FOLSOM CORDOVA UNIFIED SCHOOL DISTRICT

2 Year - Integrated Math 1 Foundations 10

Board Approval Date: June 17, 2021	**Course Length: 4 Semesters**
Grading: A-F	**Credits: 5 Credits per Semester**
Proposed Grade Level(s): 9	**Subject Area: Mathematics** **Elective Area (if applicable):**
Prerequisite(s): **IEP team recommendation**	**Corequisite(s):** **N/A**
CTE Sector/Pathway:	
Intent to Pursue 'A-G' College Prep Status: No	
A-G Course Identifier:	
Graduation Requirement: Yes	
Course Intent: District Course **Program (if applicable):**	
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COURSE DESCRIPTION: (Online Course)

2 Year Integrated Math 1 Foundations 10 is designed for students who are not yet ready for Integrated Math 1. This is a non-college prep course designed to build the concepts and skills necessary for high school mathematics. Instructional time will focus on the following topics from the Common Core State Standards for Mathematics: ratios and proportional reasoning, operations with rational numbers, linear expressions and equations, linear systems, functions, and the Pythagorean Theorem. After successful completion of this course, students can enroll in Integrated Math 1 OR 2-Yr Integrated Math 1 10.

This course is designed to provide the necessary foundation for success in Integrated Math 1. Concepts and problem solving will be balanced with skills practice, focusing on those math facts that should be automatic. Student's misconceptions about concepts will be addressed to move towards mastery. The goal is to accelerate the students' learning so that they can be successful in higher mathematics.

DETAILED UNITS OF INSTRUCTION:

Unit Number/Title	Unit Essential Questions	Examples of Formative Assessments	Examples of Summative Assessment
1. Problem Solving	How do you add, subtract, multiply and divide integers and fractions, with like and unlike denominators? How do you complete in-out tables, recognizing and continuing patterns? How do you determine minimum, maximum, median, mode and construct a box plot or stem-leaf plot with the given data set?	*Turn and Talk *I Used to Think...But Now I Know…. *Whiteboarding *Closure Statements: I feel confident about… or I am still confused about…	*Free Response and multiple-choice problems that focus on problems with fractions, patterns, and statistics
2. Simplifying with Variables	How can you evaluate algebraic expressions with given values of variables? How can you simplify algebraic expressions and solve for a variable in algebraic equations?	*Turn and Talk *I Used to Think...But Now I Know…. *Whiteboarding *Closure Statements: I feel confident about… or I am still confused about…	*Free Response and multiple-choice problems that include Priority Standards from previous chapters, along with a focus algebraic expression
3. Graphs and Equations	How do you graph equations from an input-output table, determine its pattern, and write an expression? Can you identify the x and y intercepts on a graph and identify common graphing errors? How do you determine if an ordered pair is a solution to an equation? Can you explain if linear	*Turn and Talk *I Used to Think...But Now I Know…. *Whiteboarding *Closure Statements: I feel confident about… or I am still confused about…	*Free Response and multiple-choice problems that include Priority Standards from previous chapters, along with a focus on solving problems with graphing equations

	equations have one solution, no solution, or if all real numbers are solutions?		
4. Multiple Representations	Can you write a rule and graph a line using slope-intercept form while describing the meaning of "m", "b" in the equation y=mx+b, understanding linear growth? How can you write a linear equation from multiple representations of picture patterns, tables, and graphs?	*Learning Goals Inventory *Think-Pair-Share *Exit Ticket *No Hands Questioning *Wait Time *Turn and Talk *Used to Think...But Now I Know…. *Whiteboarding *Closure Statements: I feel confident about… or I am still confused about…	*Free Response and multiple-choice problems that include Priority Standards from previous chapters, along with a focus on graphing lines and multiple representations
5. Systems of equations	How can you determine a point of intersection for a system of equations, creating a table or graph and showing a point of intersection? Can you solve a system of two equations algebraically for the point of intersection and determine if there is one solution, no solution, or infinite solutions?	*Point of Most Significance *Learning Goals Inventory *Think-Pair-Share *Exit Ticket *No Hands Questioning *Wait Time *Turn and Talk *I Used to Think...But Now I Know…. *Closure Statements: I feel confident about… or I am still confused about…	* Free Response and multiple-choice problems that include Priority Standards from previous chapters, along with a focus on systems of equations
6. Transformations and similarities	Can you use coordinates to describe/identify the position of objects in a plane, complete transformations, and move a shape with translations, rotations and reflections? Can you explain what dilations are and how dilations by different numbers result in changes of shapes? Can you use sequences of transformations to show that two figures are similar or congruent? Can you use scale factors and proportions to find	*Response Thinking Logs *Writing Stems *Response Logs *Example/Non-Example (student generated) *Think Alouds *Fact-First Questioning *Opposing Views *Always - Sometimes - Never *3-2-1 Reflection Sheet *Writing prompt *Point of Most Significance *Learning Goals Inventory *Think-Pair-Share *Exit Ticket *No Hands Questioning *Wait Time *Turn and Talk	*Free Response and multiple-choice problems that include Priority Standards from previous chapters, along with a focus on transformations and similarities

	unknown side lengths?	*I Used to Think...But Now I Know…. *Whiteboarding *Closure Statements: I feel confident about… or I am still confused about…	
7. Slope and Association	Can you create scatter plots identifying relationships between two data sets, drawing a line of best fit and describing the association as positive, negative, or no association? Can you write and graph a linear equation in slope intercept form, describing the rate of change of a line as the ratio between vertical change and horizontal change, determining if change is positive, negative or has no slope? Can you write equations representing proportional relationships?	*Response Thinking Logs *Writing Stems *Response Logs *Example/Non-Example (student generated) *Think Alouds *Fact-First Questioning *Opposing Views *Always - Sometimes - Never *3-2-1 Reflection Sheet *Writing prompt *Point of Most Significance *Learning Goals Inventory *Think-Pair-Share *Exit Ticket *No Hands Questioning *Wait Time *Turn and Talk *I Used to Think...But Now I Know…. *Whiteboarding *Closure Statements: I feel confident about… or I am still confused about…	*Free Response and multiple-choice problems that include Priority Standards from previous chapters, along with a focus on slope and association
8. Exponents and Functions	Can you calculate simple and compound interest problems? Can you rewrite expressions with or without exponents? Can you write numbers in scientific and standard notation? Can you simplify exponential expressions and rewrite negative exponents as positive exponents and know how to simplify them? Can you determine if a graph, table, or equation	*Response Thinking Logs *Writing Stems *Response Logs *Example/Non-Example (student generated) *Think Alouds *Fact-First Questioning *Opposing Views *Always - Sometimes - Never *3-2-1 Reflection Sheet *Writing prompt *Point of Most Significance *Learning Goals Inventory *Think-Pair-Share *Exit Ticket *No Hands Questioning *Wait Time	*Free Response and multiple-choice problems that include Priority Standards from previous chapters, along with a focus on exponents and functions

	represents a function? Can you find the missing inputs and outputs of a given rule of a function and write the rule of a function from a table?	*Turn and Talk *I Used to Think...But Now I Know…. *Whiteboarding *Closure Statements: I feel confident about… or I am still confused about…	
9. Angles and Pythagorean Theorem	Can you identify vertical, corresponding, alternate interior, supplementary, and complementary angles? Can you use the Pythagorean theorem to solve problems involving right triangles, test if 3 lengths make a triangle and understand the proofs of the theorem? Can you rewrite fractions as decimals and decimals as fractions? Do you understand square roots and can you tell if they simplify into integers? Can you tell when real numbers are rational or irrational?	*Response Thinking Logs *Writing Stems *Response Logs *Example/Non-Example (student generated) *Think Alouds *Fact-First Questioning *Opposing Views *Always - Sometimes - Never *3-2-1 Reflection Sheet *Writing prompt *Point of Most Significance *Learning Goals Inventory *Think-Pair-Share *Exit Ticket *No Hands Questioning *Wait Time *Turn and Talk *I Used to Think...But Now I Know…. *Whiteboarding *Closure Statements: I feel confident about… or I am still confused about…	*Free Response and multiple-choice problems that include Priority Standards from previous chapters, along with a focus on angles and Pythagorean theorem

ESSENTIAL STANDARDS:

ALGEBRA
Interpret the Structure of Expressions
A-SSE-1a Interpret expressions that represent a quantity in terms of its context.
a. Interpret parts of an expression, such as terms, factors, and coefficients.

Create equations that describe numbers or relationships.
A-CED-1 Create equations and inequalities in one variable including ones with absolute value 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-CED-4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.

Understand solving equations as a process of reasoning and explain the reasoning.
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.

Solve equations and inequalities in one variable.
A-REI-3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. Linear inequalities; literal equations that are linear in the variables being solved for; exponential of a form such as $2x = 116$.
A-REI-6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

Represent and solve equations and inequalities graphically
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.

Functions
Understand the concept of a function and use function notation.
F-IF-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, then $f(x)$ 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-2   Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

Interpret functions that arise in applications in terms of the context.
F-IF-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-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.

Analyze functions using different representations.
F-IF-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-7e Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.
F-IF-9   Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).

Construct and compare linear, quadratic, and exponential models and solve problems.
F-LE-1a   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.
F-LE-2   Construct linear and exponential functions, including arithmetic and geometric sequences, given a

graph, a description of a relationship, or two input-output pairs (including reading these from a table).
F-LE-3   Observes using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.

Geometry
Experiment with transformations in the plane.
G-CO-1   Knows precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
G-CO-5   Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.

Understand congruence in terms of rigid motions.
G-CO-7   Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.

Use coordinates to prove simple geometric theorems algebraically.
G-GPE-5   Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).
G-GPE-7 Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.

Statistics and Probability
Summarize, represent, and interpret data on a single count or measurement variable.
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   Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.

Summarize, represent, and interpret data on two categorical and quantitative 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.

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

RELEVANT STANDARDS AND FRAMEWORKS, CONTENT/PROGRAM SPECIFIC STANDARDS:

Link to Common Core Standards (if applicable):

Educational standards describe what students should know and be able to do in each subject in each grade. In California, the State Board of Education decides on the standards for all students, from kindergarten through high school.
https://www.cde.ca.gov/be/st/ss/documents/ccssmathstandardaug2013.pdf

Link to Framework (if applicable):
Curriculum frameworks provide guidance for implementing the content standards adopted by the State Board of Education (SBE). Frameworks are developed by the Instructional Quality Commission, formerly known as the Curriculum Development and Supplemental Materials Commission, which also reviews and recommends textbooks and other instructional materials to be adopted by the SBE.
https://www.cde.ca.gov/ci/ma/cf/documents/mathfwmathematics1jl.pdf

Link to Subject Area Content Standards (if applicable):
Content standards were designed to encourage the highest achievement of every student, by defining the knowledge, concepts, and skills that students should acquire at each grade level.
https://www.cde.ca.gov/ci/ma/cf/documents/mathfwmathematics1jl.pdf

Link to Program Content Area Standards (if applicable):
Program Content Area Standards apply to programs such as International Baccalaureate, Advanced Placement, Career and Technical Education, etc.

TEXTBOOKS AND RESOURCE MATERIALS:

Textbooks

Board Approved	Pilot Completion Date (If applicable)	Textbook Title	Author(s)	Publisher	Edition	Date
Yes		*Core Connections Course 3, CPM*	Dietiker, Kysh, Sallee, Hoey	College Preparatory Mathematics	Second Edition Version 5.0	*1/1/2013*

Other Resource Materials
iReady: Prescriptive Lessons

Supplemental Materials
Board approved supplemental materials (Including but not limited to: Film Clips, Digital Resources, Supplemental texts, DVDs, Programs (Pebble Creek, DBQ, etc.):
N/A