

CALIFORNIA Correlations



California Common Core State Standards: Mathematics (CA CCSSM) Correlation

Classroom Mathematics California lessons are aligned to the California Common Core State Standards: Mathematics (CA CCSSM). The standards are further classified as *Focus*, *Developing*, or *Applied*.

- Focus standards indicate the instructional goal of the lesson and the content assessed on the Lesson Quiz or Comprehension Check.
- Developing standards indicate concepts and skills that are being introduced and developed but will be the focus of a future lesson. These standards will be assessed in a future Lesson Quiz or Comprehension Check.
- Applied standards indicate skills and concepts that were the focus of a previous lesson that have already been assessed. These standards are now considered part of a student's toolkit and will be applied in this lesson.

Correlation by CA CCSSM

Standard	Lesson(s)
The Number System	
Know that there are numbers that are not rational, and approximate them by rational numbers.	
8.NS.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.	Focus: 24, 25
8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). <i>For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.</i>	Focus: 25 Applied: 27, 28
Expressions & Equations	
Work with radicals and integer exponents.	
8.EE.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. <i>For example, $3^2 \times 3^{-5} = 3^{-3} = \frac{1^3}{3} = \frac{1}{27}$.</i>	Focus: 19, 20 Applied: 21, 22
8.EE.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.	Focus: 23, 25 Applied: 26, 27

Standard	Lesson(s)
Expressions & Equations <i>continued</i>	
Work with radicals and integer exponents. <i>continued</i>	
8.EE.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. <i>For example, estimate the population of the United States as 3 times 10^8 and the population of the world as 7 times 10^9, and determine that the world population is more than 20 times larger.</i>	Focus: 21 Applied: 22
8.EE.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	Focus: 22 Developing: 21
Understand the connections between proportional relationships, lines, and linear equations.	
8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.	Focus: 8, 17 Applied: 9
8.EE.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b .	Focus: 8, 9 Applied: 15, 16
Analyze and solve linear equations and pairs of simultaneous linear equations.	
8.EE.7 Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	Focus: 11 Applied: 12, 13 Focus: 10 Developing: 9 Applied: 11, 12, 13, 14, 24
8.EE.8 Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. <i>For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.</i> c. Solve real-world and mathematical problems leading to two linear equations in two variables. <i>For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.</i>	Focus: 12 Applied: 13, 14 Focus: 12, 13 Applied: 14 Focus: 14 Developing: 12, 13

Correlation by CA CCSSM *continued*

Standard	Lesson(s)
Functions	
Define, evaluate, and compare functions.	
8.F.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.	Focus: 15 Applied: 17
8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). <i>For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.</i>	Focus: 17 Developing: 16
8.F.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. <i>For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1, 1), (2, 4) and (3, 9), which are not on a straight line.</i>	Focus: 15 Developing: 9 Applied: 16, 17, 30
Use functions to model relationships between quantities.	
8.F.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	Focus: 16 Developing: 12, 13, 14 Applied: 17, 18, 30
8.F.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	Focus: 18 Developing: 16, 17 Applied: 29
Geometry	
Understand congruence and similarity using physical models, transparencies, or geometry software.	
8.G.1 Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines.	Focus: 1 Applied: 2, 3 Focus: 1 Applied: 2, 3 Focus: 1 Applied: 2, 3
8.G.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.	Focus: 3 Developing: 1, 2 Applied: 6, 7
8.G.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	Focus: 2, 3, 5

Standard	Lesson(s)
Geometry <i>continued</i>	
Understand congruence and similarity using physical models, transparencies, or geometry software. <i>continued</i>	
8.G.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.	Focus: 4, 5 Applied: 7, 8
8.G.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. <i>For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.</i>	Focus: 6, 7 Applied: 8, 10
Understand and apply the Pythagorean Theorem.	
8.G.6 Explain a proof of the Pythagorean Theorem and its converse.	Focus: 26 Applied: 27
8.G.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	Focus: 27 Applied: 28
8.G.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	Focus: 27
Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	
8.G.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	Focus: 28
Statistics & Probability	
Investigate patterns of association in bivariate data.	
8.SP.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.	Focus: 29 Applied: 30
8.SP.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.	Focus: 29 Applied: 30
8.SP.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. <i>For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.</i>	Focus: 30 Developing: 16
8.SP.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. <i>For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?</i>	Focus: 31, 32



Standards for Mathematical Practice (SMP) Correlation

Classroom Mathematics California lessons embed the Standards for Mathematical Practice (SMP) to support students in becoming powerful users of mathematics to make sense of their world. The following table shows which SMP are embedded in the lesson structure and which are targeted by the Deepen Understanding feature and in STEM Stories. Further description of how the SMP are integrated into the lessons and built into the framework can be found before the first unit of each volume.

Correlation by SMP

SMP	Lessons and STEM Stories
1 Make sense of problems and persevere in solving them.	Embedded in all Strategy lessons. Targeted in Lessons 17, 18, 20, 21, 30, 32. STEM Stories: Mary Golda Ross
2 Reason abstractly and quantitatively.	Embedded in all lessons. Targeted in Lessons 2, 3, 8, 9, 10, 14, 16, 19, 22, 23, 25, 27, 28, 29.
3 Construct viable arguments and critique the reasoning of others.	Embedded in all lessons. Targeted in Lessons 5, 6, 7, 10, 14, 29. STEM Stories: Nicole Hernandez Hammer, Lauren Esposito
4 Model with mathematics.	Embedded in all Strategy lessons. Targeted in Lessons 9, 13, 16, 17, 27. STEM Stories: David Blackwell
5 Use appropriate tools strategically.	Embedded in all Strategy lessons. Targeted in Lessons 9, 29. STEM Stories: Ray Montague, Luis Alvarez
6 Attend to precision.	Embedded in all Strategy lessons. Targeted in Lessons 7, 18, 30. STEM Stories: George Minot
7 Look for and make use of structure.	Embedded in all lessons. Targeted in Lessons 2, 3, 5, 8, 11, 13, 16, 20, 21, 22, 23, 24, 25, 27, 28, 32.
8 Look for and express regularity in repeated reasoning.	Embedded in all Strategy lessons. Targeted in Lessons 11, 19.



Classroom Mathematics California

Lesson Correlation

This table identifies for each *Classroom Mathematics California* lesson the *Focus*, *Developing*, and/or *Applied* CA CCSSM standards. It also identifies the SMP that are embedded and which are targeted by a Deepen Understanding.

Correlation by Lesson

Lesson	Standard(s)	SMP
Unit 1 Geometric Figures: Rigid Transformations and Congruence		
Lesson 1 Understand Rigid Transformations and Their Properties	Focus: 8.G.1, 8.G.1.a, 8.G.1.b, 8.G.1.c Developing: 8.G.2	Embedded: 2, 3, 7
Lesson 2 Work with Single Rigid Transformations in the Coordinate Plane	Focus: 8.G.3 Developing: 8.G.2 Applied: 8.G.1.a, 8.G.1.b, 8.G.1.c	Embedded: 1–8 Targeted: 2, 7
Lesson 3 Work with Sequences of Transformations and Congruence	Focus: 8.G.2, 8.G.3 Applied: 8.G.1.a, 8.G.1.b, 8.G.1.c	Embedded: 1–8 Targeted: 7
Unit 2 Geometric Figures: Transformations, Similarity, and Angle Relationships		
Lesson 4 Understand Dilations and Similarity	Focus: 8.G.4	Embedded: 2, 3, 7
Lesson 5 Perform and Describe Transformations Involving Dilations	Focus: 8.G.3, 8.G.4	Embedded: 1–8 Targeted: 3, 7
Lesson 6 Describe Angle Relationships	Focus: 8.G.5 Applied: 8.G.2	Embedded: 1–8 Targeted: 3
Lesson 7 Describe Angle Relationships in Triangles	Focus: 8.G.5 Applied: 8.G.2, 8.G.4	Embedded: 1–8 Targeted: 3, 6
Unit 3 Linear Relationships: Slope, Linear Equations, and Systems		
Lesson 8 Graph Proportional Relationships and Define Slope	Focus: 8.EE.5, 8.EE.6 Applied: 8.G.4, 8.G.5	Embedded: 1–8 Targeted: 2, 7
Lesson 9 Derive and Graph Linear Equations in the Form $y = mx + b$	Focus: 8.EE.6 Developing: 8.EE.7.b, 8.F.3 Applied: 8.EE.5	Embedded: 1–8 Targeted: 4, 5, 7
Lesson 10 Solve Linear Equations in One Variable	Focus: 8.EE.7, 8.EE.7.b Applied: 8.G.5	Embedded: 1–8 Targeted: 2, 3
Lesson 11 Determine the Number of Solutions to One-Variable Equations	Focus: 8.EE.7, 8.EE.7.a Applied: 8.EE.7.b	Embedded: 1–8 Targeted: 7, 8

Correlation by Lesson *continued*

Lesson	Standard(s)	SMP
Unit 3 Linear Relationships: Slope, Linear Equations, and Systems <i>continued</i>		
Lesson 12 Understand Systems of Linear Equations in Two Variables	Focus: 8.EE.8, 8.EE.8.a, 8.EE.8.b Developing: 8.EE.8.c, 8.F.4 Applied: 8.EE.7.a, 8.EE.7.b	Embedded: 2, 3, 7
Lesson 13 Solve Systems of Linear Equations Algebraically	Focus: 8.EE.8, 8.EE.8.b Developing: 8.EE.8.c, 8.F.4 Applied: 8.EE.7.a, 8.EE.7.b, 8.EE.8.a	Embedded: 1–8 Targeted: 3, 4, 7
Lesson 14 Represent and Solve Problems with Systems of Linear Equations	Focus: 8.EE.8, 8.EE.8.c Developing: 8.F.4 Applied: 8.EE.7.b, 8.EE.8.a, 8.EE.8.b	Embedded: 1–8 Targeted: 2, 3
Unit 4 Functions: Linear and Nonlinear Relationships		
Lesson 15 Understand Functions	Focus: 8.F.1, 8.F.3 Applied: 8.EE.6	Embedded: 2, 3, 7
Lesson 16 Use Functions to Model Linear Relationships	Focus: 8.F.4 Developing: 8.F.2, 8.F.5, 8.SP.3 Applied: 8.EE.6, 8.F.3	Embedded: 1–8 Targeted: 2, 4, 7
Lesson 17 Compare Different Representations of Functions	Focus: 8.EE.5, 8.F.2 Developing: 8.F.5, Applied: 8.F.1, 8.F.3, 8.F.4	Embedded: 1–8 Targeted: 1, 4
Lesson 18 Analyze Functional Relationships Qualitatively	Focus: 8.F.5 Applied: 8.F.4	Embedded: 1–8 Targeted: 1, 6
Unit 5 Integer Exponents: Properties and Scientific Notation		
Lesson 19 Apply Exponent Properties for Positive Integer Exponents	Focus: 8.EE.1	Embedded: 1–8 Targeted: 2, 8
Lesson 20 Apply Exponent Properties for All Integer Exponents	Focus: 8.EE.1	Embedded: 1–8 Targeted: 1, 7
Lesson 21 Express Numbers Using Integer Powers of 10	Focus: 8.EE.3 Developing: 8.EE.4 Applied: 8.EE.1	Embedded: 1–8 Targeted: 1, 7
Lesson 22 Work with Scientific Notation	Focus: 8.EE.4 Applied: 8.EE.1, 8.EE.3	Embedded: 1–8 Targeted: 2, 7

Lesson	Standard(s)	SMP
Unit 6 Real Numbers: Rational Numbers, Irrational Numbers, and Pythagorean Theorem		
Lesson 23 Find Square Roots and Cube Roots to Solve Problems	Focus: 8.EE.2	Embedded: 1–8 Targeted: 2, 7
Lesson 24 Express Rational Numbers as Fractions and Decimals	Focus: 8.NS.1 Applied: 8.EE.7.b	Embedded: 1–8 Targeted: 7
Lesson 25 Find Rational Approximations of Irrational Numbers	Focus: 8.NS.1, 8.NS.2, 8.EE.2	Embedded: 1–8 Targeted: 2, 7
Lesson 26 Understand the Pythagorean Theorem and Its Converse	Focus: 8.G.6 Applied: 8.EE.2	Embedded: 2, 3, 7
Lesson 27 Apply Pythagorean Theorem	Focus: 8.G.7, 8.G.8 Applied: 8.NS.2, 8.EE.2, 8.G.6	Embedded: 1–8 Targeted: 2, 4, 7
Lesson 28 Solve Problems with Volumes of Cylinders, Cones, and Spheres	Focus: 8.G.9 Applied: 8.NS.2, 8.G.7	Embedded: 1–8 Targeted: 2, 7
Unit 7 Statistics: Two-Variable Data and Fitting a Linear Model		
Lesson 29 Analyze Scatter Plots and Fit a Linear Model to Data	Focus: 8.SP.1, 8.SP.2 Applied: 8.F.5	Embedded: 1–8 Targeted: 2, 3, 5
Lesson 30 Write and Analyze an Equation for Fitting a Linear Model to Data	Focus: 8.SP.3 Applied: 8.F.3, 8.F.4, 8.SP.1, 8.SP.2	Embedded: 1–8 Targeted: 1, 6
Lesson 31 Understand Two-Way Tables	Focus: 8.SP.4	Embedded: 2, 3, 7
Lesson 32 Construct and Interpret Two-Way Tables	Focus: 8.SP.4	Embedded: 1–8 Targeted: 1, 7



English Language Development (ELD) Standards Correlation

Classroom Mathematics California supports the development of English Language Development (ELD) standards throughout the program.

The Try-Discuss-Connect instructional framework provides opportunities for students to focus on and practice **ELD.PI.8.1** *Exchanging information/ideas*, **ELD.PI.8.3** *Offering opinions*, **ELD.PI.8.5** *Listening actively*, **ELD.PI.8.6** *Reading/viewing closely*, and **ELD.PI.8.11** *Supporting opinions*.

Part I: Interacting in Meaningful Ways

ELD Standard	Supported In
Exchanging information/ideas	
ELD.PI.8.1.Em Engage in conversational exchanges and express ideas on familiar topics by asking and answering <i>yes-no</i> and <i>wh-</i> questions and responding using simple phrases.	English Learner Differentiation: L3S1, L4S1, L4S2, L5S4, L6S2, L7S2, L7S3, L8S1, L8S4, L9S1, L9S2, L10S1, L10S2, L10S4, L11S3, L11S4, L12S2, L13S2, L14S1, L15S1, L15S2, L16S2, L16S4, L16S5, L17S2, L18S3, L18S4, L19S2, L19S3, L20S3, L21S1, L21S3, L22S1, L22S2, L22S4, L23S1, L23S2, L24S3, L25S1, L25S2, L26S2, L27S5, L28S1, L28S2, L28S3, L28S4, L29S2, L29S4, L29S5, L30S2, L31S1, L31S3, L32S1, L32S2, L32S3, L32S4 Develop Academic Language: L2S4, L4S2, L5S2, L9S3, L9S4, L10S3, L12S2, L15S2, L17S2, L19S2, L20S2, L21S3, L23S2, L28S3, L29S3, L29S4
ELD.PI.8.1.Ex Contribute to class, group, and partner discussions by following turn-taking rules, asking relevant questions, affirming others, adding relevant information, and paraphrasing key ideas.	
ELD.PI.8.1.Br Contribute to class, group, and partner discussions by following turn-taking rules, asking relevant questions, affirming others, adding relevant information and evidence, paraphrasing key ideas, building on responses, and providing useful feedback.	
Interacting via written English	
ELD.PI.8.2.Em Engage in short written exchanges with peers and collaborate on simple written texts on familiar topics, using technology when appropriate.	English Learner Differentiation: L1S3, L2S4, L2S5, L4S2, L6S2, L6S4, L7S3, L13S5, L15S2, L18S3, L19S4 Develop Academic Language: L9S2
ELD.PI.8.2.Ex Engage in longer written exchanges with peers and collaborate on more detailed written texts on a variety of topics, using technology when appropriate.	
ELD.PI.8.2.Br Engage in extended written exchanges with peers and collaborate on complex written texts on a variety of topics, using technology when appropriate.	

ELD Standard	Supported In
Supporting opinions and persuading others	
ELD.PI.8.3.Em Negotiate with or persuade others in conversations (e.g., to gain and hold the floor or to ask for clarification) using learned phrases (e.g., <i>I think . . . Would you please repeat that?</i>) and open responses.	English Learner Differentiation: L9S4, L22S3, L31S2 Develop Academic Language: L4S2, L6S2, L6S2, L9S4, L22S3
ELD.PI.8.3.Ex Negotiate with or persuade others in conversations (e.g., to provide counter-arguments) using learned phrases (<i>I agree with X, but . . .</i>) and open responses.	
ELD.PI.8.3.Br Negotiate with or persuade others in conversations using an appropriate register (e.g., to acknowledge new information and justify views) using a variety of learned phrases, indirect reported speech (e.g., <i>I heard you say X, and that’s a good point. I still think Y, though, because . . .</i>) and open responses.	
Adapting language choices	
ELD.PI.8.4.Em Adjust language choices according to social setting (e.g., classroom, break time) and audience (e.g., peers, teacher).	English Learner Differentiation: L9S5, L12S1, L15S2 Develop Academic Language: L20S3, L22S4, L24S2
ELD.PI.8.4.Ex Adjust language choices according to purpose (e.g., explaining, persuading, entertaining), task, and audience.	
ELD.PI.8.4.Br Adjust language choices according to task (e.g., facilitating a science experiment, providing peer feedback on a writing assignment), purpose, and audience.	
Listening actively	
ELD.PI.8.5.Em Demonstrate active listening in oral presentation activities by asking and answering basic questions, with prompting and substantial support.	English Learner Differentiation: L2S2, L3S1, L7S2, L8S3, L13S2, L18S3, L23S3, L26S3 Develop Academic Language: L1S2, L13S4, L15S2
ELD.PI.8.5.Ex Demonstrate active listening in oral presentation activities by asking and answering detailed questions, with occasional prompting and moderate support.	
ELD.PI.8.5.Br Demonstrate active listening in oral presentation activities by asking and answering detailed questions, with minimal prompting and support.	
Reading/viewing closely	
ELD.PI.8.6a.Em Explain ideas, phenomena, processes, and text relationships (e.g., compare/contrast, cause/effect, problem/solution) based on close reading of a variety of grade-appropriate texts and viewing of multimedia, with substantial support.	English Learner Differentiation: L1S2, L2S2, L3S2, L3S3, L4S1, L4S3, L5S1, L5S2, L5S4, L6S1, L6S3, L8S1, L8S2, L9S1, L10S2, L10S3, L11S1, L13S2, L13S3, L13S5, L14S2, L14S3, L14S4, L16S3, L16S4, L17S2, L17S3, L18S1, L18S2, L18S4, L19S1, L19S3, L20S1, L21S1, L21S3, L21S4, L22S3, L22S5, L23S4, L25S3, L26S3, L27S1, L27S2, L28S1, L28S4, L29S1, L29S2, L30S2, L30S3, L32S1 Develop Academic Language: L7S1, L8S2, L14S3, L16S3, L16S4, L17S3, L21S2, L22S1, L27S3, L30S3, L31S2
ELD.PI.8.6a.Ex Explain ideas, phenomena, processes, and text relationships (e.g., compare/contrast, cause/effect, problem/solution) based on close reading of a variety of grade-appropriate texts and viewing of multimedia, with moderate support.	
ELD.PI.8.6a.Br Explain ideas, phenomena, processes, and text relationships (e.g., compare/contrast, cause/effect, problem/solution) based on close reading of a variety of grade-level texts and viewing of multimedia, with light support.	

Part I: Interacting in Meaningful Ways *continued*

ELD Standard	Supported In
Reading/viewing closely <i>continued</i>	
ELD.PI.8.6b.Em Express inferences and conclusions drawn based on close reading of grade-appropriate texts and viewing of multimedia using some frequently used verbs (e.g., <i>shows that, based on</i>).	English Learner Differentiation: L2S4, L11S2, L14S1, L16S1 Develop Academic Language: L14S2
ELD.PI.8.6b.Ex Express inferences and conclusions drawn based on close reading grade-appropriate texts and viewing of multimedia using a variety of verbs (e.g., <i>suggests that, leads to</i>).	
ELD.PI.8.6b.Br Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia using a variety of precise academic verbs (e.g., <i>indicates that, influences</i>).	
ELD.PI.8.6c.Em Use knowledge of morphology (e.g., affixes, roots, and base words), context, reference materials, and visual cues to determine the meanings of unknown and multiple-meaning words on familiar topics.	English Learner Differentiation: L2S1, L2S3, L6S1, L8S3, L13S1, L14S1, L16S3, L17S1, L22S5, L29S1 Develop Academic Language: L2S1, L2S2, L3S3, L5S3, L30S2, L32S2
ELD.PI.8.6c.Ex Use knowledge of morphology (e.g., affixes, roots, and base words), context, reference materials, and visual cues to determine the meanings of unknown and multiple-meaning words on familiar and new topics.	
ELD.PI.8.6c.Br Use knowledge of morphology (e.g., affixes, roots, and base words), context, reference materials, and visual cues to determine the meanings, including figurative and connotative meanings, of unknown and multiple-meaning words on a variety of new topics.	
Evaluating language choices	
ELD.PI.8.7.Em Explain how well writers and speakers use language to support ideas and arguments with detailed evidence (e.g., identifying the precise vocabulary used to present evidence, or the phrasing used to signal a shift in meaning) when provided with substantial support.	English Learner Differentiation: L13S4, L17S4, L19S2, L20S3, L29S5
ELD.PI.8.7.Ex Explain how well writers and speakers use specific language to present ideas or support arguments and provide detailed evidence (e.g., showing the clarity of the phrasing used to present an argument) when provided with moderate support.	
ELD.PI.8.7.Br Explain how well writers and speakers use specific language resources to present ideas or support arguments and provide detailed evidence (e.g., identifying the specific language used to present ideas and claims that are well supported and distinguishing them from those that are not) when provided with light support.	
Analyzing language choices	
ELD.PI.8.8.Em Explain how phrasing or different common words with similar meanings (e.g., choosing to use the word persistent versus the term <i>hard worker</i>) produce different effects on the audience.	English Learner Differentiation: L4S3, L13S1, L14S3, L18S2, L30S3 Develop Academic Language: L5S3, L25S3, L27S2
ELD.PI.8.8.Ex Explain how phrasing or different words with similar meanings (e.g., describing a character as <i>stubborn</i> versus <i>persistent</i>) or figurative language (e.g., <i>Let me throw some light onto the topic</i>) produce shades of meaning and different effects on the audience.	
ELD.PI.8.8.Br Explain how phrasing or different words with similar meanings (e.g., <i>cunning</i> versus <i>smart</i> , <i>stammer</i> versus <i>say</i>) or figurative language (e.g., <i>Let me throw some light onto the topic</i>) produce shades of meaning, nuances, and different effects on the audience.	

ELD Standard	Supported In
Presenting	
ELD.PI.8.9.Em Plan and deliver brief informative oral presentations on concrete topics.	Math in Action: Every unit; use Oral Presentation Checklist.
ELD.PI.8.9.Ex Plan and deliver longer oral presentations on a variety of topics using details and evidence to support ideas.	
ELD.PI.8.9.Br Plan and deliver longer oral presentations on a variety of concrete and abstract topics using reasoning and evidence to support ideas and using a growing understanding of register.	
Writing	
ELD.PI.8.10a.Em Write short literary and informational texts (e.g., an argument about whether the government should fund research using stem cells) collaboratively (e.g., with peers) and independently.	English Learner Differentiation: L1S3, L3S4, L5S3, L7S4, L8S2, L9S3, L13S4, L19S2, L20S2, L20S4, L22S1, L23S1, L24S1, L25S4, L26S1, L27S3, L27S4, L28S2, L29S3, L30S1, L30S4, L31S2, L32S3 Develop Academic Language: L7S3, L10S2
ELD.PI.8.10a.Ex Write longer literary and informational texts (e.g., an argument about whether the government should fund research using stem cells) collaboratively (e.g., with peers) and independently using appropriate text organization.	
ELD.PI.8.10a.Br Write longer and more detailed literary and informational texts (e.g., an argument about whether the government should fund research using stem cells) collaboratively (e.g., with peers) and independently using appropriate text organization and growing understanding of register.	
ELD.PI.8.10b.Em Write brief summaries of texts and experiences using complete sentences and key words (e.g., from notes or graphic organizers).	English Learner Differentiation: L7S1, L9S2, L10S1, L10S3, L12S1, L13S1, L14S4, L15S3, L16S1, L16S2, L21S4, L24S2
ELD.PI.8.10b.Ex Write increasingly concise summaries of texts and experiences using complete sentences and key words (e.g., from notes or graphic organizers).	
ELD.PI.8.10b.Br Write clear and coherent summaries of texts and experiences using complete and concise sentences and key words (e.g., from notes or graphic organizers).	
Justifying/arguing	
ELD.PI.8.11a.Em Justify opinions by providing some textual evidence or relevant background knowledge, with substantial support.	English Learner Differentiation: L7S1, L7S3, L10S4, L12S3, L16S2, L20S2, L20S4, L22S3, L23S3, L24S2, L25S4, L29S3, L30S2, L30S4 Develop Academic Language: L3S2, L16S2, L18S2, L19S3, L22S3
ELD.PI.8.11a.Ex Justify opinions or persuade others by providing relevant textual evidence or relevant background knowledge, with moderate support.	
ELD.PI.8.11a.Br Justify opinions or persuade others by providing detailed and relevant textual evidence or relevant background knowledge, with light support.	
ELD.PI.8.11b.Em Express attitude and opinions or temper statements with familiar modal expressions (e.g., can, may).	English Learner Differentiation: L11S4, L19S4 Develop Academic Language: L8S3, L19S3
ELD.PI.8.11b.Ex Express attitude and opinions or temper statements with a variety of familiar modal expressions (e.g., possibly/likely, could/ would).	
ELD.PI.8.11b.Br Express attitude and opinions or temper statements with nuanced modal expressions (e.g., potentially/certainly/absolutely, should/might).	

Part I: Interacting in Meaningful Ways *continued*

ELD Standard	Supported In
Selecting language resources	
ELD.PI.8.12a.Em Use a select number of general academic words (e.g., <i>specific, contrast</i>) and domain-specific words (e.g., <i>scene, cell, fraction</i>) to create some precision while speaking and writing.	English Learner Differentiation: L1S1, L2S1, L2S3, L5S1, L6S3, L8S1, L11S1, L11S2, L11S3, L12S1, L12S3, L13S4, L15S3, L16S4, L16S5, L17S1, L17S4, L19S1, L20S1, L20S3, L21S2, L22S2, L22S4, L23S4, L24S1, L24S3, L25S1, L25S2, L25S3, L26S1, L26S2, L27S1, L27S2, L27S3, L27S4, L28S3, L29S1, L29S2, L29S4, L30S1, L30S3, L30S4, L31S1, L31S2, L32S1, L32S2, L32S3 Develop Academic Language: L6S3, L11S2, L11S3, L13S2, L21S3, L23S3, L25S2, L25S3, L26S2, L27S2, L27S4, L28S3, L29S2, L29S3, L32S3 Build Your Vocabulary: Every unit Support Vocabulary Development: Every lesson, Session 1 Vocabulary Cards: Every unit
ELD.PI.8.12a.Ex Use a growing set of academic words (e.g., <i>specific, contrast, significant, function</i>), domain-specific words (e.g., <i>scene, irony, suspense, analogy, cell membrane, fraction</i>), synonyms, and antonyms to create precision and shades of meaning while speaking and writing.	
ELD.PI.8.12a.Br Use an expanded set of general academic words (e.g., <i>specific, contrast, significant, function, adequate, analysis</i>), domain-specific words (e.g., <i>scene, irony, suspense, analogy, cell membrane, fraction</i>), synonyms, antonyms, and figurative language to create precision and shades of meaning while speaking and writing.	
ELD.PI.8.12b.Em Use knowledge of morphology to appropriately select affixes in basic ways (e.g., She likes X. He walked to school).	English Learner Differentiation: L24S1, L25S1, L32S4 Develop Academic Language: L13S3, L18S3, L25S2, L26S2, L28S2
ELD.PI.8.12b.Ex Use knowledge of morphology to appropriately select affixes in a growing number of ways to manipulate language (e.g., She likes walking to school. That's impossible).	
ELD.PI.8.12b.Br Use knowledge of morphology to appropriately select affixes in a variety of ways to manipulate language (e.g., changing <i>destroy</i> → <i>destruction</i> , <i>probably</i> → <i>probability</i> , <i>reluctant</i> → <i>reluctantly</i>).	

Part II: Learning About How English Works

ELD Standard	Supported In
Understanding text structure	
ELD.PII.8.1.Em Apply understanding of how different text types are organized to express ideas (e.g., how narratives are organized sequentially) to comprehending texts and to writing brief arguments, informative/ explanatory texts and narratives.	English Learner Differentiation: L2S5, L7S4, L12S3, L14S2, L14S4
ELD.PII.8.1.Ex Apply understanding of the organizational features of different text types (e.g., how narratives are organized by an event sequence that unfolds naturally versus how arguments are organized around reasons and evidence) to comprehending texts and to writing increasingly clear and coherent arguments, informative/explanatory texts and narratives.	
ELD.PII.8.1.Br Apply understanding of the organizational structure of different text types (e.g., how narratives are organized by an event sequence that unfolds naturally versus how arguments are organized around reasons and evidence) to comprehending texts and to writing clear and cohesive arguments, informative/explanatory texts and narratives.	

Citation Key L = Lesson, S = Session

ELD Standard	Supported In
Understanding cohesion	
ELD.PII.8.2a.Em Apply knowledge of familiar language resources for referring to make texts more cohesive (e.g., how pronouns refer back to nouns in text) to comprehending and writing brief texts.	English Learner Differentiation: L6S4, L11S1, L14S2, L22S1 Develop Academic Language: L14S3
ELD.PII.8.2a.Ex Apply knowledge of familiar language resources for referring to make texts more cohesive (e.g., how pronouns refer back to nouns in text, how using synonyms helps avoid repetition) to comprehending and writing texts with increasing cohesion.	
ELD.PII.8.2a.Br Apply knowledge of familiar language resources for referring to make texts more cohesive (e.g., how pronouns, synonyms, or nominalizations are used to refer backward in a text) to comprehending texts and writing cohesive texts.	
ELD.PII.8.2b.Em Apply basic understanding of how ideas, events, or reasons are linked throughout a text using everyday connecting words or phrases (e.g., <i>at the end, next</i>) to comprehending and writing brief texts.	English Learner Differentiation: L3S2, L3S4, L5S2, L7S4, L17S3, L18S2 Develop Academic Language: L7S3
ELD.PII.8.2b.Ex Apply growing understanding of how ideas, events, or reasons are linked throughout a text using a variety of connecting words or phrases (e.g., <i>for example, as a result, on the other hand</i>) to comprehending and writing texts with increasing cohesion.	
ELD.PII.8.2b.Br Apply increasing understanding of how ideas, events, or reasons are linked throughout a text using an increasing variety of academic connecting and transitional words or phrases (e.g., <i>for instance, in addition, consequently</i>) to comprehending and writing texts with increasing cohesion.	
Using verbs and verb phrases	
ELD.PII.8.3.Em Use a variety of verbs in different tenses (e.g., past, present, future, simple, progressive) appropriate to the text type and discipline (e.g., simple past and past progressive for recounting an experience) on familiar topics.	English Learner Differentiation: L5S3, L8S4, L11S2, L12S2, L13S3, L27S5, L31S3 Develop Academic Language: L3S3, L9S3, L11S2, L22S4, L29S4
ELD.PII.8.3.Ex Use a variety of verbs in different tenses (e.g., past, present, future, simple, progressive, perfect) appropriate to the task, text type, and discipline (e.g., the present perfect to describe previously made claims or conclusions) on an increasing variety of topics.	
ELD.PII.8.3.Br Use a variety of verbs in different tenses (e.g., past, present, future, simple, progressive, perfect), voices (active and passive), and moods (e.g., declarative, interrogative, subjunctive) appropriate to the task, text type, and discipline (e.g., the passive voice in simple past to describe the methods of a scientific experiment) on a variety of topics.	
Using nouns and noun phrases	
ELD.PII.8.4.Em Expand noun phrases in basic ways (e.g., adding a sensory adjective to a noun) in order to enrich the meaning of sentences and add details about ideas, people, things, and so on.	English Learner Differentiation: L6S3, L9S3, L10S1, L13S3 Develop Academic Language: L10S2, L11S3, L16S3, L17S3, L31S2
ELD.PII.8.4.Ex Expand noun phrases in a growing number of ways (e.g., adding prepositional or adjective phrases) in order to enrich the meaning of sentences and add details about ideas, people, things, and so on.	
ELD.PII.8.4.Br Expand noun phrases in an increasing variety of ways (e.g., embedding relative or complement clauses) in order to enrich the meaning of sentences and add details about ideas, people, things, and so on.	

Part II: Learning About How English Works *continued*

ELD Standard	Supported In
Modifying to add details	
ELD.PII.8.5.Em Expand sentences with simple adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause) about a familiar activity or process.	English Learner Differentiation: L5S3, L18S1, L18S4, L21S2 Develop Academic Language: L9S2, L16S4, L19S2, L20S3, L22S2, L23S3
ELD.PII.8.5.Ex Expand sentences with adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause) about a familiar or new activity or process.	
ELD.PII.8.5.Br Expand sentences with increasingly complex adverbials (e.g., adverbs, adverb phrases and clauses, prepositional phrases) to provide details (e.g., time, manner, place, cause) about a variety of familiar and new activities and processes.	
Connecting ideas	
ELD.PII.8.6.Em Combine clauses in a few basic ways to make connections between and join ideas (e.g., creating compound sentences using <i>and</i> , <i>but</i> , <i>so</i> ; creating complex sentences using <i>because</i>).	English Learner Differentiation: L3S3, L4S1, L9S5, L12S2, L21S4, L23S2 Develop Academic Language: L12S2, L23S2, L24S2
ELD.PII.8.6.Ex Combine clauses in an increasing variety of ways (e.g., creating compound and complex sentences) to make connections between and join ideas, for example, to express a reason (e.g., <i>He stayed at home on Sunday to study for Monday’s exam</i>) or to make a concession (e.g., <i>She studied all night even though she wasn’t feeling well</i>).	
ELD.PII.8.6.Br Combine clauses in a wide variety of ways (e.g., creating compound and complex sentences, and compound-complex sentences) to make connections between and join ideas, for example, to show the relationship between multiple events or ideas (e.g., <i>After eating lunch, the students worked in groups while their teacher walked around the room</i>) or to evaluate an argument (e.g., <i>The author claims X, although there is a lack of evidence to support this claim</i>).	
Condensing ideas	
ELD.PII.8.7.Em Condense ideas in simple ways (e.g., by compounding verbs, adding prepositional phrases, or through simple embedded clauses or other ways of condensing as in, This is a story about a girl. The girl changed the world. → This is a story about a girl <i>who changed the world</i>) to create precise and detailed sentences.	English Learner Differentiation: L1S2, L6S4, L19S4, L30S1 Develop Academic Language: L2S2, L7S2
ELD.PII.8.7.Ex Condense ideas in an increasing variety of ways (e.g., through various types of embedded clauses and other ways of condensing, as in, Organic vegetables are food. They’re made without chemical fertilizers. They’re made without chemical insecticides. → Organic vegetables are foods <i>that are made without chemical fertilizers or insecticides</i>) to create precise and detailed sentences.	
ELD.PII.8.7.Br Condense ideas in a variety of ways (e.g., through various types of embedded clauses, ways of condensing, and nominalization as in, They <i>destroyed</i> the rain forest. Lots of animals <i>died</i> . → The <i>destruction</i> of the rain forest led to <i>the death</i> of many animals) to create precise and detailed sentences.	

California Big Ideas Correlation

California has identified Big Ideas that support students in connecting concepts instead of seeing mathematics as a series of discrete topics. *Classroom Mathematics California* lessons support students in building Big Ideas in lessons, across units, and throughout the program.

Unit and Lesson Correlation

The table below shows where each Big Idea is addressed.

Big Idea	Unit and Lesson(s)
Big and Small Numbers	Unit 5: Lessons 19, 20, 21, 22
Cylindrical Investigations	Unit 6: Lesson 28
Data Explorations	Unit 7: Lesson 30
Data, Graphs, and Tables	Unit 4: Lesson 18 Unit 7: Lessons 31, 32
Interpret Scatter Plots	Unit 7: Lesson 29
Linear Equations	Unit 3: Lessons 10, 11, 12, 13, 14
Multiple Representations of Functions	Unit 4: Lessons 15, 17
Pythagorean Explorations	Unit 6: Lessons 26, 27
Shape, Number, and Expressions	Unit 6: Lessons 23, 24, 25
Slopes and Intercepts	Unit 3: Lessons 8, 9 Unit 4: Lesson 16
Transformational Geometry	Unit 1: Lessons 1, 2, 3 Unit 2: Lessons 4, 5, 6, 7

Try It Inventory

The Try-Discuss-Connect framework is built around Try It tasks set in relevant real-world contexts. They focus on important mathematics, problem solving, and multiple representations. Each Try It has been aligned to a California Driver of Investigation (Why), Standard for Mathematical Practice (How), and Content Connection (What). You may share the Why-How-What statements from the table below with students to provide an inviting learning intention.

Session	Driver of Investigation	Standard for Mathematical Practice (SMP)	Content Connection
LESSON 2			
1	<i>In order to predict what will happen ...</i>	<i>students will attend to precision ...</i>	<i>while discovering shape and space.</i>
2	<i>In order to predict what will happen ...</i>	<i>students will attend to precision ...</i>	<i>while discovering shape and space.</i>
3	<i>In order to predict what will happen ...</i>	<i>students will attend to precision ...</i>	<i>while discovering shape and space.</i>
4	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while discovering shape and space.</i>
LESSON 3			
1	<i>In order to predict what will happen ...</i>	<i>students will attend to precision ...</i>	<i>while discovering shape and space.</i>
2	<i>In order to predict what will happen ...</i>	<i>students will attend to precision ...</i>	<i>while discovering shape and space.</i>
3	<i>In order to impact the future ...</i>	<i>students will attend to precision ...</i>	<i>while discovering shape and space.</i>
LESSON 5			
1	<i>In order to predict what will happen ...</i>	<i>students will make sense of problems and persevere in solving them ...</i>	<i>while discovering shape and space.</i>
2	<i>In order to predict what will happen ...</i>	<i>students will make sense of problems and persevere in solving them ...</i>	<i>while discovering shape and space.</i>
3	<i>In order to impact the future ...</i>	<i>students will make sense of problems and persevere in solving them ...</i>	<i>while discovering shape and space.</i>
LESSON 6			
1	<i>In order to make sense of the world ...</i>	<i>students will model with mathematics ...</i>	<i>while discovering shape and space.</i>
2	<i>In order to impact the future ...</i>	<i>students will model with mathematics ...</i>	<i>while discovering shape and space.</i>
3	<i>In order to predict what will happen ...</i>	<i>students will model with mathematics ...</i>	<i>while discovering shape and space.</i>

Session	Driver of Investigation	Standard for Mathematical Practice (SMP)	Content Connection
LESSON 7			
1	<i>In order to make sense of the world ...</i>	<i>students will reason abstractly and quantitatively ...</i>	<i>while discovering shape and space.</i>
2	<i>In order to make sense of the world ...</i>	<i>students will reason abstractly and quantitatively ...</i>	<i>while discovering shape and space.</i>
3	<i>In order to predict what will happen ...</i>	<i>students will construct viable arguments and critique the reasoning of others ...</i>	<i>while discovering shape and space.</i>
LESSON 8			
1	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while exploring changing quantities.</i>
2	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while exploring changing quantities.</i>
3	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while exploring changing quantities.</i>
LESSON 9			
1	<i>In order to make sense of the world ...</i>	<i>students will model with mathematics ...</i>	<i>while exploring changing quantities.</i>
2	<i>In order to make sense of the world ...</i>	<i>students will model with mathematics ...</i>	<i>while exploring changing quantities.</i>
3	<i>In order to predict what will happen ...</i>	<i>students will attend to precision ...</i>	<i>while exploring changing quantities.</i>
4	<i>In order to predict what will happen ...</i>	<i>students will attend to precision ...</i>	<i>while exploring changing quantities.</i>
LESSON 10			
1	<i>In order to make sense of the world ...</i>	<i>students will make sense of problems and persevere in solving them ...</i>	<i>while exploring changing quantities.</i>
2	<i>In order to make sense of the world ...</i>	<i>students will make sense of problems and persevere in solving them ...</i>	<i>while exploring changing quantities.</i>
3	<i>In order to make sense of the world ...</i>	<i>students will make sense of problems and persevere in solving them ...</i>	<i>while exploring changing quantities.</i>
LESSON 11			
1	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while exploring changing quantities.</i>
2	<i>In order to predict what will happen ...</i>	<i>students will attend to precision ...</i>	<i>while exploring changing quantities.</i>
3	<i>In order to predict what will happen ...</i>	<i>students will attend to precision ...</i>	<i>while exploring changing quantities.</i>

Try It Inventory *continued*

Session	Driver of Investigation	Standard for Mathematical Practice (SMP)	Content Connection
LESSON 13			
1	<i>In order to make sense of the world . . .</i>	<i>students will reason abstractly and quantitatively . . .</i>	<i>while exploring changing quantities.</i>
2	<i>In order to make sense of the world . . .</i>	<i>students will reason abstractly and quantitatively . . .</i>	<i>while exploring changing quantities.</i>
3	<i>In order to make sense of the world . . .</i>	<i>students will reason abstractly and quantitatively . . .</i>	<i>while exploring changing quantities.</i>
4	<i>In order to predict what will happen . . .</i>	<i>students will reason abstractly and quantitatively . . .</i>	<i>while exploring changing quantities.</i>
LESSON 14			
1	<i>In order to make sense of the world . . .</i>	<i>students will make sense of problems and persevere in solving them . . .</i>	<i>while exploring changing quantities.</i>
2	<i>In order to make sense of the world . . .</i>	<i>students will make sense of problems and persevere in solving them . . .</i>	<i>while exploring changing quantities.</i>
3	<i>In order to predict what will happen . . .</i>	<i>students will make sense of problems and persevere in solving them . . .</i>	<i>while exploring changing quantities.</i>
LESSON 16			
1	<i>In order to make sense of the world . . .</i>	<i>students will make sense of problems and persevere in solving them . . .</i>	<i>while exploring changing quantities.</i>
2	<i>In order to make sense of the world . . .</i>	<i>students will make sense of problems and persevere in solving them . . .</i>	<i>while exploring changing quantities.</i>
3	<i>In order to make sense of the world . . .</i>	<i>students will model with mathematics . . .</i>	<i>while exploring changing quantities.</i>
4	<i>In order to make sense of the world . . .</i>	<i>students will model with mathematics . . .</i>	<i>while exploring changing quantities.</i>
LESSON 17			
1	<i>In order to make sense of the world . . .</i>	<i>students will reason abstractly and quantitatively . . .</i>	<i>while exploring changing quantities.</i>
2	<i>In order to make sense of the world . . .</i>	<i>students will reason abstractly and quantitatively . . .</i>	<i>while exploring changing quantities.</i>
3	<i>In order to make sense of the world . . .</i>	<i>students will reason abstractly and quantitatively . . .</i>	<i>while exploring changing quantities.</i>

Session	Driver of Investigation	Standard for Mathematical Practice (SMP)	Content Connection
LESSON 18			
1	<i>In order to make sense of the world ...</i>	<i>students will look for and make use of structure ...</i>	<i>while reasoning with data.</i>
2	<i>In order to make sense of the world ...</i>	<i>students will look for and make use of structure ...</i>	<i>while reasoning with data.</i>
3	<i>In order to predict what will happen ...</i>	<i>students will look for and make use of structure ...</i>	<i>while reasoning with data.</i>
LESSON 19			
1	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while taking wholes apart, putting parts together.</i>
2	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while taking wholes apart, putting parts together.</i>
3	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while taking wholes apart, putting parts together.</i>
LESSON 20			
1	<i>In order to make sense of the world ...</i>	<i>students will make sense of problems and persevere in solving them ...</i>	<i>while taking wholes apart, putting parts together.</i>
2	<i>In order to make sense of the world ...</i>	<i>students will make sense of problems and persevere in solving them ...</i>	<i>while taking wholes apart, putting parts together.</i>
3	<i>In order to make sense of the world ...</i>	<i>students will construct viable arguments and critique the reasoning of others ...</i>	<i>while taking wholes apart, putting parts together.</i>
LESSON 21			
1	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while taking wholes apart, putting parts together.</i>
2	<i>In order to make sense of the world ...</i>	<i>students will use appropriate tools strategically ...</i>	<i>while taking wholes apart, putting parts together.</i>
3	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while taking wholes apart, putting parts together.</i>
LESSON 22			
1	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while taking wholes apart, putting parts together.</i>
2	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while taking wholes apart, putting parts together.</i>
3	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while taking wholes apart, putting parts together.</i>
4	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while taking wholes apart, putting parts together.</i>

Try It Inventory *continued*

Session	Driver of Investigation	Standard for Mathematical Practice (SMP)	Content Connection
LESSON 23			
1	<i>In order to make sense of the world . . .</i>	<i>students will reason abstractly and quantitatively . . .</i>	<i>while discovering shape and space.</i>
2	<i>In order to make sense of the world . . .</i>	<i>students will reason abstractly and quantitatively . . .</i>	<i>while discovering shape and space.</i>
3	<i>In order to make sense of the world . . .</i>	<i>students will reason abstractly and quantitatively . . .</i>	<i>while discovering shape and space.</i>
LESSON 24			
1	<i>In order to make sense of the world . . .</i>	<i>students will look for and express regularity in repeated reasoning . . .</i>	<i>while discovering shape and space.</i>
2	<i>In order to make sense of the world . . .</i>	<i>students will look for and express regularity in repeated reasoning . . .</i>	<i>while discovering shape and space.</i>
LESSON 25			
1	<i>In order to make sense of the world . . .</i>	<i>students will look for and express regularity in repeated reasoning . . .</i>	<i>while discovering shape and space.</i>
2	<i>In order to make sense of the world . . .</i>	<i>students will look for and express regularity in repeated reasoning . . .</i>	<i>while discovering shape and space.</i>
3	<i>In order to make sense of the world . . .</i>	<i>students will use appropriate tools strategically . . .</i>	<i>while discovering shape and space.</i>
LESSON 27			
1	<i>In order to make sense of the world . . .</i>	<i>students will make sense of problems and persevere in solving them . . .</i>	<i>while taking wholes apart, putting parts together.</i>
2	<i>In order to make sense of the world . . .</i>	<i>students will make sense of problems and persevere in solving them . . .</i>	<i>while discovering shape and space.</i>
3	<i>In order to make sense of the world . . .</i>	<i>students will make sense of problems and persevere in solving them . . .</i>	<i>while taking wholes apart, putting parts together.</i>
4	<i>In order to make sense of the world . . .</i>	<i>students will make sense of problems and persevere in solving them . . .</i>	<i>while discovering shape and space.</i>
LESSON 28			
1	<i>In order to make sense of the world . . .</i>	<i>students will reason abstractly and quantitatively . . .</i>	<i>while discovering shape and space.</i>
2	<i>In order to make sense of the world . . .</i>	<i>students will reason abstractly and quantitatively . . .</i>	<i>while taking wholes apart, putting parts together.</i>
3	<i>In order to make sense of the world . . .</i>	<i>students will reason abstractly and quantitatively . . .</i>	<i>while taking wholes apart, putting parts together.</i>

Session	Driver of Investigation	Standard for Mathematical Practice (SMP)	Content Connection
LESSON 29			
1	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while exploring changing quantities.</i>
2	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while exploring changing quantities.</i>
3	<i>In order to make sense of the world ...</i>	<i>students will construct viable arguments and critique the reasoning of others ...</i>	<i>while reasoning with data.</i>
4	<i>In order to impact the future ...</i>	<i>students will attend to precision ...</i>	<i>while reasoning with data.</i>
LESSON 30			
1	<i>In order to make sense of the world ...</i>	<i>students will model with mathematics ...</i>	<i>while reasoning with data.</i>
2	<i>In order to make sense of the world ...</i>	<i>students will attend to precision ...</i>	<i>while reasoning with data.</i>
3	<i>In order to predict what will happen ...</i>	<i>students will attend to precision ...</i>	<i>while reasoning with data.</i>
LESSON 32			
1	<i>In order to make sense of the world ...</i>	<i>students will make sense of problems and persevere in solving them ...</i>	<i>while reasoning with data.</i>
2	<i>In order to make sense of the world ...</i>	<i>students will make sense of problems and persevere in solving them ...</i>	<i>while reasoning with data.</i>
3	<i>In order to make sense of the world ...</i>	<i>students will make sense of problems and persevere in solving them ...</i>	<i>while reasoning with data.</i>



California Environmental Principles and Concepts (EP&C) Correlation

The Environmental Principles and Concepts (EP&C) reflect the fact that people depend on Earth’s natural systems. The goal of the EP&Cs is to help students understand the connections between people and the natural world. The table below lists the opportunities to address each Environmental Principle.

Principle 1: People Depend on Natural Systems

Concepts	Supported in
The continuation and health of individual human lives and of human communities and societies depend on the health of the natural systems that provide essential goods and ecosystem services. • Concept A The goods produced by natural systems are essential to human life and to the functioning of our economies and cultures. • Concept B The ecosystem services provided by natural systems are essential to human life and to the functioning of our economies and cultures. • Concept C That the quality, quantity, and reliability of the goods and ecosystem services provided by natural systems are directly affected by the health of those systems.	Data Talk: L17S3 Problems: L3S2, L14S4, L22S5 Data Investigation: Unit 4

Principle 2: People Influence Natural Systems

Concepts	Supported in
The continuation and health of individual human lives and of human communities and societies depend on the health of the natural systems that provide essential goods and ecosystem services. • Concept A Direct and indirect changes to natural systems due to the growth of human populations and their consumption rates influence the geographic extent, composition, biological diversity, and viability of natural systems. • Concept B Methods used to extract, harvest, transport, and consume natural resources influence the geographic extent, composition, biological diversity, and viability of natural systems. • Concept C The expansion and operation of human communities influences the geographic extent, composition, biological diversity, and viability of natural systems. • Concept D That the quality, quantity, and reliability of the goods and ecosystem services provided by natural systems are directly affected by the health of those systems.	Data Talk: L11S3, L30S3 Problems: L2S2, L6S3, L8S2, L11S2, L20S3, L25S4, L28S3

Principle 3: Natural Systems Change in Ways that People Benefit From and Can Influence

Concepts	Supported in
Natural systems proceed through cycles that humans depend upon, benefit from, and can alter. • Concept A Natural systems proceed through cycles and processes that are required for their functioning. • Concept B Human practices depend upon and benefit from the cycles and processes that operate within natural systems. • Concept C Human practices can alter the cycles and processes that operate within natural systems.	Data Talk: L3S3, L9S4, L25S3 Problems: L7S2, L9S5, L17S3, L27S3

Principle 4: There are no Permanent or Impermeable Boundaries that Prevent Matter from Flowing Between Systems

Concepts	Supported in
The exchange of matter between natural systems and human societies affects the long-term functioning of both. • Concept A The effects of human activities on natural systems are directly related to the quantities of resources consumed and to the quantity and characteristics of the resulting byproducts. • Concept B The byproducts of human activity are not readily prevented from entering natural systems and may be beneficial, neutral, or detrimental in their effect. • Concept C The capacity of natural systems to adjust to human-caused alterations depends on the nature of the system as well as the scope, scale, and duration of the activity and the nature of its byproducts.	Data Talk: L28S3 Problems: L13S4, L32S3

Principle 5: Decisions Affecting Resources and Natural Systems are Complex and Involve Many Factors

Concepts	Supported in
Decisions affecting resources and natural systems are based on a wide range of considerations and decision-making processes. • Concept A There is a spectrum of what is considered in making decisions about resources and natural systems and how those factors influence decisions. • Concept B The process of making decisions about resources and natural systems, and how the assessment of social, economic, political, and environmental factors has changed over time.	Data Talk: L6S3 Problems: L5S4, L10S3, L16S4, L18S3, L19S3, L23S5, L24S2, L21S4, L29S4