

**Common Core  
PREP CURRICULUM  
HIGH SCHOOL**

**Summer 2014**



**BELLMORE-MERRICK  
CENTRAL HIGH SCHOOL DISTRICT**

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**Common Core  
Algebra RA  
Prep Curriculum  
High School**

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## Common Core Algebra RA

### Module I Relationships Between Quantities and Reasoning with Equations and Their Graphs.

#### Topic A: Introduction to Functions and Graphing Stories:

N-Q.1: Use units as a way to understand problems and to guide the solution of multistep problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

N-Q.2: Define appropriate quantities for the purpose of descriptive modeling.

N-Q.3: Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

A-CED.2: Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

Module I Topic A		Time (10 days)
Lesson 1: Graphs of Piecewise Linear Functions	Students will define the appropriate quantities from a situation (graphing story). Students will choose and interpret the scale and the origin of a graph. Students will graph the piecewise linear function. Students will understand the relationship between physical measurements and their relationships on a graph.	2 days
Lesson 2: Graphs of Quadratic Functions	Students will represent graphically a non-linear relationship between two quantities and interpret features of the graph. Students will understand the relationship between physical quantities via the graph.	2 days
Lesson: Absolute Value	Students will identify the graph of an absolute value.	1 day
Lesson 3: Graphs of Exponential Functions	Students will choose and interpret the scale on a graph to appropriately represent an exponential function. Students will plot points representing the number of bacteria over time, given that bacteria grow by a constant factor over evenly spaced time intervals.	1 day
Lesson 4-Analyzing Graphs	Students develop the tools necessary to discern units for quantities in real-world situations and choose levels of accuracy appropriate to limitations on measurement. Students will refine their skills in interpreting the meaning of features appearing in graphs.	1 day
Lesson 5-Two graphing stories	Students will interpret the meaning of the point of intersection of two graphs and use analytic tools to find its coordinates.	2 days
Review		1 day
Quiz		1 day

**Module I Relationships Between Quantities and Reasoning with Equations and Their Graphs.**  
**Topic B: The Structure of Expressions**

A-SSE.2: Use the structure of an expression to identify ways to rewrite it.

A-APR.1: Understand that polynomials form a system of analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

Module 1 Topic B		Time (14 days)
Lesson 6- The Distributive Property	Students use the structure of an expression to identify ways to rewrite it. Students use the distributive property to prove equivalency of expressions.	1 day
Lesson 7-The Commutative and Associative Properties	Students use the commutative and associative properties to recognize structure within expressions and to prove equivalency of expressions.  Break into 2 days: 1 day commutative property 1 day associative property	2 days
Review and Quiz		1 day
Lesson 8-Adding and Subtracting Polynomials	Students understand that the sum or difference of two polynomials produces another polynomial and relate polynomials to the system of integers; students add and subtract polynomials.  Break into 2 days Addition and 2 days Subtraction  1 day mixed practice and exit ticket	5 days
Lesson 9-Multiplying Polynomials	Students understand that the product of two polynomials produces another polynomial; students multiply polynomials.  Break into 1 day monomial(monomial) 1 day monomial (binomial) 1 day binomial (binomial)	3 days
Review		1 day
Test		1 day

**Module I Relationships Between Quantities and Reasoning with Equations and Their Graphs.  
Topic C: Solving Equations and Inequalities**

A-CED.3: Represent constraints by equations or inequalities, and by systems of equations and/ or inequalities, and interpret solutions as viable or non-viable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.

A-CED.4: Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm’s law  $V=IR$  to highlight resistance  $R$ .

A-REI.1: Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

A-REI.3: Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

A-REI.5: Prove that given a system of two equations in two variables, replacing one equation by the sum of that equation and multiple of the other produces a system with the same solutions.

A-REI.6: Solve systems of linear equations exactly and appropriately (e.g., graphs), focusing on pairs of linear equations in two variables.

A-REI.10: Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

A-REI.12: Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.

Module I Topic C		Time (29 days)
Lesson 10 True and False Equations	Students understand that an equation is a statement of equality between two expressions. When values are substituted for the variables in an equation, the equation is either true or false. Students find values to assign to the variables in equations that make the equations true statements.	2 days
Lesson 11 Solution Sets for Equations and Inequalities	Students understand that an equation with variables is often viewed as a question asking for the set of values one can assign to the variables of the equation to make the equation a true statement. They see the equation as a “filter” that sifts through all numbers in the domain of the variable, sorting those numbers into two disjoint sets: the Solution Set and the set of numbers for	2 days

	which the equation is false. Students understand the commutative, associate, and distributive properties as identities, e.g, equations whose solution sets as the set of all values in the domain of the variables.	
Review/ Exit Quiz		1 day
Lesson 12 Solving Equations	Students are introduced to the formal process of solving an equation: starting from the assumption that the original equation has a solution. Students explain each step as following from the properties of equality. Students identify equations that have the same solution set.	3 days
Lesson 13 Some Potential Dangers when Solving Equations	Students learn “if-then” moves using the properties of equality to solve equations. Students also explore moves that may result in an equation having more solutions than the original equation.	1 day
Lesson 17 Equations Involving Factored Expressions	Students learn that equations of the form $(x-a)(x-b)=0$ have the same solution set as two equations joined by “or” $x - a=0$ or $x - b=0$ Students solve factored or easily factorable equations.	1 day
Lesson 18 Equations Involving a Variable Expression in the Denominator	Students interpret equations like $1/x = 3$ as two equations “ $1/x = 3$ ” and “ $x$ does not equal 0” joined by “and.” Students find the solution set for this new system of equations.	1 day
Lesson 19 Rearranging Formulas	Students learn to think of some of the letters in a formula as constants in order to define a relationship between two or more quantities, where one is in terms of another, for example holding $V$ in $V=IR$ as constant, and finding $R$ in terms of $I$ .	1 day
Review		1 day
Test		1 day

Lesson 14 Solving Inequalities	Students learn if-then moves using the addition and multiplication properties of inequality to solve inequalities and graph the solution sets on the number line.	2 days
Lesson 15 Solution Sets of Two or More Equations (or inequalities) joined by “And” or “Or”	Students describe the solution set of two equations (or inequalities) joined by either “and” or “or” graph the solution set on the number line.	1 day
Lesson 16 Solving and Graphing Inequalities joined by “And” or “Or”	Students solve two inequalities joined by “and” or “or”, then graph the solution set on the number line.	1 day
Review		1 day
Test		1 day
Lesson 20 Solution Sets to Equations and Inequalities with Two Variables	Students recognize and identify solutions to two-variable equations. They represent the solution set graphically. They create two variable equations to represent a situation. They understand that the graph of the line $ax + by = c$ is a visual representation of the solution set to the equation $ax + by = c$ .	1 day
Lesson 21 Solution Sets to Equations and Inequalities with Two Variables	Students recognize and identify solutions to two-variable inequalities. They represent the solution set graphically. They create two variable inequalities to represent a situation. Students understand that a half-plane bounded by the line $ax + by = c$ is a visual representation of the solution set to a linear inequality such as $ax + by < c$ . They interpret the inequality symbol correctly to determine which portion of the coordinate plane is shaded to represent the solution.	1 day
Lesson 22 Solution Sets to Simultaneous Equations	Students identify solutions to simultaneous equations or inequalities; they solve systems of linear equations and inequalities either algebraically or graphically.	2 days
Lesson 23 Solution Sets to Simultaneous Equations	Students create systems of equations that have the same solution set as a given system. Students understand that adding a multiple of one equation to another creates a new system of two linear equations with the same solution set as the original system. This property provides a justification for a method to solve a system of two linear equations algebraically.	2 days
Lesson 24 Applications of Systems of Equations and Inequalities	Students use systems of equations or inequalities to solve contextual problems and interpret solutions within a particular context.	1 day
Review		1 day
Test		1 day

**Module I Relationships Between Quantities and Reasoning with Equations and Their Graphs.  
Topic D: Creating Equations to Solve Problems**

N-Q.1: Use units as a way to understand problems and to guide the solution of multistep problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

A-SEE.1: Interpret expressions that represent a quantity in terms of its context.

A-SEE.1a: Interpret parts of an expression, such as terms, factors, and coefficients

A-SEE.1b: Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret  $P(1+r)^n$  as the product of  $P$  and a factor not depending on  $P$ .

A-CED.1: Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.

A-CED.2: Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

A-REI.3: Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

Module I Topic D		Time (7 days)
Lesson 25 Solving Problems in Two Ways- Rules and Algebra	Students investigate a problem that can be solved by reasoning quantitatively and by creating equations in one variable. They compare the numerical approach to the algebraic approach.	1 day
Lesson 26 Recursive Challenge Problem-The Double and Add 5 Game	Students learn the meaning and notation of recursive sequences in a modeling setting. Following the modeling cycle, students investigate the double and add 5 game in a simple case in order to understand the statement of the main problem.	1 days
Lesson 27 Recursive Challenge Problem-The Double and Add 5 Game	Students learn the meaning and notation of recursive sequences in a modeling setting. Students use recursive sequences to model and answer problems. Students create equations and inequalities to solve a modeling problem. Students represent constraints by equations and inequalities and interpret solutions as viable or non-viable options in a modeling context.	1 days
Lesson 28 Federal Income Tax	Students create equations and inequalities in one variable and use them to solve problems. Students create equations in two or more variables to represent relationships between quantities and graph equations on coordinate axes with labels and scales. Students represent constraints by inequalities and interpret solutions as viable or non-viable options in a modeling context.	2 days
Review and Test		2 days

**Module 2 Descriptive Statistics**  
**Topic A: Shapes and Centers of Distributions**

S-ID.1: Represent data with plots on the real number line (dot plots, histograms, and box plots)

S-ID.2: Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

S-ID.3: Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).

Module 2 Topic A		Time (7 days)
Lesson1: Distributions and Their Shapes	Students use informal language to describe the shape, center, and variability of a distribution based on a dot plot, histogram, or box plot. Students recognize that a first step in interpreting data is making sense of the context. Students make meaningful conjectures to connect data distributions to their contexts and the questions that could be answered by studying the distributions.	2 days
Lesson 2: Describing the Center of a Distribution	Students construct a dot plot from a data set. Students calculate the mean of a data set and the median of a data set. Students observe and describe the measures of center (mean and median) are nearly the same for distributions that are nearly symmetrical. Students observe and explain why the mean and median are different for distributions that are skewed. Students select the mean as an appropriate description of center for a symmetrical distribution and the median as a better description of center for a distribution that is skewed.	2 days
Lesson 3: Estimating Centers and Interpreting the Mean as a Balance	Students estimate the mean and median of a distribution represented by a dot plot or histogram. Students indicate that the mean is a reasonable description of a typical value for a distribution that is symmetrical but that the median is a better description of a typical value for a distribution that is skewed. Students interpret the mean as a balance point of a distribution. Students indicate that for a distribution in which neither the mean nor the median is a good description of a typical value, the mean still provided a description of the center of a distribution in terms of the balance point.	1 day
Review		1 day
Test		1 day

**Module 2 Descriptive Statistics**  
**Topic B: Describing Variability and Comparing Distributions**

S-ID.1: Represent data with plots on the real number line (dot plots, histograms, and box plots)

S-ID.2: Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

S-ID.3: Interpret difference in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).

Module 2 Topic B		Time (11 days)
Lesson 4: Summarizing Deviations from the Mean	Students calculate the deviations from the mean for two symmetrical data sets that have the same means. Students interpret deviations that are generally larger as identifying distributions that have a greater spread or variability than a distribution in which the deviations are generally smaller.	3 days
Lesson 5: Measuring Variability for Symmetrical Distributions	Students calculate the standard deviation for a set of data. Students interpret the standard deviation as a typical distance from the mean.	1 day
Lesson 6: Interpreting the Standard Deviation	Students calculate the standard deviation of a sample with the aid of a calculator. Students compare the relative variability of distributions using standard deviations.	1 day
Lesson 7: Measuring Variability for Skewed Distributions (Interquartile Range)	Students explain why a median is a better description of a typical value for a skewed distribution. Students calculate the 5-number summary of a data set. Students construct a box plot based on the 5-number summary and calculate the interquartile range (IQR). Students interpret the IQR as a description of variability in the data. Students identify outliers in a data distribution.	3 days
Lesson 8: Comparing Distributions	Students compare two or more distributions in terms of center, variability, and shape. Students interpret a measure of center as a typical value. Students interpret the IQR as a description of the variability of the data. Students answer questions that address differences and similarities for two or more distributions.	1 day
Review		1 day
Test		1 day

**Module 2 Descriptive Statistics**  
**Topic C: Categorical Data on Two Variables**

S-ID.5: Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.

S-ID.9: Distinguish between correlation and causation

Module 2 Topic C		Time (5 days)
Lesson 9: Summarizing Bivariate Categorical Data	Students distinguish between categorical data and numerical data. Students summarize data on two categorical variables collected from a sample using a two-way frequency table.	1 day
Lesson 10: Summarizing Bivariate Categorical Data with Relative Frequencies	Students summarize data on two categorical variables collected from a sample using a two-way frequency table. Given a two-way frequency table, students construct a relative frequency table and interpret relative frequencies.	1 day
Lesson 11: Conditional Relative Frequencies and Association	Students calculate and interpret conditional relative frequencies from two-way frequency tables. Students evaluate conditional relative frequencies as an indication of possible association between two variables. Students explain why association does not imply causation.	1 day
Review/ Quiz		2 days

**Module 2 Descriptive Statistics**  
**Topic D: Numerical Data on Two Variables**

S-ID.6: Represent data on two quantitative variables on a scatter plot and describe how the variables are related. a) Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models. b) Informally assess the fit of a function by plotting and analyzing residuals. c) Fit a linear function for a scatter plot that suggests a linear association.

S-ID.7: Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.

S-ID.8: Compute (using technology) and interpret the correlation coefficient of a linear fit.

S-ID.9: Distinguish between correlation and causation

Module 2 Topic D		Time (17 days)
Lesson 12: Relationships between Two Numerical Variables	Students distinguish between scatter plots that display a relationship that can be reasonably modeled by a linear equation and those that should be modeled by a nonlinear equation.	2 days
Lesson 13: Relationships between Two Numerical Variables	Students distinguish between scatter plots that display a relationship that can be reasonably modeled by a linear equation and those that should be modeled by a nonlinear equation. Students use an equation given as a model for a nonlinear relationship to answer questions based on an understanding of the specific equation and the context of the data.	2 days
Lesson 14: Modeling Relationships with a Line	Students determine the least-squares regression line from a given set of data using technology. Students use the least-squares regression line to make predictions.	2 days
Lesson 15: Interpreting Residuals from a Line	Students use the least-squares line to predict values for a given data set. Students use residuals to evaluate the accuracy of predictions based on the least-squares line.	2 days
Lesson 16: More on Modeling Relationships with a Line	Students use the least-squares line to predict values for a given data set. Students use residuals to evaluate the accuracy of predictions based on the least-squares line.	1 day
Review/ Quiz		1 day
Lesson 17: Analyzing Residuals	Students use a graphing calculator to construct the residual plot for a given data set. Students use residual plot as an indication of whether the model used to describe the relationship between two numerical variables is an appropriate choice.	2 days
Lesson 18: Analyzing Residuals	Students use a graphing calculator to construct the residual plot for a given data set. Students use a residual plot as an indication of whether the model used to describe the relationship between two numerical variables is an appropriate choice.	1 days
Lesson 19: Interpreting Correlation	Students use technology to determine the value of the correlation coefficient for a given data set. Students interpret the value of the correlation coefficient as a measure of strength and direction of a linear relationship. Students explain why correlation does not imply causation.	1 day
Lesson 20: Analyzing Data Collected on Two Variables	Students use data to develop a poster that involves the focus standards. Students construct a scatter plot of the data. Students analyze their data, examining the residual plot, and interpreting the correlation coefficient.	1 day

Review		1 day
Test		1 day

**Module 3 Linear and Exponential Functions**  
**Topic A Linear and Exponential Sequences**

F-IF.A.1: Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If  $f$  is a function and  $x$  is an element of its domain, the  $f(x)$  denotes the output of  $f$  corresponding to the input  $x$ . The graph of  $f$  is the graph of the equation  $y = f(x)$ .

F-IF.A.2: Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

F-IF.A.3: Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. For example, the Fibonacci sequence is defined recursively by  $f(0) = f(1) = 1$ ,  $f(n + 1) = f(n) + f(n-1)$  for  $n \geq 1$ .

F-IF.B.6: Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.

F-BF.A.1a: Write a function that describes a relationship between two quantities. a) Determine an explicit expression, a recursive process, or steps for calculation from a context.

F-LE.A.1: Distinguish between situations that can be modeled with linear functions and with exponential functions. a) Prove that linear functions grow by equal differences over equal intervals and that exponential functions grow by equal factors over equal intervals. b) Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c) Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

F-LE.A.2: Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).

F-LE.A.3: Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.

Module 3 Topic A		Time (12 days)
Lesson 1: Integer Sequences-Should you Believe in Patterns?	Students examine sequences and are introduced to the notation used to describe them.	2 days

Lesson 2: Recursive Formulas for Sequences	Students write sequences with recursive and explicit formulas.	1 day
Lesson 3: Arithmetic and Geometric Sequences	Students learn the structure of arithmetic and geometric sequences. Break into two days: Arithmetic 1 day and Geometric 1 day	2 days
Lesson 4: Why Do Banks Pay You to Provide Their Services?	Students compare the rate of change for simple and compound interest and recognize situations in which a quantity grows by a constant percent rate per unit interval.	2 days
Lesson 5: The Power of Exponential Growth	Students are able to model with and solve problems involving exponential formulas.	1 day
Lesson 6: Exponential Growth-US Population and World Population	Students compare linear and exponential models of population growth.	1 day
Lesson 7: Exponential Decay	Students describe and analyze exponential decay models; they recognize that in a formula that models exponential decay, the growth factor $b$ is less than 1; or, equivalently, when $b$ is greater than 1, exponential formulas with negative exponents could be used to model decay.	1 day
Review		1 day
Test		1 day

### **Module 3 Linear and Exponential Functions**

#### **Topic B Functions and Their Graphs**

F-IF.A.1: Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If  $f$  is a function and  $x$  is an element of its domain, the  $f(x)$  denotes the output of  $f$  corresponding to the input  $x$ . The graph of  $f$  is the graph of the equation  $y = f(x)$ .

F-IF.A.2: Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

F-IF.B.4: For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the functions is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.

F-IF.B.5: Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function  $h(n)$  gives the number of person- hours it takes to assemble  $n$  engines in a factory, then the positive integers would be an appropriate domain for the function.

F-IF.C.7a: Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. a) Graph linear and quadratic functions and show intercepts, maxima, and minima.

Module 3 Topic B		Time (14 days)
Lesson 8: Why Stay with Whole Numbers?	Students use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms on context. Students create functions that represent a geometric situation and relate the domain of a function to its graph and to the relationship it describes.	1 day
Lesson 9: Representing, Naming, and Evaluating Functions	Students understand that a function from one set (called the domain) to another set (called the range) assigns each element of the domain to exactly one element of the range. Students use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	1 day
Lesson 10: Representing, Naming, and Evaluating Functions	Students understand that a function from one set (called the domain) to another set (called the range) assigns each element of the domain to exactly one element of the range and understand that if $f$ is a function and $x$ is an element of its domain, then $f(x)$ denotes the output of $f$ corresponding to the input $x$ . Students use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	2 days
Lesson 11: The Graph of a Function	Students understand set builder notation for the graph of a real-valued function: $\{x, f(x) \mid x \in D\}$ Students learn techniques for graphing functions and relate the domain of a function to its graph.	2 days
Lesson 12: The Graph of the Equation $y = f(x)$	Students understand the meaning of the graph of $y = f(x)$ , namely $\{x, f(x) \mid x \in D \text{ and } y = f(x)\}$ . Students understand the definitions of when a function is increasing or decreasing.	2 days
Lesson 13: Interpreting the Graph of a Function	Students create tables and graphs of functions and interpret key features including intercepts, increasing and decreasing intervals, and positive and negative intervals.	2 days
Lesson 14: Linear and Exponential Models- Comparing Growth Rates	Students compare linear and exponential models by focusing on how the models change over intervals of equal length. Students observe from tables that a function that grows exponentially will eventually exceed a function that grows linearly.	2 days
Review		1 day
Test		1 day

**Module 3 Linear and Exponential Functions**  
**Topic C: Transformations of Functions.**

A-REI.D.11: Explain why the x-coordinates of the points where the graphs of the equations  $y = f(x)$  and  $y = g(x)$  intersect are the solutions of the equation  $f(x) = g(x)$ ; find the solutions approximately, e.g, using technology to graph the functions, make tables of values, or find successive approximations. Include cases where  $f(x)$  and/ or  $g(x)$  are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.

F-IF.C.7a: Graph Functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. a) Graph linear and quadratic functions and show intercepts, maxima, and minima.

F-BF.B.3: Identify the effect on the graph of replacing  $f(x)$  by  $(x) + k$ ,  $k f(x)$ ,  $f(kx)$ , and  $f(x + k)$  for specific values of  $k$  (both positive and negative); find the value of  $k$  given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.

Module 3 Topic C		Time (11 days)
Lesson 15: Piecewise Functions	Students examine the features of piecewise functions including the absolute value function and step functions. Students understand that the graph of a function $f$ is the graph of the equation $y = f(x)$ .	1 days
Lesson 16: Graphs Can Solve Equations Too	Students discover that the multi-step and exact way of solving $ 2x-5  =  3x+1 $ using algebra can sometimes be avoided by recognizing that an equation of the form $f(x) = g(x)$ can be solved visually by looking for the intersection points of the graphs of $y = f(x)$ and $y = g(x)$ .	2 days
Lesson 17: Four Interesting Transformations of Functions	Students examine that a vertical translation of the graph of $y = f(x)$ corresponds to changing the equation from $y = f(x)$ to $y = f(x) + k$ . Students examine that a vertical scaling of the graph of $y = f(x)$ corresponds to changing the equation from $y = f(x)$ to $y = kf(x)$ .	2 days
Lesson 18: Four Interesting Transformations of Functions	Students examine that a horizontal translation of the graph of $y = f(x)$ corresponds to changing the equation from $y = f(x)$ to $y = f(x - k)$ .	1 day
Lesson 19: Four Interesting Transformations of Functions	Students examine that a horizontal scaling with scale factor $k$ of the graph of $y = f(x)$ corresponds to changing the equation from $y = f(x)$ to $y = f((1/k)x)$	2 days
Lesson 20: Four Interesting Transformations of Functions	Students apply their understanding of transformations of functions and their graphs to piecewise functions.	1 day
Review		1 day
Test		1 day

**Module 3 Linear and Exponential Functions**  
**Topic D: Using Functions and Graphs to Solve Problems**

A-CED.A.1: Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions

A-SSE.B.c: Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. c.) use the properties of exponents to transform expressions for exponential functions. For example the expression  $1.15^t$  can be rewritten as  $(1.15^{1/12})^{12t} \approx 1.012^{12t}$  to reveal the approximate equivalent monthly interest rate if the annual rate is 15%. □

F-FI.B.4: For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.

F-IF.B.6: Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.

F-IF.C.9: Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.

F-BF.A.1a: Write a function that describes a relationship between two quantities. a) Determine an explicit expression, a recursive process, or steps for calculation from a context.

F-LE.A.2: Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).

F-LE.B.5: Interpret the parameters in a linear or exponential function in terms of a context.

Module 3 Topic D		Time (6 days)
Lesson 21: Comparing Linear and Exponential Models Again	Students create models and understand the differences between linear and exponential models that are represented in different ways.	1 day
Lesson 22: Modeling an Invasive Species Population	Students apply knowledge of exponential functions and transformations of functions to a contextual situation.	1 day
Lesson 23: Newton's Law of Cooling	Students apply knowledge of exponential functions and transformations of functions to a contextual situation.	1 day

Lesson 24: Piecewise and Step Functions in Context	Students create piecewise and step functions that relate to real-life situations and use those functions to solve problems. Students interpret graphs of piecewise and step functions in a real-life situation.	1 day
Review		1 day
Test		1 day

**Mixed Topic Review**

**Final**

# **Common Core Algebra RB Prep Curriculum**

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**Curriculum Writer:  
Theresa Catalina**

## Common Core Algebra RB

Beginning of the Year Review		Time (20 days)
Monomials and Polynomials		5 days
Solving Equations		5 days
Graphing Equations		5 days
Graphing Quadratics		5 days

### Module 4: Polynomial and Quadratic Expressions, Equations, and Functions Topic A: Quadratic Expressions, Equations, Functions, and Their Connection to Rectangles

A-SSE.A.1: Interpret expressions that represent a quantity in terms of its context. a) Interpret parts of an expression, such as terms, factors, and coefficients. b) Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret  $P(1 + r)^n$  as the product of  $P$  and a factor not depending on  $P$ .

A-SSE.A.2: Use the structure of an expression to identify ways to rewrite it. For example, see  $x^4 - y^4$  as  $(x^2)^2 - (y^2)^2$  thus recognizing it as a difference of squares that can be factored as  $(x^2 - y^2)(x^2 + y^2)$ .

A-SSE.B.3a: Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. a) Factor a quadratic expression to reveal the zeros of the function it defines.

A-APR.A.1: Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

A-CED.A.1: Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.

A-CED.A.2: Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

A-REI.B.4b: Solve quadratic equations in one variable. a) Solve quadratic equations by inspection (e.g., for  $x^2 = 49$ ), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as  $a \pm bi$  for real numbers  $a$  and  $b$ . (note: tasks do not require students to write solutions for quadratic equations that have roots with nonzero imaginary parts. However, tasks can require the student to recognize cases in which a quadratic equation has no real solutions.

A-REI.D.11: Explain why the  $x$ -coordinates of the points where the graphs of the equations  $y = f(x)$  and  $y = g(x)$  intersect are the solutions of the equation  $f(x) = g(x)$ ; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations.

Include cases where  $f(x)$  and/ or  $g(x)$  are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.

F-IF.B.4: For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.

F-IF.B.5: Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function  $h(n)$  gives the number of person-hours it takes to assemble  $n$  engines in a factory, then the positive integers would be an appropriate domain for the function.

F-IF.B.6: Calculate and interpret the average rate of change of a function (presented symbolically or as table) over a specified interval. Estimate the rate of change from a graph.

F-IF.C.7a: Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. a) Graph linear and quadratic functions and show intercepts, maxima, and minima.

Module 4 Topic A		Time (27 days)
Lesson1: Multiplying and Factoring Polynomial Expressions	Students use the distributive property to multiply a monomial by a polynomial and understand that factoring reverses the multiplication process. Students use polynomial expressions as side lengths of polygons and find area by multiplying. Students recognize patterns and formulate shortcuts for writing the expanded form of binomials whose expanded form is a perfect square or the difference of perfect squares.	8 days  Break into 3 days multiplying polynomials and 5 days factoring (quiz)
Lesson 2: Multiplying and Factoring Polynomial Expressions	Students understand that factoring reverses the multiplication process as they find linear factors of basic, factorable quadratic trinomials. Students explore squaring a binomial, factoring the difference of squares, and finding the product of a sum and difference of the same two terms.	
Lesson 3: Advanced Factoring Strategies for Quadratic Expressions	Students develop strategies for factoring quadratic expressions that are not easily factorable, making use of the structure of the quadratic expression.	4 days
Lesson 4: Advanced Factoring Strategies for Quadratic Expressions	Students factor quadratic expressions that cannot be easily factored and develop additional strategies for factorization, including splitting the linear term, using graphing calculators, and using geometric or tabular models.	
Lesson 5: The Zero Product Property	Students solve increasingly complex one-variable equations, some of which need algebraic manipulation, including factoring as a first step and using the zero product property.	1 day

Lesson 6: Solving Basic One-Variable Quadratic Equations	Students use appropriate and efficient strategies to find solutions to basic quadratic equations. Students interpret the verbal description of a problem and its solutions in context and then justify the solutions using algebraic reasoning.	2 days
Lesson 7: Creating and Solving Quadratic Equations in One Variable	Students interpret word problems to create equations in one-variable and solve them (i.e, determine the solution set) using factoring and the zero product property.	2 days
Review		1 day
Quiz		1 day
Lesson 8: Exploring the Symmetry in Graphs of Quadratic Functions	Students examine quadratic equations in two variables represented graphically on a coordinate plane and recognize the symmetry of the graph. They explore key features of graphs of quadratic functions: y-intercept and x-intercepts, the vertex, the axis of symmetry, increasing and decreasing intervals, negative and positive intervals, and end behavior. The sketch graphs of quadratic functions as a symmetric curve with a highest or lowest point corresponding to its vertex and an axis of symmetry passing through the vertex.	2 days
Lesson 9: Graphing Quadratic Functions from Factored Form, $f(x) = a(x - m)(x - n)$	Students use the factored form of a quadratic equation to construct a rough graph, use the graph of a quadratic equation to construct a quadratic equation in factored form, and relate the solutions of a quadratic equation in one variable to the zeros of the function it defines. Students understand that the number of zeros in a polynomial function corresponds to the number of linear factors of the related expression and that different functions may have the same zeros but different maxima or minima.	2 days
Lesson 10: Interpreting Quadratic Functions from Graphs and Tables	Students interpret quadratic functions from graphs and tables: zeros (x-intercepts), y-intercept, the minimum or maximum value (vertex), the graph's axis of symmetry, positive and negative values for the function, increasing and decreasing intervals, and the graph's end behavior. Students determine an appropriate domain and range for a function's graph and when given a quadratic function.	2 days
Review		1 day
Test		1 day

**Module 4 Polynomial and Quadratic Expressions, Equations, and Functions**  
**Topic B: Using Different Forms for Quadratic Functions**

N-RN.B.3: Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

A-SSE.A.1: Interpret expressions that represent a quantity in terms of its context. a) Interpret parts of an expression, such as terms, factors, and coefficients. b) Interpret complicated expressions by viewing

one or more of their parts as a single entity. *For example, interpret  $P(1+r)^n$  as the product of  $P$  and a factor not depending on  $P$ .*

A-SSE.A.2: *Use the structure of an expression to identify ways to rewrite it. For example, see  $x^4 - y^4$  as  $(x^2)^2 - (y^2)^2$ , thus recognizing it as a difference of squares that can be factored as  $(x^2 - y^2)(x^2 + y^2)$ .*

A-SSE.B.3: Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. a) Factor a quadratic expression to reveal the zeros of the function it defines. b) Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.

A-APR.B.3: Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.

A-CED.A.1: Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*

A-CED.A.2: *Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.*

A-REI.B.4: *Solve quadratic equations in one variable. a) Use the method of completing the square to transform any quadratic equation in  $x$  into an equation of the form  $(x - p)^2 = q$  that has the same solutions. Derive the quadratic formula from this form. b) Solve quadratic equations by inspection (e.g., for  $x^2 = 49$ ), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as  $a \pm bi$  for real numbers  $a$  and  $b$ .*

F-IF.B.4: *For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity. ★*

F-IF.B.6: Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph

F-IF.C.7a: *Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. a) Graph linear and quadratic functions and show intercepts, maxima, and minima.*

F-IF.C.8a: Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. a) Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.

Topic		Time (14 days)
Lesson 11: Completing the Square	Students rewrite quadratic expressions given in standard form, $ax^2 + bx + c$ , in the equivalent completed-square form, $a(x - h)^2 + k$ , and recognize cases for which factored or completed-square form is most efficient to use	2 days
Lesson 12: Completing the Square	Students rewrite quadratic expressions given in standard form, $ax^2 + bx + c$ , as equivalent expressions in completed square form, $a(x - h)^2 + k$ . They build quadratic expressions in basic business application contexts and rewrite them in equivalent forms.	2 days
Lesson 13: Solving Quadratic Equations by Completing the Square	Students solve complex quadratic equations, including those with a leading coefficient other than 1, by completing the square. Some solutions may be irrational. Students draw conclusions about the properties of irrational numbers, including closure for the irrational number system under various operations.	2 days
Lesson 14: Deriving the Quadratic Formula	Students use the quadratic formula to solve quadratic equations that cannot be easily factored. Students derive the quadratic formula by completing the square for a general quadratic equation in standard form, and use it to verify the solutions for equations from the previous lesson for which they have already factored or completed the square.	1 day
Lesson 15: Using the Quadratic Formula	Students understand that the discriminant, $b^2 - 4ac$ can be used to determine whether a quadratic equation has one, two, or no real solutions.	2 day
Lesson 16: Graphing Quadratic Equations from the Vertex Form, $y = a(x - h)^2 + k$	Students graph simple quadratic equations of the form $y = a(x - h)^2 + k$ (completed-square or vertex form), recognizing that $(h, k)$ represents the vertex of the graph and use a graph to construct a quadratic equation in vertex form. Students understand the relationship between the leading coefficient of a quadratic function and its concavity and slope and recognize that an infinite number of quadratic functions share the same vertex.	3 days  (1 day Vertex) (1 day Standard Form) (1 day Mixed)
Lesson 17: Graphing Quadratic Functions from	Students graph a variety of quadratic functions using the form $f(x) = ax^2 + bx + c$ (standard form). Students analyze and draw conclusions about contextual applications using the key features of a function and its graph.	

the Standard Form, $f(x) = ax^2 + bx + c$		
Review		1 day
Test		1 day

**Module 4 Polynomial and Quadratic Expressions, Equations, and Functions**  
**Topic C: Function Transformations and Modeling**

A-CED.A.2: Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. \*

F.IF.6: Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.

F-IF.C.7b: Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. b) Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.

F-IF.C.9: Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*

F-BF.B.3: *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); find the value of  $k$  given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.*

Topic		Time (14 days)
Lesson 18: Graphing Cubic, Square Root, and Cube Root Functions	Students compare the basic quadratic (parent) function, $y = x^2$ , to the square root function and do the same with cubic and cube root functions. They then sketch graphs of square root and cube root functions, taking into consideration any constraints on the domain and range.	2 days
Lesson 19: Translating Functions	Students recognize and use parent functions for linear, absolute value, quadratic, square root, and cube root to perform vertical and horizontal translations. They identify how the graph of $y = f(x)$ relates to the graphs of $y = f(x) + k$ and $y = f(x + k)$ for any specific values of $k$ , positive or	1 day

	negative, and find the constant value, $k$ , given the parent functions and the translated graphs. Students write the function representing the translated graphs.	
Lesson 20: Stretching and Shrinking Graphs of Functions	Students recognize and use parent functions for absolute value, quadratic, square root, and cube root to perform transformations that stretch and shrink the graphs of the functions. They identify the effect on the graph of $y = f(x)$ when $f(x)$ is replaced with $kf(x)$ and $f(kx)$ , for any specified value of $k$ , positive or negative, and identify the constant value, $k$ , given the graphs of the parent functions and the transformed functions. Students write the formulas for the transformed functions given their graphs.	2 days
Lesson 21: Transformations of the Quadratic Parent Function, $f(x) = x^2$	Students make a connection between the symbolic and graphic forms of quadratic equations in the completed-square (vertex) form. They efficiently sketch a graph of a quadratic function in the form, $f(x) = a(x - h)^2 + k$ by transforming the quadratic parent function, $f(x) = x^2$ , without the use of technology. They then write a function defined by a quadratic graph by transforming the quadratic parent function.	1 day
Lesson 22: Comparing Quadratic, Square Root, and Cube Root Functions Represented in Different Ways	Students compare two different quadratic, square root, or cube root functions represented as graphs, tables, or equations. They interpret, contextualize and abstract various scenarios to complete the comparative analysis.	2 days
Lesson 23: Modeling with Quadratic Functions	Students write the quadratic function described verbally in a given context. They graph, interpret, analyze, check results, draw conclusions, and apply key features of a quadratic function to real-life applications in business and physics.	2 days
Lesson 24: Modeling with Quadratic Functions	Students create a quadratic function from a data set based on a contextual situation, sketch its graph, and interpret both the function and the graph in context. They answer questions and make predictions related to the data, the quadratic function, and graph.	2 days
Review		1 day
Test		1 day

**Module 5: A Synthesis of Modeling with Equations and Functions**  
**Topic A: Elements of Modeling**

N-Q.A.2: Define appropriate quantities for the purpose of descriptive modeling.

A-CED.A.2: Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. ★

F-IF.B.4: For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.

F-IF.B.5: Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function  $h(n)$  gives the number of person-hours it takes to assemble  $n$  engines in a factory, then the positive integers would be an appropriate domain for the function.

F-BF.A.1a Write a function that describes a relationship between two quantities. a) Determine an explicit expression, a recursive process, or steps for calculation from a context.

F-LE.A.1b: Distinguish between situations that can be modeled with linear functions and with exponential functions.

F-LE.A.1c: b) Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c) Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

F-LE.A.2: Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).

Topics		Time (8 days)
Module 5 Topic A Lesson 1: Analyzing a Graph	From a graphic representation, students recognize the function type, interpret key features of the graph, and create an equation or table to use as a model of the context for functions addressed in previous modules (i.e., linear, exponential, quadratic, cubic, square root, cube root, absolute value, and other piecewise functions).	2 days
Module 5 Topic A Lesson 2: Analyzing a Data Set	Students recognize linear, quadratic, and exponential functions when presented as a data set or sequence, and formulate a model based on the data.	2 days
Module 5 Topic A Lesson	Students make sense of a contextual situation that can be	2 days

3: Analyzing a Verbal Description	modeled with linear, quadratic, and exponential functions when presented as a word problem. They analyze a verbal description and create a model using equations, graphs, or tables.	
Review		1 day
Quiz		1 day

**Module 5: A Synthesis of Modeling with Equations and Functions:  
Topic B Completing the Modeling Cycle**

N-Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.

N-Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

A-CED.A.1 Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.

A-CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

F-IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.

F-IF.B.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function  $h(n)$  gives the number of person-hours it takes to assemble  $n$  engines in a factory, then the positive integers would be an appropriate domain for the function.

F-IF.B.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.

F-BF.A.1a Write a function that describes a relationship between two quantities. a. Determine an explicit expression, a recursive process, or steps for calculation from a context.

F-LE.A.1b: Distinguish between situations that can be modeled with linear functions and with exponential functions.

F-LE.A.1c: b) Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c) Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

F-LE.A.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).

Topics		Time (12 days)
Module 5 Topic B Lesson 4: Modeling a Context from a Graph	Students create a two-variable equation that models the graph from a context. Function types include linear, quadratic, exponential, square root, cube root, and absolute value. They interpret the graph and function and answer questions related to the model, choosing an appropriate level of precision in reporting their results.	2 days
Module 5 Topic B Lesson 5: Modeling from a Sequence	Students recognize when a table of values represents an arithmetic or geometric sequence. Patterns are present in tables of values. They choose and define the parameter values for a function that represents a sequence.	2 days
Module 5 Topic B Lesson 6: Modeling a Context from Data	Students write equations to model data from tables, which can be represented with linear, quadratic, or exponential functions, including several from Lessons 4 and 5. They recognize when a set of data can be modeled with a linear, exponential, or quadratic function and create the equation that models the data. Students interpret the function in terms of the context in which it is presented, make predictions based on the model, and use an appropriate level of precision for reporting results and solutions.	2 days
Module 5 Topic B Lesson 7: Modeling a Context from Data	Students use linear, quadratic, and exponential functions to model data from tables, and choose the regression most appropriate to a given context. They use the correlation coefficient to determine the accuracy of a regression model and then interpret the function in context. They then make predictions based on their model, and use an appropriate level of precision for reporting results and solutions.	2 days
Module 5 Topic B Lesson 8: Modeling a Context from a Verbal Description	Students model functions described verbally in a given context using graphs, tables, or algebraic representations.	1 day
Module 5 Topic B Lesson 9: Modeling a Context from a Verbal Description	Students interpret the function and its graph and use them to answer questions related to the model, including calculating the rate of change over an interval, and always using an appropriate level of precision when reporting results. Students use graphs to interpret the function represented by the equation in terms of the context, and answer questions about the model using the appropriate level of precision in reporting results.	1 day
Review		1 day
Test		1 day

### Topic Reviews

Module 1	Topics A and B	6 days
Mid Module	Assessment Use as a Mixed Review	3 days
Quiz		1 day
Module 1	Topics C and D	7 days
End of Module	Module 1 Assessment Use as a Mixed Review	3 days
Module 1 Test		1 day
Module 2	Topics A and B	5 days
Mid Module	Assessment Use as a Mixed Review	3 days
Quiz		1 day
Module 2	Topics C and D	5 days
End of Module	Assessment Use as a Mixed Review	3 days
Module 2 Test		1 day
Module 3	Topics A and B	6 days
Mid Module	Assessment Use as a Mixed Review	3 days
Quiz		1 day
Module 3	Topics C and D	6 days
End of Module 3	Assessment Use as a Mixed Review	3 days
Module 3 Test		1 day
Module 4	Topic A	
Mid Module	Assessment Use as a Mixed Review	3 days
Quiz		1 day
Module 4	Topic B and C	
End of Module 4	Assessment Use as a Mixed Review	3 days
Module 4 Test		1 day
Module 5	Topics A and B	3 days
End of Module 5	Assessment Use as a Mixed Review	3 days
Module 5 Test		1 day

**Final Review- Practice Common Core Algebra Regents Exams**

# Common Core Prep English Curriculum

**Curriculum Writers:**

**Melissa Joy**

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## CDOS English Curriculum Map

This chart depicts the reading skills and standards along with when they will be addressed. For full standards refer to “Common Core Standards for English Language Arts and Literacy...”.

	Structure of Text	Fiction and Nonfiction	Context Clues	Details	Story Elements	Sequencing	Main Idea/ Summarizing	Making Inferences	Point of View / Author's Purpose	Compare and Contrast	Poetry
<b>Grade 9</b>	RL.K.5 RL.K.6 RI.K.5 RL.1.5 RI.1.5	RL.1.5	RL.K.4 RI.1.4	RL.1.1 RL.1.2 RL.1.11 RI.1.1 RI.1.2	RL.K.3 RL.1.3 RL.1.7	RL.K.2 RL.1.2 RL.1.3	RL.1.2 RI.1.2	X	RL.1.6 RI.1.8	X	RL.1.4 RL.1.10
<b>Grade 10</b>	RL.2.5 RI.2.5 RI.2.7	X	RL.2.4 RI.2.4	RL.2.1 RI.2.1	RL.2.3 RL.2.7	RL.2.2 RL.2.5	RL.2.2 RI.2.2	X	RL.2.6 RI.2.6 RI.2.8	RL1.9 RL2.9 RI.1.9	RL.2.4
<b>Grade 11</b>	RL.3.5 RL.4.5 RI.3.5 RI.4.5	X	X	RL.3.1 RI.3.1 RI.3.7 RI.4.7	RL.3.3 RL.3.7 RL.3.9	X	RL.3.2 RI.3.2	RL.4.1 RI.4.1	RL.3.6 RI.3.6 RI.4.8	RL.3.9	X
<b>Grade 12</b>	X	X	X	X	RL.4.3 RL.5.3	X	RL.4.2 RL.5.2	RL.5.1 RI.5.1	RL.4.6 RL.5.6 RI.5.8	RL.5.3 RI.4.9 RI.5.5	RL.4.5 RL.5.4

# Common Core Prep English 1R Grade 9

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**Melissa Joy**

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Prep Grade 9 (Year 1):

<p>Reading Skill 1: Grade 9</p>	<p><b>Structure of Different Types of Texts</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will recognize and identify different types of text (i.e., stories, poems, informational text).</li> <li>• Students will be able to identify the author and the illustrator of a story and define the role of each.</li> <li>• Students will be able to identify the difference between fiction and nonfiction texts.</li> </ul> <p>Definition:</p> <ul style="list-style-type: none"> <li>• Students will be expected recognize and identify common types of text such as poetry, novels, short stories, informational text, plays, and articles. Students will also be expected to utilize the different parts of the text to locate facts and information from the text.</li> </ul>
<p>CC Standards</p>	<p><b>RL. K.5</b> Recognize common types of texts (e.g. storybooks, poems).</p> <p><b>RL.K.6</b> With prompting and support, name the author and illustrator of a story and define the role of each in telling the story.</p> <p><b>RI.K.5</b> Identify the front cover, back cover, and title page of a book. [*also distinguish between title of book, titles of chapters, etc.]</p> <p><b>RL.1.5</b> Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.</p>

	<p><b>RI.1.5</b></p> <p>Know and use various text features (e.g. headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.</p>
Helpful Resources	<p><b>Resource #1:</b></p> <p>Description: Anchor chart - “Text Features...How do they help me?”  <a href="http://creatingreadersandwriters.blogspot.com/2014/04/its-spring-cleaning-time-in-my.html">http://creatingreadersandwriters.blogspot.com/2014/04/its-spring-cleaning-time-in-my.html</a></p> <p><b>Resource #2:</b></p> <p>Description: Teachers Pay Teachers “The Parts of a Book”  <a href="http://www.teacherspayteachers.com/Product/RI15-First-Grade-Common-Core-Worksheets-Activity-and-Poster-373321">http://www.teacherspayteachers.com/Product/RI15-First-Grade-Common-Core-Worksheets-Activity-and-Poster-373321</a></p>
Types of Text	Teacher’s choice of various forms of text. Be sure to include both fiction and nonfiction pieces.
Helpful Hints	This skill may be combined with Reading Skill 2 - Fiction and Nonfiction.

Prep Grade 9 (Year 1):

<p>Reading Skill 2: Grade 9</p>	<p><b>Fiction and Nonfiction</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will identify fiction and nonfiction elements in a text.</li> <li>• Students will distinguish between fiction and nonfiction, including fact and fantasy, and real and make-believe.</li> </ul> <p>Definition:</p> <p>Fiction text has make-believe characters, setting, and events. Fiction contains many fantasy characters and qualities that include things that could not really happen. Examples of fictional characters and settings include a talking dog and a city in the clouds. Nonfiction text contains factual information that can be researched and proven true. Examples of factual information include the following: <i>Houston is a city in Texas. A dog has four legs and a tail.</i></p>
<p>CC Standards</p>	<p><b>RL. 1.5</b></p> <p>Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.</p>
<p>Helpful Resources</p>	<p><b>Resource #1:</b> Description: “Ready to Read Nonfiction?” <a href="http://creatingreadersandwriters.blogspot.com/2014/04/its-spring-cleaning-time-in-my.html">http://creatingreadersandwriters.blogspot.com/2014/04/its-spring-cleaning-time-in-my.html</a></p> <p><b>Resource #2:</b> Description: Comparing Fiction vs. Nonfiction <a href="http://www.scholastic.com/teachers/sites/default/files/asset/file/nonfiction-vs-fiction-graphic-organizer.pdf">http://www.scholastic.com/teachers/sites/default/files/asset/file/nonfiction-vs-fiction-graphic-organizer.pdf</a></p>
<p>Types of Text</p>	<p>Teachers’ choice of fiction and nonfiction text.</p>
<p>Helpful Hints</p>	<p>After teaching skill one: “Structure of Different Types of Text,” if you feel more practice is needed, continue with this topic as a stand-alone skill.</p>

Prep Grade 9 (Year 1):

<p>Reading Skill 3: Grade 9</p>	<p><b>Context Clues</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will use context clues to determine word meanings.</li> <li>• Students will complete sentences using context clues.</li> <li>• Students will ask and answer questions to determine meanings of words and phrases in a text.</li> </ul> <p>Definition:</p> <p>Using context clues is the skill of decoding a word while reading and using the rest of the sentence to determine what the unknown word means. Students use their prior knowledge of the topic, the structure of the sentences, and the clues in the text to read and understand words or phrases.</p>
<p>CC Standards</p>	<p><b>RL. K.4</b> Ask and answer questions about unknown words in a text.</p> <p><b>RI.1.4</b> Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.</p>
<p>Helpful Resources</p>	<p><b>Resource #1:</b> See worksheets from Basic Reading Series binder</p> <p><b>Resource #2:</b> Description: Anchor chart - “Wondering what a word means?” - various strategies to determine the meaning of a word. <a href="http://creatingreadersandwriters.blogspot.com/2014/04/its-spring-cleaning-time-in-my.html">http://creatingreadersandwriters.blogspot.com/2014/04/its-spring-cleaning-time-in-my.html</a></p>
<p>Types of Text</p>	<p>Teacher’s choice of text.</p>

Prep Grade 9 (Year 1):

<p>Reading Skill 4: Grade 9</p>	<p><b>Details</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will identify details in text.</li> <li>• Students will use details to answer comprehension questions.</li> <li>• Students will be able to identify the central message (main idea) of a text.</li> </ul> <p>Definition:</p> <ul style="list-style-type: none"> <li>• Details tell or show the <i>who, what, when, where, why</i> and <i>how</i> about something or someone. Details allow a reader to provide evidence to support their answers.</li> </ul>
<p>CC Standards</p>	<p><b>RL.1.1</b> Ask and answer questions about key details in a text [i.e. “wh questions].</p> <p><b>RL.1.2</b> Retell stories, including key details, and demonstrate understanding of their central message or lesson.</p> <p><b>RL. 1.11</b> Make connections between self, text, and the world around them (text, media, social interaction).</p> <p><b>RI. 1.1</b> Ask and answer questions about key details in a text.</p> <p><b>RI. 1.2</b> Identify the main topic and retell key details of a text.</p>
<p>Types of Text</p>	<p>Teacher’s choice of fiction and/or nonfiction. Be sure to include these skills while reading.</p>
<p>Helpful Hints</p>	<p>Although these standards mention central message (main idea), this will be addressed more in-depth later in grade 9.</p>

Prep Grade 9 (Year 1):

<p>Reading Skill 5: Grade 9</p>	<p><b>Story Elements</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will identify the characters, setting, and major events in a story, using key details.</li> <li>• Students will describe the characters, setting, and major events in a story, using key details.</li> </ul> <p>Definition:</p> <ul style="list-style-type: none"> <li>• Story elements are the elements of character, setting and events in the story. The characters are the people or things in the story. The setting is where and when the story takes place. The events are all the things the character does or experiences in the story.</li> </ul>
<p>CC Standards</p>	<p><b>RL. K.3</b> With prompting and support, identify characters, settings and major events in a story.</p> <p><b>RL.1.3</b> Describe characters, settings, and major events in a story, using key details.</p> <p><b>RL. 1.7</b> Use illustrations and details in a story to describe its characters, setting or events.</p>
<p>Helpful Resources</p>	<p><b>Resource #1:</b> Description: Basic worksheet to identify one character, the setting, and one major event in a story. <a href="http://kindergartenfunplacetobe.blogspot.com/2011/07/wall-stories-great-for-retell.html">http://kindergartenfunplacetobe.blogspot.com/2011/07/wall-stories-great-for-retell.html</a></p>

	<p><b>Resource #2:</b></p> <p>Description: Worksheet to identify identify one character, the setting, and one major event in a story while incorporating pictures.</p> <p><i>*See <a href="#">Sample Activities section for worksheet</a></i></p>
Types of Text	Teachers choice of novel or short story, be sure to include these skills while reading.
Helpful Hints	In grade 9, students should be exposed to characters, setting and events (plot) in a story. The instruction of additional story elements will occur in later grades.

Prep Grade 9 (Year 1):

<p>Reading Skill 6: Grade 9</p>	<p><b>Sequencing</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will be able to identify the sequence of events in pictures, charts, and text.</li> <li>• Students will sequence events.</li> <li>• Students will be able to retell major events in a text in the correct sequence <b>[plot]</b>.</li> </ul> <p>Definition:</p> <p>Sequence is the order in which events occur. Sequencing is the process of identifying the order of events or ordering events chronologically. Order words, such as <i>first</i>, <i>second</i>, <i>third</i>, <i>next</i>, <i>last</i> and <i>finally</i>, are often used to describe the sequence.</p>
<p>CC Standards</p>	<p><b>RL. K.2</b> With prompting and support, retell stories, including key details.</p> <p><b>RL. 1.2</b> Retell stories, including key details, and demonstrate understanding of their central message or lesson.</p> <p><b>RL. 1.3</b> Describe characters, settings, and major events [plot] in a story, using key details.</p>
<p>Types of Text</p>	<p>Teacher’s choice of literature.</p>
<p>Helpful Hints</p>	<p>Since this is an introductory skill, sequencing itself should be explored, rather than an a strong emphasis on sequencing in a text (i.e., review the steps in a recipe, how to make a pizza, etc.).</p>

Prep Grade 9 (Level 1):

<p>Reading Skill 7: Grade 9</p>	<p><b>Main Idea</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will identify the main idea using pictures, charts and text.</li> <li>• Students will identify the main idea and the details using pictures, charts, and text.</li> </ul> <p>Definition:</p> <ul style="list-style-type: none"> <li>• The main idea is what the picture, chart, or text is mostly about. The main idea can be stated in a few words or a sentence. The main idea does not focus on specific details. Details are the <i>who, what, when, where, why, and how</i> in the picture, chart, or text.</li> </ul>
<p>CC Standards</p>	<p><b>RL. 1.2</b> Retell stories, including key details, and demonstrate understanding of their central message or lesson.</p> <p><b>RI. 1.2</b> Identify the main topic and retell key details of text.</p>
<p>Helpful Resources</p>	<p><b>Resource #1:</b> Description: Anchor Chart, Activity <a href="http://babblingabby.blogspot.com/2011/01/inferencing-activity-first-grade.html">http://babblingabby.blogspot.com/2011/01/inferencing-activity-first-grade.html</a></p>
<p>Types of Text</p>	<p>Pictures, charts, or one short, simple paragraph.</p>
<p>Helpful Hints</p>	<p>In grade 9, students should be introduced to main idea. Students are expected to understand what the main idea is from a picture or short paragraph. In later grades, students will also be able to include supporting details for the main idea.</p>

Prep Grade 9 (Year 1):

<p>Reading Skill 8: Grade 9</p>	<p><b>Point of View/Author's Purpose</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will identify who is telling the story at various points in a text.</li> <li>• Students will be able to determine the author's purpose (persuade, inform, entertain).</li> <li>• Students will be able to identify details in a text to support an author's argument [author's purpose/point of view].</li> </ul> <p>Definition:</p> <ul style="list-style-type: none"> <li>• The point of view is the perspective from which a story is told to the reader. The first person point of view is the narrator, who is telling the story and is a character in the story. The author's purpose is to persuade, inform, or entertain the reader.</li> </ul>
<p>CC Standards</p>	<p><b>RL. 1.6</b> Identify who is telling the story at various points in a text.</p> <p><b>RI. 1.8</b> Identify the reasons an author gives to support points in a text [specific to nonfiction text].</p>
<p>Types of Text</p>	<p>Teacher's choice of fiction and/or nonfiction text. Be sure to include these skills while reading.</p>

Prep Grade 9 (Year 1):

<p>Reading Skill 9: Grade 9</p>	<p><b>Understanding Poetry</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will be able to define imagery.</li> <li>• Students will be able to identify examples of imagery in a poem.</li> </ul> <p>Definition:</p> <p>Students should be introduced to poetry, with a focus on imagery. Students will be able to explain how words and/or phrases suggest feelings [imagery].</p>
<p>CC Standards</p>	<p><b>RL. 1.10</b> With prompting and support, read prose and poetry of appropriate complexity.</p> <p><b>RL. 1.4</b> Identify words and phrases in stories or poems that suggest feelings or appeal to the senses [begin to introduce the concept of imagery].</p>
<p>Helpful Resources</p>	<p><b>Resource #1:</b> <a href="http://www.readwritethink.org/classroom-resources/calendar-activities/today-world-poetry-20308.html">http://www.readwritethink.org/classroom-resources/calendar-activities/today-world-poetry-20308.html</a></p>
<p>Types of Text</p>	<p>Teacher’s choice of different poems.</p>

# Common Core Prep English 2R Grade 10

**Curriculum Writers:**

**Melissa Joy**

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Prep Grade 10 (Year 2):

<p>Reading Skill 1: Grade 10</p>	<p><b>Structure of Texts</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will be able to recognize and identify different types of text.</li> <li>• Students will be able to answer questions or locate information from various text features.</li> <li>• Students will be able to describe the overall structure of a story.</li> </ul> <p>Definition:</p> <ul style="list-style-type: none"> <li>• Students can use various parts of the text to help locate information.</li> </ul>
<p>CC Standards</p>	<p><b>RL. 2.5</b> Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.</p> <p><b>RI. 2.5</b> Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.</p> <p><b>RI.2.7</b> Explain how specific images (e.g. a diagram showing how a machine works) contribute to and clarify a text.</p>
<p>Helpful Resources</p>	<p><b>Resource #1:</b> Description: Nonfiction Reading Resources <a href="http://www.scholastic.com/teachers/top_teaching/2011/03/my-march-top-ten-list-nonfiction-reading-resources">http://www.scholastic.com/teachers/top_teaching/2011/03/my-march-top-ten-list-nonfiction-reading-resources</a></p>

	<p><b>Resource #2:</b></p> <p>Description: A Five Day Unit Plan for Introducing Nonfiction. These lesson plans help provide students with a strong foundation for reading, writing, and using nonfiction.</p> <p><a href="http://www.scholastic.com/teachers/lesson-plan/5-day-unit-plan-introducing-nonfiction">http://www.scholastic.com/teachers/lesson-plan/5-day-unit-plan-introducing-nonfiction</a></p>
Types of Text	<p>Teacher's choice of various forms of text. Be sure to include a strong emphasis on nonfictional work that include various text features (i.e., pictures, captions, bold print, etc.).</p>

Prep Grade 10 (Year 2):

<p>Reading Skill 2: Grade 10</p>	<p><b>Context Clues</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will use context clues to determine word meanings.</li> <li>• Students will ask and answer questions to determine meanings of words and phrases in a text.</li> <li>• Students will be able to explain how words and phrases offer meaning to a text.</li> </ul> <p>Definition:</p> <p>Using context clues is the skill of decoding a word while reading and using the rest of the sentence to determine what the unknown word means. Students use their prior knowledge of the topic, the structure of the sentences, and the clues in the text to read and understand words or phrases. Determining the meaning of words helps to determine the meaning of the text itself.</p>
<p>CC Standards</p>	<p><b>RL.2.4</b> Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song [*this skill may be better addressed using poetry].</p> <p><b>RI. 2.4</b> Determine the meaning of words and phrases in a text relevant to subject area.</p>
<p>Helpful Resources</p>	<p><b>Resource #1:</b> Description: Various Context Clues Worksheets <a href="http://www.k12reader.com/subject/context-clues/">http://www.k12reader.com/subject/context-clues/</a></p>
<p>Types of Text</p>	<p>Teacher’s choice of text.</p>

Prep Grade 10 (Year 2):

<p>Reading Skill 3: Grade 10</p>	<p><b>Details</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will identify details in text.</li> <li>• Students will use details to answer comprehension questions.</li> <li>• Students will ask and answer such questions as <i>who, what, where, when, why</i> and <i>how</i> to demonstrate understanding of key details in a text.</li> </ul> <p>Definition:</p> <ul style="list-style-type: none"> <li>• Details tell or show the <i>who, what, when, where, why</i> and <i>how</i> about something or someone. Details allow a reader to provide evidence to support their answers.</li> </ul>
<p>CC Standards</p>	<p><b>RL.2.1</b> Ask and answer questions such as <i>who, what, where, when, why, and how</i> to demonstrate understanding of key details in text.</p> <p><b>RI. 2.1</b> Ask and answer questions such as <i>who, what, where, when, why, and how</i> to demonstrate understanding of key details in text.</p>
<p>Types of Text</p>	<p>Teacher’s choice of novel or short story, be sure to include these skills while reading. It is recommended that the teacher uses both fiction and nonfiction reading.</p>

Prep Grade 10 (Year 2):

<p>Reading Skill 4: Grade 10</p>	<p><b>Story Elements</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will identify the characters, setting, and major events in a story, using key details.</li> <li>• Students will be able to describe the characters, setting and/or plot of a given story.</li> <li>• Students will be able to describe how characters respond to events and challenges in the story.</li> </ul> <p>Definition:</p> <ul style="list-style-type: none"> <li>• Story elements are the elements of character, setting and events in the story. The characters are the people or things in the story. The setting is where and when the story takes place. The events, or plot, are all the things the character does or responds to in the story.</li> </ul>
<p>CC Standards</p>	<p><b>RL.2.3</b> Describe how characters in a story respond to major events and challenges.</p> <p><b>RL. 2.7</b> Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.</p>
<p>Helpful Resources</p>	<p><b>Resource #1:</b> Description: Anchor chart - Proving how characters feel. <a href="http://creatingreadersandwriters.blogspot.com/2014/04/its-spring-cleaning-time-in-my.html">http://creatingreadersandwriters.blogspot.com/2014/04/its-spring-cleaning-time-in-my.html</a></p>
<p>Types of Text</p>	<p>Teacher’s choice of literature. Be sure to include these skills while reading.</p>

Prep Grade 10 (Year 2):

<p>Reading Skill 5: Grade 10</p>	<p><b>Sequencing</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will be able to identify the sequence of events in pictures, charts, and text.</li> <li>• Students will be able to retell major events in a text in the correct sequence [plot].</li> <li>• Students will be able to recount stories, in the correct sequence, to determine the lesson or moral of the story.</li> </ul> <p>Definition:</p> <p>Sequence is the order in which events occur. Sequencing is the process of identifying the order of events or ordering events chronologically. Order words, such as <i>first</i>, <i>second</i>, <i>third</i>, <i>next</i>, <i>last</i> and <i>finally</i>, are often used to describe the sequence.</p>
<p>CC Standards</p>	<p><b>RL.2.2</b></p> <p>Recount stories, including fables and folktales from diverse cultures, and determine how their central message, lesson, or moral.</p> <p><b>RL.2.5</b></p> <p>Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.</p>
<p>Types of Text</p>	<p>Teacher’s choice of literature. Be sure to include these skills while reading.</p>

Prep Grade 10 (Year 2):

<p>Reading Skill 6: Grade 10</p>	<p><b>Main Idea</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will be able to identify the main idea of a multi-paragraph text.</li> <li>• Students will be able to recount stories to determine their central message.</li> </ul> <p>Definition:</p> <ul style="list-style-type: none"> <li>• The main idea is what the picture, chart, or text is mostly about. The main idea can be stated in a few words or a sentence. The main idea does not focus on specific details.</li> </ul>
<p>CC Standards</p>	<p><b>RL.2.2</b> Recount stories, including fables and folktales from diverse cultures, and determine how their central message, lesson, or moral.</p> <p><b>RI.2.2</b> Identify the main topic of a multi-paragraph text as well as the focus of specific paragraphs within the text.</p>
<p>Types of Text</p>	<p>Teacher’s choice; it is recommended that multi-paragraph text is used to accomplish the goal.</p>
<p>Helpful Hints</p>	<p>Students should now be able to <b>determine</b> the central idea.</p>

Prep Grade 10 (Year 2):

<p>Reading Skill 7: Grade 10</p>	<p><b>Point of View/Author’s Purpose</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will be able to identify who is speaking in a story.</li> <li>• Students will be able to explain the author’s purpose in a text (persuasion, inform, entertain).</li> <li>• Students will be able to identify details in a text to support an author’s argument [author’s purpose/point of view].</li> </ul> <p>Definition:</p> <ul style="list-style-type: none"> <li>• Point of view helps the reader to understand the author’s purpose (author’s argument).</li> </ul>
<p>CC Standards</p>	<p><b>RL.2.6</b> Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud.</p> <p><b>RI.2.6</b> Identify the main purpose of a text, including what the author wants to answer, explain, or describe.</p> <p><b>RI.2.8</b> Describe how reasons support specific points the author makes in a text.</p>
<p>Types of Text</p>	<p>Teacher’s choice of fictional and/or nonfictional text; be sure to include these skills while reading.</p>
<p>Helpful Hints</p>	<p>At this point, students should begin to use textual evidence to support the author’s argument.</p>

Prep Grade 10 (Year 2):

<p>Reading Skill 8: Grade 10</p>	<p><b>Compare and Contrast</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will be able to define the terms “compare” and “contrast.”</li> <li>• Students will be able to compare and contrast different characters in a story.</li> <li>• Students will be able to compare and contrast different versions of the same story or informational texts on the same topic.</li> </ul> <p>Definition:</p> <ul style="list-style-type: none"> <li>• This skill focuses on identifying and analyzing the compare and contrast text structure within informational and narrative texts. Students should first be introduced to the terms <i>compare</i> and <i>contrast</i>. Students should then use two different texts to compare and contrast information.</li> </ul>
<p>CC Standards</p>	<p><b>RL.1.9</b> Compare and contrast the adventures and experiences of characters in stories.</p> <p>a. With prompting and support, students will make cultural connections to text and self.</p> <p><b>RL.2.9</b> Compare and contrast two or more versions of the same story (e.g. Cinderella stories) by different authors or from different cultures.</p> <p><b>RI.1.9</b> Identify basic similarities in and differences between two texts on the same topic (e.g. in illustrations, descriptions, or procedures).</p>
<p>Types of Text</p>	<p>Teacher’s choice of fictional and/or nonfictional text; be sure to include these skills while reading.</p>
<p>Helpful Hints</p>	<p>Teachers can utilize a movie version of the book in order to have students “compare” and “contrast” the two stories and how the movie may be different than the book. This skill can also be taught in conjunction to the Point of View skill; for example the teacher may use the different versions of the story <i>The Three Little Pigs</i>. Please refer to helpful resources for more information.</p>

Prep Grade 10 (Year 2):

<p>Reading Skill 9: Grade 10</p>	<p><b>Understanding Poetry</b></p> <p>Objectives:</p> <ul style="list-style-type: none"><li>• Students will be able to identify different types of poems (i.e., free verse, rhyming, haikus, etc).</li><li>• Students will be able to describe how words and phrases provide meaning to a poem.</li></ul> <p>Definition:</p> <p>Poetry exists in many forms. Students should be exposed to the various types of poetry in order to determine the meaning of the poem.</p>
<p>CC Standards</p>	<p><b>RL.2.4</b></p> <p>Describe how words and phrases (e.g. regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song.</p>
<p>Types of Text</p>	<p>Teacher’s choice of different poems. Comparison between poems and other forms of literature is also suggested.</p>

# Common Core Prep English 3R Grade 11

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Prep Grade 11 (Year 3):

<p>Reading Skill 1: Grade 11</p>	<p><b>Structure of Texts</b></p> <p>Objectives:</p> <ul style="list-style-type: none"><li>• Students will recognize and identify different types of text.</li><li>• Students will be able to locate information from various text features in order to support their answers.</li><li>• Students will be able to use different parts of text in order to locate information and create meaning.</li><li>• Students will be able to identify the overall structure of a text.</li><li>• Students will be able to describe an overall structure of the text.</li></ul> <p>Definition:</p> <ul style="list-style-type: none"><li>• Students are expected to understand how the different features of text helps to locate information and create meaning.</li></ul>
<p>CC Standards</p>	<p><b>RL.3.5</b> Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as <i>chapter</i>, <i>scene</i>, and <i>stanza</i>; describe how each successive part builds on earlier sections.</p> <p><b>RL.4.5</b> Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.</p> <p><b>RI.3.5</b> Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.</p> <p><b>RI.4.5</b> Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.</p>

Helpful Resources	<p><b>Resource #1:</b> Description: Teaching Text Structure <a href="http://teacher.scholastic.com/reading/bestpractices/nonfiction/day_4.htm">http://teacher.scholastic.com/reading/bestpractices/nonfiction/day_4.htm</a></p> <p><b>Resource #2:</b> Description: Anchor chart to describe different types of texts. <a href="http://indulgy.com/post/E4XvjSVM1/text-structure-anchor-chart">http://indulgy.com/post/E4XvjSVM1/text-structure-anchor-chart</a></p> <p><b>Resource #3:</b> Description: Anchor chart for Cause and Effect <a href="http://creatingreadersandwriters.blogspot.com/2014/04/its-spring-cleaning-time-in-my.html">http://creatingreadersandwriters.blogspot.com/2014/04/its-spring-cleaning-time-in-my.html</a></p>
Types of Text	Teacher's choice of various forms of text; be sure to include both fiction and nonfiction pieces. This skill can also be practiced in content area classes with textbooks.

Prep Grade 11 (Year 3):

<p>Reading Skill 2: Grade 11</p>	<p><b>Details &amp; Main Idea</b></p> <p>Objectives:</p> <ul style="list-style-type: none"><li>• Students will be able to ask and answer questions about a narrative or informational text, using both text and illustrations.</li><li>• Students will be able to cite specific examples from the text in order support their answer.</li><li>• Students will be able to determine the central message using key details.</li></ul> <p>Definition:</p> <ul style="list-style-type: none"><li>• Students will now use key details to determine the main idea or central message of a text. Students are also now expected to be able to cite text to support their answer.</li></ul>
<p>CC Standards</p>	<p><b>RL.3.1</b> Ask and answer questions to demonstrate understanding of a text, <b>referring explicitly to the text as the basis for the answers.</b></p> <p><b>RL.3.2</b> Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text.</p> <p><b>RI.3.1</b> Ask and answer questions to demonstrate understanding of a text, <b>referring explicitly to the text as the basis for the answers.</b></p> <p><b>RI.3.2</b> Determine the main idea of a text; recount the key details and explain how they support the main idea.</p>

	<p><b>RI.3.7</b></p> <p>Use information gained from illustrations (e.g. maps, photographs) and the words in a text to demonstrate understanding of the text (e.g. where, when, why, and how key events occur).</p> <p><b>RI.4.7</b></p> <p>Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.</p>
Types of Text	Teacher’s choice of fictional and/or nonfictional text; be sure to include these skills while reading.

Prep Grade 11 (Year 3):

<p>Reading Skill 3: Grade 11</p>	<p><b>Story Elements/ Compare &amp; Contrast</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will be able to explain how characterization and setting contribute to the mood of a story.</li> <li>• Students will be able explain how illustrations contribute to the story.</li> <li>• Students will be able to explain how story elements can be used to compare and contrast texts about the same topic.</li> </ul> <p>Definition:</p> <ul style="list-style-type: none"> <li>• Elements should include characterization, setting, plot, tone and mood. Multiple texts on similar topics will be compared using these elements.</li> </ul>
<p>CC Standards</p>	<p><b>RL.3.3</b> Describe the characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.</p> <p><b>RL.3.7</b> Explain how specific aspects of a text’s illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting).</p> <p><b>RL.3.9</b> Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from series).</p>
<p>Helpful Resources</p>	<p><b>Resource #1:</b> Description: Worksheet - Describes character traits while providing evidence from text. <a href="http://www.teacherspayteachers.com/Product/Character-Trait-Analysis-for-Guided-Reading-352422">http://www.teacherspayteachers.com/Product/Character-Trait-Analysis-for-Guided-Reading-352422</a></p>

Types of Text	Teacher's choice of literature; be sure to include these skills while reading.
Helpful Hints	Although the CCS recommend using works written by the same author, this skill can be addressed using two works about the same topic, but the author can be different.

Prep Grade 11 (Year 3):

<p>Reading Skill 4: Grade 11</p>	<p><b>Making Inferences</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will be able to use text and illustrations to make inferences.</li> </ul> <p>Definition:</p> <ul style="list-style-type: none"> <li>• Making inferences involves using personal experience or background knowledge/schema, along with the information from the text, to make assumptions about what is not written. Inferential thinking is often referred to as “reading between and beyond the lines.” Inferring is required when part of the knowledge to understand a passage is found in the text but some is not.</li> </ul>
<p>CC Standards</p>	<p><b>RL.4.1</b> Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.</p> <p><b>RI.4.1</b> Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.</p>
<p>Helpful Resources</p>	<p><b>Resource #1:</b> Description: Activity from blog, <i>Babbling Abby</i>. See Activity Samples for complete description or use the link below for the blog. You can also use the second link to purchase the entire activity on Teacher’s Pay Teachers. <a href="http://babblingabby.blogspot.com/2011/01/inferencing-activity-first-grade.html">http://babblingabby.blogspot.com/2011/01/inferencing-activity-first-grade.html</a></p>
<p>Types of Text</p>	<p>Teacher’s choice of fictional and/or nonfictional text, be sure to include these skills while reading.</p>

Prep Grade 11 (Year 3):

<p>Reading Skill 5: Grade 11</p>	<p><b>Point of View/Author’s Purpose</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will be able to determine the author’s purpose in a text.</li> <li>• Students will be able to identify details in a text to support an author’s argument [author’s purpose/point of view].</li> <li>• Students will be able to form their own point of view (opinion) based on literature or informational text.</li> <li>• Students will be able to compare their point of view (opinion) to that of characters, narrator or author of a story or text.</li> </ul> <p>Definition:</p> <ul style="list-style-type: none"> <li>• Author’s purpose is also known as the author’s argument. Ultimately, it is the point the author is trying to get across to the reader. While reading, the reader should be able to explain this point and provide evidence from the text that supports this argument. Readers also create their own point of view while reading, based on prior knowledge and experiences. Readers need to distinguish their point of view from those of the story.</li> </ul>
<p>CC Standards</p>	<p><b>RL.3.6</b> Distinguish their own point of view from that of the narrator or those of the characters.</p> <p><b>RI.3.6</b> Distinguish their own point of view from that of the author of a text.</p> <p><b>RI.4.8</b> Explain how an author uses reasons and evidence to support particular points in a text.</p>
<p>Types of Text</p>	<p>Teacher’s choice of fictional and/or nonfictional texts, be sure to include these skills while reading.</p>

# Common Core Prep English 4R Grade 12

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Prep Grade 12 (Year 4):

<p>Reading Skill 1: Grade 12</p>	<p><b>Story Elements/ Compare &amp; Contrast</b></p> <p>Objectives:</p> <ul style="list-style-type: none"><li>• Students will be able to describe story elements, including characters, setting, and plot.</li><li>• Students will be able to compare story elements within a story.</li><li>• Students will be able to explain how story elements can be used to compare and contrast two texts about the same topic.</li><li>• Students will be able to identify the overall structure of a text.</li><li>• Students will be able to compare and contrast the overall structure of two or more texts.</li></ul> <p>Definition:</p> <ul style="list-style-type: none"><li>• In this skill, students should be able to identify story elements within a story and how they relate to the meaning of the text. Comparing and contrasting two or more texts/stories on the same topic allows readers to be able to speak or write about how different texts may be written on the same topic.</li></ul>
<p>CC Standards</p>	<p><b>RL.4.3</b> Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character’s thoughts, words or actions).</p> <p><b>RL.5.3</b> Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).</p> <p><b>RI.4.9</b> Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.</p>

	<p><b>RI.5.5</b>  Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.</p>
Types of Text	Teacher’s choice of fictional and/or nonfictional text; be sure to include these skills while reading.
Helpful Hints	Although the CCS recommend using works written by the same author, this skill can be addressed using two works about the same topic, but the author can be different.

Prep Grade 12 (Year 4):

<p>Reading Skill 2: Grade 12</p>	<p><b>Summarizing &amp; Main Idea</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will be able to summarize stories in the correct sequence to determine the theme.</li> </ul> <p>Definition:</p> <p>The summary is a brief description of the main points of a text. The summary usually tells who or what the text is about, what happens, and how the problem is solved. Not only will students need to retell stories in the correct sequence, but they will also have to identify the theme or main idea in the text.</p>
<p>CC Standards</p>	<p><b>RL.4.2</b> Determine a theme of a story, drama, or poem from details in the text; summarize the text.</p> <p><b>RL.5.2</b> Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.</p>
<p>Types of Text</p>	<p>Teacher’s choice of literature.</p>

Prep Grade 12 (Year 4):

<p>Reading Skill 3: Grade 12</p>	<p><b>Making Inferences</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will be able to quote and cite accurately from a story/text in order to answer explicit questions as well as make inferences.</li> </ul> <p>Definition:</p> <ul style="list-style-type: none"> <li>• Making inferences involves using personal experience or background knowledge/schema, along with the information from the text, to make assumptions about what is not written. Inferential thinking is often referred to as “reading between and beyond the lines.” Inferring is required when part of the knowledge to understand a passage is found in the text but some is not.</li> </ul>
<p>CC Standards</p>	<p><b>RL.5.1</b> Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.</p> <p><b>RI.5.1</b> Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.</p>
<p>Types of Text</p>	<p>Teacher’s choice of fictional and nonfictional text; be sure to include these skills while reading.</p>

Prep Grade 12 (Year 4):

<p>Reading Skill 4: Grade 12</p>	<p><b>Point of View/Author's Purpose</b></p> <p>Objectives:</p> <ul style="list-style-type: none"><li>• Students will be able to determine the author's purpose in a text.</li><li>• Students will be able to identify details in a text to support an author's argument [author's purpose/point of view].</li><li>• Students will be able to compare and contrast the points of view.</li><li>• Students will be able to explain how the point of view influences a story.</li></ul> <p>Definition:</p> <ul style="list-style-type: none"><li>• Author's purpose is also known as the author's argument. Ultimately, is it the point the author is trying to get across to the reader. While reading, the reader should be able to explain this point and provide evidence from the text that supports this argument.</li></ul>
<p>CC Standards</p>	<p><b>RL.4.6</b> Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.</p> <p><b>RL.5.6</b> Describe how a narrator's or speaker's point of view influences how events are described.</p> <p><b>RI.5.8</b> Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).</p>

Types of Text	Teacher's choice of fictional and/or nonfictional text; be sure to include these skills while reading.
Helpful Hints	It is suggested that the use of literature from the perspective of characters from the same story be used (i.e., <i>The Three Little Pigs</i> and <i>Wicked</i> vs. <i>The Wizard of Oz</i> ). Please refer to "Helpful Resources" for more information.

Prep Grade 12 (Year 4):

<p>Reading Skill 5: Grade 12</p>	<p><b>Poetry</b></p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Students will be able to describe the difference between the structural elements of different types of poems.</li> <li>• Students will be able to determine the meaning of words as used in poems.</li> <li>• Students will be able to identify and define figurative language as used in a poem [e.g. metaphors and similes].</li> <li>• Students will be able to explain how words and phrases provide meaning to a poem.</li> </ul> <p>Definition:</p> <p>In grade 12, students are introduced to the terms “metaphor” and “simile.” A metaphor is a figure of speech that describes a subject by asserting that it is the same as another unrelated object. This figure of speech is not to be confused with similes which use “like” or “as” in comparisons.</p>
<p>CC Standards</p>	<p><b>RL.4.5</b></p> <p>Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.</p> <p><b>RL.5.4</b></p> <p>Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.</p>
<p>Types of Text</p>	<p>Teacher’s choice of different poems. Comparison between poems and other forms of literature is also suggested.</p>
<p>Helpful Hints</p>	<p>In grade level 12, students will be prepping for the English Regents Exam. At this point, review of the various forms of poetry is essential. Historically, a poem has always been added to the English Regents Test.</p>