

Knowre Math: **Grade 6** Curriculum

Chapter 1 Whole Numbers

| Lesson | Topic | CA CCSSM |
|---|--|----------------|
| 1-1 Long Division with Remainders | A) Long Division with and without Remainders | 6.NS.2 |
| 1-2 Long Division with Mixed Number Quotients | A) Long Division with Mixed Number Quotients | 6.NS.2 |
| 1-3 Horizontal Division | A) Equivalent Divisions | 6.NS.2 |
| | B) Dividing with Multiples of 10 | |
| | C) Horizontal Division | |
| 1-4 Divisibility Tests | A) Divisibility Tests | 6.NS.2 |
| 1-5 Multiples and Factors | A) Multiples | 6.NS.2, 6.NS.4 |
| | B) Least Common Multiples | |
| | C) Factors | |
| | D) Greatest Common Factors | |
| 1-6 Exponents | A) Multiplication Symbols | 6.EE.1, 6.EE.4 |
| | B) Defining Powers | |
| | C) Writing Expressions as Powers | |
| | D) Evaluating Powers | |
| | E) Missing Values in Power Equations | |
| 1-7 Order of Operations | A) Order of Operations | 6.EE.1 |
| 1-8 Prime Factorization | A) Prime and Composite Numbers | 6.EE.1 |
| | B) Prime Factorization Using a Completed Factor Tree | |
| 1-9 GCF and LCM | A) Greatest Common Factors | 6.NS.4 |
| | B) Least Common Multiples | |

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Chapter 2 Fractions

| Lesson | Topic | CA CCSSM |
|----------------------------|---|----------|
| 2-1 Representing Fractions | A) Fractions on Number Lines | 6.NS.6.c |
| | B) Whole Numbers as Fractions | |
| | C) Equivalent Fractions | |
| | D) Simplifying Fractions | |
| | E) Mixed Numbers as Improper Fractions | |
| 2-2 Comparing Fractions | A) Comparing Fractions | 6.NS.6.c |
| 2-3 Adding Fractions | A) Adding Fractions and Mixed Numbers | 5.NF.1 |
| 2-4 Subtracting Fractions | A) Subtracting Fractions and Mixed Numbers | 5.NF.1 |
| 2-5 Multiplying Fractions | A) Comparing Fractional Products and Factors | 6.EE.1 |
| | B) Multiplying Fractions | |
| | C) Powers of Nonnegative Fractions | |
| 2-6 Dividing Fractions | A) Comparing Fractional Quotients and Dividends | 6.NS.1 |
| | B) Reciprocals | |
| | C) Dividing Fractions | |

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Chapter 3 Decimals

| Lesson | Topic | CA CCSSM |
|---|--|--------------------------|
| 3-1 Representing Decimals | A) Decimals on Number Lines | 6.NS.6.c, 6.NS.7.b |
| | B) Representing Repeating Decimals | |
| | C) Comparing Decimals | |
| | D) Ordering Decimals | |
| 3-2 Adding Decimals | A) Adding Decimals Vertically | 6.NS.3 |
| | B) Adding Decimals Horizontally | |
| | C) Rounding Decimals to Estimate Sums | |
| 3-3 Subtracting Decimals | A) Adding Decimals Vertically | 6.NS.3 |
| | B) Adding Decimals Horizontally | |
| | C) Rounding Decimals to Estimate Differences | |
| 3-4 Multiplying Decimals | A) Comparing Decimal Products and Factors | 6.NS.3, 6.EE.1 |
| | B) Multiplying Decimals | |
| | C) Powers of Nonnegative Decimals | |
| | D) Rounding Decimals to Estimate Products | |
| 3-5 Dividing Decimals | A) Comparing Decimal Quotients and Dividends | 6.NS.3 |
| | B) Dividing Decimals Using Long Division | |
| | C) Rounding Decimals to Estimate Quotients | |
| 3-6 Order of Operations with Rational Numbers | A) Terminating Decimals as Fractions | 6.NS.3, 6.NS.7.b, 6.EE.1 |
| | B) Order of Operations with Nonnegative Rational Numbers | |

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Chapter 4 Integers

| Lesson | Topic | CA CCSSM |
|--|--|--|
| 4-1 Number Sets and Algebra Tiles | A) Classifying Numbers | 6.NS.5 |
| | B) Using Algebra Tiles to Model Integers | |
| | C) Representing Situations as Integers | |
| 4-2 Comparing and Ordering Integers | A) Integers on Number Lines | 6.NS.5, 6.NS.6.c, 6.NS.7.a, 6.NS.7.b |
| | B) Comparing Integers | |
| | C) Distance on a Number Line | |
| | D) Ordering Integers | |
| 4-3 Opposites and Absolute Value | A) Opposites | 6.NS.5, 6.NS.6.a, 6.NS.7.a, 6.NS.7.c, 6.NS.7.d |
| | B) Absolute Values | |
| 4-4 Integer Addition with Tiles | A) Opposites | 7.NS.1.b |
| | B) Absolute Values | |
| 4-5 Integer Addition with Number Lines | A) Using Number Lines to Model Addition of Integers with Different Signs | 7.NS.1.b |
| | B) Using Number Lines to Model Addition of Integers with the Same Sign | |
| 4-6 Single-Digit Integer Addition | A) Adding One-Digit Integers | 7.NS.1.b |
| 4-7 Integer Subtraction with Tiles | A) Using Algebra Tiles to Model Subtraction of Positive Integers | 7.NS.1.c |
| | B) Using Algebra Tiles to Model Subtraction of Integers with Different Signs | |
| | C) Using Algebra Tiles to Model Subtraction of Negative Integers | |
| 4-8 Single-Digit Integer Subtraction | A) Subtracting One-Digit Integers | 7.NS.1.c |

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Chapter 5 Introduction to Algebra

| Lesson | Topic | CA CCSSM |
|--|--|---|
| 5-1 Understanding Variables and Coefficients | A) Coefficients and Variables | 6.EE.2.b, 6.EE.6 |
| | B) Modeling Variable Expressions | |
| | C) Simplifying Variable Expressions | |
| 5-2 Variable Expressions | A) Parts of Variable Expressions | 6.EE.2.a, 6.EE.2.b, 6.EE.2.c, 6.EE.3, 6.EE.4, 6.EE.6 |
| | B) Modeling First Degree Monomials and Binomials | |
| | C) Combining Like Terms | |
| | D) Evaluating Variable Expressions | |
| 5-3 Writing Expressions | A) Writing Variable Expressions | 6.EE.2.a, 6.EE.2.b, 6.EE.6 |
| 5-4 Properties of Operations | A) Commutative Property | 6.EE.3, 6.EE.4, 6.EE.6 |
| | B) Associative Property | |
| | C) Using Algebra Tiles to Model Polynomial Multiplication | |
| | D) Using the Properties to Multiply Terms | |
| | E) Identity Property | |
| 5-5 Modeling the Distributive Property | A) Using Algebra Tiles to Model the Distributive Property | 6.EE.3, 6.EE.6 |
| 5-6 Distributive Property | A) Distributive Property | 6.NS.4, 6.EE.3, 6.EE.4, 6.EE.6 |
| | B) Rewrite Sums and Differences with the Distributive Property | |

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Chapter 6 Equations and Inequalities

| Lesson | Topic | CA CCSSM |
|---|--|----------------|
| 6-1 Equations | A) Identifying Expressions and Equations | 6.EE.5, 6.EE.7 |
| | B) Writing Equations | |
| | C) Solutions of Equations | |
| 6-2 Solving Addition Equations with Bar Models | A) Using Bar Models to Solve One-Step Addition Equations | 6.EE.7 |
| 6-3 Solving Multiplication Equations with Bar Models | A) Using Bar Models to Solve One-Step Multiplication Equations | 6.EE.7 |
| 6-4 Solving One-Step Addition and Subtraction Equations | A) Subtraction Property of Equality | 6.EE.7 |
| | B) Addition Property of Equality | |
| 6-5 Solving One-Step Multiplication and Division Equations | A) Division Property of Equality | 6.EE.7 |
| | B) Multiplication Property of Equality | |
| 6-6 Solutions of Inequalities | A) Writing Inequalities from Verbal Expressions | 6.EE.5, 6.EE.8 |
| | B) Solutions of Inequalities | |
| 6-7 Graphing Inequalities | A) Writing Inequalities from Number Lines | 6.EE.5, 6.EE.8 |
| | B) Graphing Inequalities on a Number Line | |
| 6-8 Solving One-Step Addition and Subtraction Inequalities | A) Subtraction Property of Inequality | 6.EE.5 |
| | B) Addition Property of Inequality | |
| 6-9 Solving One-Step Multiplication and Division Inequalities | A) Division Property of Inequality | 6.EE.5 |
| | B) Multiplication Property of Inequality | |

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Chapter 7 Ratios, Rates, and Percents

| Lesson | Topic | CA CCSSM |
|----------------------------|--|------------------------------------|
| 7-1 Writing Ratios | A) Writing Ratios in Different Forms | 6.RP.1 |
| 7-2 Simplifying Ratios | A) Simplifying Ratios in Different Forms | 6.RP.1 |
| | B) Equivalent Ratios | |
| 7-3 Unit Rate | A) Understanding Unit Rates | 6.RP.1, 6.RP.2, 6.RP.3.b |
| | B) Finding Unit Rates | |
| | C) Using Unit Rate to Find a Value | |
| 7-4 Conversions | A) Customary Length Conversion Factors | 6.RP.1, 6.6.RP.3.b, 6.RP.3.d |
| | B) Customary Unit Conversions | |
| | C) Metric Conversion Factors | |
| | D) Metric Unit Conversions | |
| | E) Unit Rates and Dimensional Analysis | |
| 7-5 Percents and Fractions | A) Writing Percents as Fractions | 6.RP.3.c |
| | B) Writing Fractions as Percents | |
| 7-6 Percents and Decimals | A) Writing Percents as Decimals | 6.RP.3.c |
| | B) Writing Decimals as Percents | |
| 7-7 Percent Equations | A) Percent Equation | 6.RP.3.c |

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Chapter 8 Coordinate Plane and Two-Variable Equations

| Lesson | Topic | CA CCSSM |
|---------------------------------------|---|-------------------------------|
| 8-1 The Coordinate Plane | A) Identifying Quadrants and Axes of Coordinate Planes | 6.NS.6.b, 6.NS.6.c, 6.NS.8 |
| | B) Graphing Points | |
| | C) Writing the Coordinates of Points | |
| | D) Identifying Quadrants and Axes from Coordinates | |
| 8-2 Distance on a Coordinate Plane | A) Counting to Find the Distance Between Points | 6.NS.8, 6.G.3 |
| | B) Using Absolute Value to Find the Distance Between Points | |
| 8-3 Reflections on a Coordinate Plane | A) Reflections Over the x-Axis | 6.NS.6.b, 6.G.3 |
| | B) Reflections Over the y-Axis | |
| 8-4 Relations | A) Representing Relations in Different Forms | 6.RP.3.a, 6.RP.3.b, 6.EE.9 |
| 8-5 Input and Output | A) Input and Output | 6.EE.9 |
| | B) Independent and Dependent Variables | |
| 8-6 Two-Variable Equations | A) Evaluating Functions | 6.RP.3.a, 6.EE.2.c, 6.EE.9 |
| | B) Graphing Linear Functions | |
| | C) Writing Linear Functions | |

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Chapter 9 Area and Volume

| Lesson | Topic | CA CCSSM |
|--|---|--------------|
| 9-1 Area of Rectangles and Squares | A) Areas of Rectangles | 6.G.1, 6.G.3 |
| | B) Areas of Squares | |
| 9-2 Area of Parallelograms | A) Area of Parallelograms | 6.G.1, 6.G.3 |
| 9-3 Area of Triangles | A) Bases and Heights of Triangles | 6.G.1 |
| | B) Areas of Triangles | |
| 9-4 Area of Trapezoids | A) Areas of Trapezoids | 6.G.1 |
| 9-5 Surface Area of Prisms and Pyramids Using Nets | A) Nets of Solids | 6.G.4 |
| | B) Surface Areas of Prisms and Pyramids from Nets | |
| | C) Surface Areas of Prisms | |
| 9-6 Volume of Prisms and Cubes | A) Volume from Cubic Units | 6.G.2 |
| | B) Volumes of Right Prisms | |

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Chapter 10 Displays of Data

| Lesson | Topic | CA CCSSM |
|---------------------------------|---|-------------------------------|
| 10-1 Introduction to Statistics | A) Statistical Questions | 6.SP.1, 6.SP.5.a, 6.SP.5.b |
| | B) Characteristics of Data Sets | |
| | C) Frequency Tables | |
| | D) Characteristics of Tables | |
| 10-2 Dot Plots and Data | A) Characteristics of Dot Plots | 6.SP.4, 6.SP.5.a, 6.SP.5.b |
| | B) Dot Plots, Data Sets, and Frequency Tables | |
| 10-3 Reading Dot Plots | A) Finding the Number of Observations within a Range of Numbers | 6.SP.4 |
| | B) Finding the Minimum and Maximum Values | |
| | C) Finding the Mode | |
| 10-4 Histograms and Bins | A) Characteristics of Histograms | 6.SP.4, 6.SP.5.a, 6.SP.5.b |
| | B) Bins | |
| | C) Using a Frequency Table to Create a Histogram | |
| 10-5 Histograms and Data Sets | A) Histograms, Data Sets, and Frequency Tables | 6.SP.4 |
| | B) Finding the Number of Observations within a Range of Numbers | |
| | C) Values in a Histogram | |

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Chapter 11 Distributions of Data

| Lesson | Topic | CA CCSSM |
|--|--|---------------------------------------|
| 11-1 Mean | A) Writing an Expression for the Mean | 6.SP.2, 6.SP.3, 6.SP.5.c |
| | B) Calculating the Mean of Data Sets | |
| | C) How Adding or Removing Data Points Affects the Mean | |
| 11-2 Median | A) Median | 6.SP.2, 6.SP.3, 6.SP.5.c |
| | B) Mean and Median of the Same Data Set | |
| 11-3 Range and Mean Absolute Deviation | A) Range | 6.SP.2, 6.SP.3, 6.SP.5.c |
| | B) MAD | |
| 11-4 Interquartile Range | A) Quartiles | 6.SP.2, 6.SP.3, 6.SP.5.c |
| | B) IQR | |
| 11-5 Reading Box Plots | A) Five-Number Summaries | 6.SP.3, 6.SP.4 |
| | B) Measures of Variation | |
| | C) Box Plots and Five-Number Summaries | |
| 11-6 Box Plots and Data | A) Box Plots, Five-Number Summaries, and Data Sets | 6.SP.4 |
| | B) Distribution of Data in a Dot Plot | |
| 11-7 Shapes of Distributions | A) Shapes of Histograms | 6.SP.2, 6.SP.3, 6.SP.5.c, 6.SP.5.d |
| | B) Shapes of Dot Plots | |
| | C) Shape and Measure of Center | |
| | D) Measure of Center and Measure of Variation | |
| | E) Outliers and Measures of Center | |