(s) and end behavior of cubic functions **Pacing:** Approx 10 days	**Unit 3** - *Quadratic Equations, Functions & Polynomials* **Concepts:** The sum or product of two rational numbers is rational. The sum of a rational number and an irrational number is irrational. The product of a nonzero rational number and an irrational number is irrational. **Pacing:** Approx 5 days	**Unit 4** - *Modeling with Statistics* **Concepts:** Represent data with plots (dot plots, histograms, and box plots) on the real number line **Pacing:** Approx 5 days
NJSLS	A.REI.D.11	A.APR.B.3	N.RN.B.3	S.ID.A.1
Interdisciplinary Connections	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6
Technology Connections	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

21st Century Knowledge & Skills	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12	9.4.12CT.2 9.4.12.CI.1 9.4.12CI.3 CRP2 CRP4 CRP8 CRP12
Skills (SWBAT)	approximate the solution(x) to a system of equations comprised of a linear and a quadratic function by using technology to graph the functions, by making a table of values and/or by finding successive approximations. **Learning Goal 10:** Find approximate solutions of f(x) = g(x), where f(x) is a linear function and g(x) is a quadratic function by making a table of values, using technology to graph and finding successive approximations.	find the zeros of a polynomial (quadratic and cubic). test domain intervals to determine where f(x) is greater than or less than zero. use zeros of a function to sketch a graph. **Learning Goal 11**: Identify zeros of cubic functions when suitable factorizations are available and use the zeros to construct a rough graph of the function.	explain and justify conclusions regarding sums and products of two rational numbers.. explain and justify conclusions regarding the sum of a rational and irrational number. explain and justify conclusions regarding the product of a nonzero rational and irrational number. **Learning Goal 12**: Explain and justify conclusions about sums and products of rational and irrational numbers.	represent data with dot plots on the real number line. represent data with histograms on the real number line. represent data with box plots on the real number line. **Learning Goal 1:** Represent data with plots (dot plots, histograms, and box plots) on the real number line. **CC:** Students may represent geoscience data, with plots on the real number line, as they analyze results from global climate models.
Formative Assessments/Benchmarks*	Quizzes, homework, do nows and exit tickets will be collected and	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit.	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit.	Quizzes, homework, do nows and exit tickets will be collected and

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

	evaluated throughout the unit. Chapters 8-9	Chapters 8-9	Chapters 8-9	evaluated throughout the unit. Chapter 12
Summative Assessments	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.
Resources	Section 9.8	Section 9.3	Review Section 1.3 Review Section 1.4 Review Section 1.5 Review Section 1.6	Section 12.2
Supplemental Resources	Online Videos	Online Videos	Online Videos	Online Videos
Accommodations	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes
Enrichment	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

Topic/ Pacing	**Unit 4** - *Modeling with Statistics* **Concepts:** Appropriate use of a statistic depends on the shape of the data distribution. Standard deviation **Pacing:** Approx 10 days	**Unit 4** - *Modeling with Statistics* **Concepts:** Fit functions to data using technology **Pacing:** Approx 5 days	**Unit 4** - *Modeling with Statistics* **Concepts:** Interpret key features of functions from graphs and tables. **Pacing:** Approx 5 days
NJSLS	S.ID.A.2 S.ID.A.3	S.ID.B.6 S.ID.B.6a S.ID.B.6b S.ID.C.9	S.ID.C.9 F.IF.B.4 F.IF.B.5
Interdisciplinary Connections	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6	HS-PS1-7 HS-PS2-2 HS-PS2-4 HS-LS2-1 HS-LS2-2 HS-LS2-2 HS-ESS1-4 HS-ESS3-6
Technology Connections	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5	8.1.12.DA1 8.1.12.DA2 8.1.12.DA3 8.1.12.DA4 8.1.12.DA5 8.1.12.DA6 8.1.12.AP5

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

21st Century Knowledge & Skills	CRP2 CRP4 CRP8 CRP12	CRP2 CRP4 CRP8 CRP12	CRP2 CRP4 CRP8 CRP12
Skills (SWBAT)	represent two or more data sets with plots and use appropriate statistics to compare their center and spread. interpret differences in shape, center, and spread in context. explain possible effects of extreme data points (outliers) when summarizing data and interpreting shape, center and spread. **Learning Goal 2:** Compare center and spread of two or more data sets, interpreting differences in shape, center, and spread in the context of the data, taking into account the effects of outliers.	fit a function to data using technology. solve problems using functions fitted to data (prediction equations). interpret the intercepts of models in context. plot residuals of linear and non-linear functions. analyze residuals in order to informally evaluate the fit of linear and non-linear functions. **Learning Goal 3:** Fit functions to data using technology, plot residuals and informally assess the fit of linear and non-linear functions by analyzing residuals. **CC:** Students may represent geoscience data on two quantitative variables on a scatter plot and describe how the variables are related in order to analyze the data and the results from global climate models.	interpret maximum/minimum and intercepts of functions from graphs and tables in the context of the problem. sketch graphs of functions given a verbal description of the relationship between the quantities. identify intercepts and intervals where function is increasing/decreasing. determine the practical domain of a function.

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

		Students may use linear or exponential functions fitted to geoscience data to solve problems and analyze the results from global climate models to make an evidence-based forecast of the current rate of global climate change.	
Formative Assessments/Benchmarks*	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit. Chapters 12	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit Chapters 12	Quizzes, homework, do nows and exit tickets will be collected and evaluated throughout the unit **The Benchmark Assessment Test should be administered at the end of this unit.** Chapters 12
Summative Assessments	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.	A summative unit test will follow after each chapter of the book.
Resources	Section 12.3 Section 12.4	Review Section 5.7	Review Section 4.4 Review Section 5.4 Review Section 5.5 Review Section 7.6 Review Section 9.1
Supplemental Resources	Online Videos	Online Videos	Online Videos
Accommodations	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes	Extra time on tests and quizzes, chunking, modeling, calculator use, assigned seating, provide lecture notes

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.

Enrichment	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension	develop and use problem solving strategies include historical cultural contexts offer opportunities for mathematical extension

* Benchmark assessments are administered midyear and at the end of the year. The units are marked in the curriculum.