Publisher/Developer:

Program Title:

Components:

Approved by the State Board of Education January 18, 2024

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# 2025 California Common Core State Standards: Mathematics Adoption[[1]](#footnote-2)Standards Map TemplateGrade Six

## Organization Around Major Conceptual Ideas

Evaluation criterion statement 1.2 requires that programs be consistent with the content of the 2023 *Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve* (*Mathematics Framework*). In order to be considered suitable for adoption by the State Board of Education, a publisher's or developer’s program must present content organized around major conceptual ideas, as demonstrated in chapters 6, 7, and 8, and as described in the Publishers and Content Developers Guide to the Mathematics Framework, found in chapter 13 of the *Mathematics Framework*.

1. Publishers/developers should use the first column of this table to list the major conceptual ideas used to organize the instructional program.
2. In the second column, publishers/developers should show how these relate to the Framework’s Big Ideas.
3. In the third column, publishers/developers should show the organization of the program by showing how the content standards are mapped to each of the major conceptual ideas or Big Ideas used by the program.

| **Major conceptual ideas in the program** | **How do the program’s major conceptual ideas map to the framework’s Big Ideas?** | **How are standards covered under the major conceptual ideas?** | **Met Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
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Publishers/developers should be aware of how major conceptual ideas develop from one grade to the next. For charts detailing the progression of the *Mathematics Framework*’s Big Ideas throughout the grade levels, see [chapter 6](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.cde.ca.gov%2Fci%2Fma%2Fcf%2Fdocuments%2Fmathfwchapter6.docx&wdOrigin=BROWSELINK) (TK–grade 2 and grades 3–5) and [chapter 7](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.cde.ca.gov%2Fci%2Fma%2Fcf%2Fdocuments%2Fmathfwchapter7.docx&wdOrigin=BROWSELINK) (grades 6–8).

State-adopted instructional materials help teachers to present and students to learn the content set forth in the *California Common Core State Standards for Mathematics with California Additions,* which include boththe content standards and the standards for mathematical practice (SMPs). Publishers/developers should use the following tables to provide page number citations or other references that demonstrate alignment with the SMPs and content standards.

## Standards for Mathematical Practice

| **Standard** | **Standard Language** | **Publisher/Developer Citations** | **Met Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| MP.1 | Make sense of problems and persevere in solving them. |  |  |  |  |
| MP.2 | Reason abstractly and quantitatively. |  |  |  |  |
| MP.3 | Construct viable arguments and critique the reasoning of others. |  |  |  |  |
| MP.4 | Model with mathematics. |  |  |  |  |
| MP.5 | Use appropriate tools strategically. |  |  |  |  |
| MP.6 | Attend to precision. |  |  |  |  |
| MP.7 | Look for and make use of structure. |  |  |  |  |
| MP.8 | Look for and express regularity in repeated reasoning. |  |  |  |  |

## Grade-level Content Standards

### Domain: Ratios and Proportional Relationships

#### Cluster: Understand ratio concepts and use ratio reasoning to solve problems.

How does the program address this aspect of the domain?

| **Standard** | **Standard Language** | **Publisher/Developer Citations** | **Met****Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| 6.RP.1 | Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. |  |  |  |  |
| 6.RP.2 | Understand the concept of a unit rate *a*/*b* associated with a ratio *a:b* with *b* ≠ 0, and use rate language in the context of a ratio relationship. |  |  |  |  |
| 6.RP.3a | Use ratio and rate reasoning to solve real-world and mathematical problems. Make tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. |  |  |  |  |
| 6.RP.3b | Use ratio and rate reasoning to solve real-world and mathematical problems. Solve unit rate problems including those involving unit pricing and constant speed. |  |  |  |  |
| 6.RP.3c | Use ratio and rate reasoning to solve real-world and mathematical problems. Find a percent of a quantity as a rate per 100; solve problems involving finding the whole, given a part and the percent. |  |  |  | : |
| 6.RP.3d | Use ratio and rate reasoning to solve real-world and mathematical problems. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. |  |  |  |  |

### Domain: The Number System

#### Cluster: Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

How does the program address this aspect of the domain?

| **Standard** | **Standard Language** | **Publisher/Developer Citations** | **Met****Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| 6.NS.1 | Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions. |  |  |  |  |

#### Cluster: Compute fluently with multi-digit numbers and find common factors and multiples.

How does the program address this aspect of the domain?

| **Standard** | **Standard Language** | **Publisher/Developer Citations** | **Met****Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| 6.NS.2 | Fluently divide multi-digit numbers using the standard algorithm. |  |  |  |  |
| 6.NS.3 | Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. |  |  |  |  |
| 6.NS.4  | Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. |  |  |  |  |

#### Cluster: Apply and extend previous understandings of numbers to the system of rational numbers.

How does the program address this aspect of the domain?

| **Standard** | **Standard Language** | **Publisher/Developer Citations** | **Met****Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| 6.NS.5 | Understand that positive and negative numbers are used together to describe quantities having opposite directions or values; use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. |  |  |  |  |
| 6.NS.6a | Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself. |  |  |  |  |
| 6.NS.6b | Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. |  |  |  |  |
| 6.NS.6c | Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane. |  |  |  |  |
| 6.NS.7a | Understand ordering and absolute value of rational numbers. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. |  |  |  |  |
| 6.NS.7b | Understand ordering and absolute value of rational numbers. Write, interpret, and explain statements of order for rational numbers in real-world contexts. |  |  |  |  |
| 6.NS.7c | Understand ordering and absolute value of rational numbers. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. |  |  |  |  |
| 6.NS.7d | Understand ordering and absolute value of rational numbers. Distinguish comparisons of absolute value from statements about order. |  |  |  |  |
| 6.NS.8 | Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. |  |  |  |  |

### Domain: Expressions and Equations

#### Cluster: Apply and extend previous understandings of arithmetic to algebraic expressions.

How does the program address this aspect of the domain?

| **Standard** | **Standard Language** | **Publisher/Developer Citations** | **Met Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| 6.EE.1 | Write and evaluate numerical expressions involving whole-number exponents. |  |  |  |  |
| 6.EE.2a | Write, read, and evaluate expressions in which letters stand for numbers. Write expressions that record operations with numbers and with letters standing for numbers. |  |  |  |  |
| 6.EE.2b | Write, read, and evaluate expressions in which letters stand for numbers. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity*.* |  |  |  |  |
| 6.EE.2c | Write, read, and evaluate expressions in which letters stand for numbers. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). |  |  |  |  |
| 6.EE.3 | Apply the properties of operations to generate equivalent expressions*.* |  |  |  |  |
| 6.EE.4 | Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). |  |  |  |  |

#### Cluster: Reason about and solve one-variable equations and inequalities.

How does the program address this aspect of the domain?

| **Standard** | **Standard Language** | **Publisher/Developer Citations** | **Met****Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| 6.EE.5 | Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true. |  |  |  |  |
| 6.EE.6 | Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set. |  |  |  |  |
| 6.EE.7 | Solve real-world and mathematical problems by writing and solving equations of the form *x* + *p* = *q* and *px* = *q* for cases in which *p*, *q* and *x* are all nonnegative rational numbers. |  |  |  |  |
| 6.EE.8 | Write an inequality of the form *x* > *c* or *x* < *c* to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form *x* > *c* or *x* < *c* have infinitely many solutions; represent solutions of such inequalities on number line diagrams. |  |  |  |  |

#### Cluster: Represent and analyze quantitative relationships between dependent and independent variables.

How does the program address this aspect of the domain?

| **Standard** | **Standard Language** | **Publisher/Developer Citations** | **Met****Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| 6.EE.9 | Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. |  |  |  |  |

### Domain: Geometry

#### Cluster: Solve real-world and mathematical problems involving area, surface area, and volume.

How does the program address this aspect of the domain?

| **Standard** | **Standard Language** | **Publisher/Developer Citations** | **Met****Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| 6.G.1 | Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. |  |  |  |  |
| 6.G.2 | Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas *V = l w h* and *V = b h* to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems. |  |  |  |  |
| 6.G.3 | Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems. |  |  |  |  |
| 6.G.4 | Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems. |  |  |  |  |

### Domain: Statistics and Probability

#### Cluster: Develop understanding of statistical variability.

How does the program address this aspect of the domain?

| **Standard** | **Standard Language** | **Publisher/Developer Citations** | **Met****Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| 6.SP.1 | Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. |  |  |  |  |
| 6.SP.2 | Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape. |  |  |  |  |
| 6.SP.3 | Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number. |  |  |  |  |

#### Cluster: Summarize and describe distributions.

How does the program address this aspect of the domain?

| **Standard** | **Standard Language** | **Publisher/Developer Citations** | **Met****Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| 6.SP.4 | Display numerical data in plots on a number line, including dot plots, histograms, and box plots. |  |  |  |  |
| 6.SP.5a | Summarize numerical data sets in relation to their context, such as by: Reporting the number of observations. |  |  |  |  |
| 6.SP.5b | Summarize numerical data sets in relation to their context, such as by: Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. |  |  |  |  |
| 6.SP.5c | Summarize numerical data sets in relation to their context, such as by: Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. |  |  |  |  |
| 6.SP.5d | Summarize numerical data sets in relation to their context, such as by: Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered. |  |  |  |  |

## Appendix: (Publisher/Developer, please enter any additional notes regarding the standards below.)

California Department of Education, October 2024

1. The California Common Core State Standards: Mathematics were adopted by the State Board of Education on August 2, 2010, (and modified pursuant to Senate Bill 1200 on January 16, 2013). This standards map is organized by Big Idea and Content Connections in alignment with the *Mathematics Framework for California Public Schools: Kindergarten Through Grade Twelve*, approved by the State Board of Education on July 12, 2023. [↑](#footnote-ref-2)