SADLIER

Progress in Mathematics

Aligned to the

Archdiocese of Detroit
Sixth Grade
Mathematics
Standards

Grade 6

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Sadlier *Progress in Mathematics*, Grade 6, Aligned to the
Sixth Grade Mathematics Standards for the Archdiocese of Detroit

SADLIER
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in
Mathematics

Ratios & Proportional Relationships

ARCHDIOCESE OF DETROIT: SIXTH GRADE MATHEMATICS STANDARDS	SADLIER *PROGRESS IN MATHEMATICS*, GRADE 6
Understand ratio concepts and use ratio reasoning to solve problems.	
6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes; the ratio A to C is 1:3 or 1/3."*	**11-1 Ratio**—pp. 376–377 Objective(s): To write and use ratios. To write ratios in simplest form.
6.RP.A.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. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.(75/15=5/1)".*	***11-2B Ratios and Unit Rates**—Online Objective(s): To use ratio language to describe a ratio relationship between two quantities. To understand the concept of a unit rate *a/b* and use rate language in the context of a ratio relationship. **11-3 Rates**—pp. 380–381 Objective(s): To write and use ratios To find unit rate or unit price.
6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams (fraction bars), double number line diagrams, or equations.	
6.RP.A.3a 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.	***11-2B Ratios and Unit Rates**—Online Objective(s): To use ratio language to describe a ratio relationship between two quantities. To understand the concept of a unit rate *a/b* and use rate language in the context of a ratio relationship. ***11-3A Compare Ratios**—Online Objective(s): To use tables to compare ratios. To compare ratios to solve real-world problems. ***14-7A Model Rates**—Online Objective(s): To graph equivalent rates on a coordinate plane. To observe the patterns in a graph of equivalent rates.
6.RP.A.3b Find equivalent ratios by scaling up or scaling down.	**11-2 Equivalent Ratios**—pp. 378–379 Objective(s): To write and use equivalent ratios.
6.RP.A.3c Solve unit rate problems including those involving unit pricing, and constant speed. *For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*	***11-2B Ratios and Unit Rates**—Online Objective(s): To use the order of operations to evaluate numerical expressions. **11-3 Rates**—pp. 380–381 Objective(s): To write and use ratios. To find unit rate or unit price. ***11-3A Compare Ratios**—Online Objective(s): To use tables to compare ratios. To compare ratios to solve real-world problems. **11-4 Proportions**—pp. 382–383 Objective(s): To determine if two ratios form a proportion. To find a missing term to form a proportion. ***11-4A Model Proportions with Double Number Lines**—Online Objective(s): To model proportions. To use a double-number line to find equal ratios. ***11-4B Model Proportions with Tape Diagrams**—Online Objective(s): To model proportions. To use a tape diagram to find equal ratios.

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ARCHDIOCESE OF DETROIT: SIXTH GRADE MATHEMATICS STANDARDS	SADLIER *PROGRESS IN MATHEMATICS*, GRADE 6
	11-5 Solve Proportions—pp. 384–385 Objective(s): To find a missing term in a proportion. **11-6 Write Proportions**—pp. 386–387 Objective(s): To write proportions. To use proportions to solve problems. **11-7 Proportions and Similar Figures**—pp. 388–389 Objective(s): To write proportions involving corresponding sides of similar figures. To use proportions to find missing side lengths of similar geometric figures. **11-8 Use Proportions**—pp. 390–391 Objective(s): To use proportions to solve indirect measurement problems.
6.RP.A.3d Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.	**12-1 Mental Math: Percent**—pp. 414–415 Objective(s): To find a percent of a number by mental computation. **12-3 Percentage of a Number**—pp. 418–419 Objective(s): To find a percent of a number. **12-4 Find the Rate**—pp. 420–421 Objective(s): To find what percent, or rate, one number is of another. **12-5 Find the Original Number**—pp. 422–423 Objective(s): To find the original number when a percent of it is known. **12-6 Percent Problems**—pp. 424–425 Objective(s): To solve problems by finding a percent of a number or by finding what percent one number is of another. **12-13 Problem Solving Strategy: Write an Equation**—pp. 438–439 Objective(s): To solve problems by writing and solving an equation.
6.RP.A.3e Calculate part of a number given the percentage and the number (e.g., 20% of $5 is what part of $5?).	**12-3 Percentage of a Number**—pp. 418–419 Objective(s): To find a percent of a number.
6.RP.A.3f Solve contextual problems involving percentages such as sales taxes and tips.	**12-6 Percent Problems**—pp. 424–425 Objective(s): To solve problems by finding a percent of a number or by finding what percent one number is of another. **12-7 Discount and Sale Price**—pp. 426–427 Objective(s): To find the amount of a discount and the sale price. **12-8 Sales Tax and Total Cost**—pp. 428–429 Objective(s): To find sales tax and total cost. **12-9 Better Buy**—pp. 430–431 Objective(s): To determine better buy. **12-10 Commission**—pp. 432–433 Objective(s): To find commission. **12-11 Simple Interest**—pp. 434–435 Objective(s): To examine simple interest concepts To use the simple interest formula to find the interest. To apply the simple interest formula to find the total amount. **12-13 Problem Solving Strategy: Write an Equation**—pp. 438–439 Objective(s): To solve problems by writing and solving an equation. **12-14 Problem Solving Applications: Mixed Review**—pp. 440–441
6.RP.A.3g For applied situations, estimate the answers to calculations involving operations with rational numbers (e.g. 1/2 of 55 is about 25).	**1-6 Estimate Decimal Sums and Differences**—pp. 44–45 Objective(s): To use front-end estimation or rounding to estimate decimal sums and differences, including money amounts. **2-2 Estimate Products**—pp. 68–69 Objective(s): To estimate whole-number and decimal products using rounded numbers.

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	3-2 Estimate Quotients—pp. 90–91 Objective(s): To estimate quotients using compatible numbers. **3-7 Estimate Decimal Quotients**—pp. 100–101 Objective(s): To estimate quotients of two decimals. **7-2 Estimate Sums and Differences**—pp. 224–225 Objective(s): To estimate sums and differences of fractions and mixed numbers.
6.RP.A.3h Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities (e.g. ½ yard is equivalent to 18 inches).	**13-1 Measure Metric Length**—pp. 448–449 Objective(s): To measure length to the nearest centimeter and millimeter. To rename metric units of length among millimeters through kilometers. **13-2 Measure Metric Capacity and Mass**—pp. 450–451 Objective(s): To rename and compare metric units of capacity and mass. **13-3 Measure Customary Length**—pp. 452–453 Objective(s): To measure lengths to the nearest in., 1/2 in., 1/4 in., 1/8 in., and 1/16 in. To rename and compare customary units of length. **13-4 Measure Customary Capacity and Weight**—pp. 454–455 Objective(s): To rename and compare customary units of capacity and weight. **13-5 Compute Customary Units**—pp. 456–457 Objective(s): To compute with customary units of length, capacity, and weight. **13-6 Compute with Time**—pp. 458–459 Objective(s): To compute and rename units of time. To learn about and solve problems involving time zones in the United States. **13-7 Relate Customary and Metric Units**—pp. 460–461 Objective(s): To learn and use approximate equivalents between customary and metric measurement systems. ***13-7A Use Proportions to Convert Units**—Online Objective(s): To use a proportion to convert a measurement from one unit to another.
6.RP.A.3i Convert between basic units of measurement within a single measurement system (square inches to square feet).	**13-1 Measure Metric Length**—pp. 448–449 Objective(s): To measure length to the nearest centimeter and millimeter. To rename metric units of length among millimeters through kilometers. **13-2 Measure Metric Capacity and Mass**—pp. 450–451 Objective(s): To rename and compare metric units of capacity and mass. **13-3 Measure Customary Length**—pp. 452–453 Objective(s): To measure lengths to the nearest in., 1/2 in., 1/4 in., 1/8 in., and 1/16 in. To rename and compare customary units of length. **13-4 Measure Customary Capacity and Weight**—pp. 454–455 Objective(s): To rename and compare customary units of capacity and weight. **13-5 Compute Customary Units**—pp. 456–457 Objective(s): To compute with customary units of length, capacity, and weight. **13-6 Compute with Time**—pp. 458–459 Objective(s): To compute and rename units of time. To learn about and solve problems involving time zones in the United States.

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ARCHDIOCESE OF DETROIT: SIXTH GRADE MATHEMATICS STANDARDS	SADLIER *PROGRESS IN MATHEMATICS*, GRADE 6
	13-7 Relate Customary and Metric Units—pp. 460–461
	Objective(s): To learn and use approximate equivalents between customary and metric measurement systems.
	*13-7A Use Proportions to Convert Units—Online
	Objective(s): To use a proportion to convert a measurement from one unit to another.

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ARCHDIOCESE OF DETROIT: SIXTH GRADE MATHEMATICS STANDARDS	SADLIER *PROGRESS IN MATHEMATICS*, GRADE 6
Apply and extend previous understandings of multiplication and division.	
6.NS.A.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi? Compute fluently with multi-digit numbers and find common factors and multiples.*	**8-5 Meaning of Division—pp. 258–259** Objective(s): To understand division with fractions. ***8-5A Dividing with Fractions** Objective(s): To write a problem for a division expression involving the division of two fractions. To use a visual fraction model to show a quotient. **8-6 Divide Fractions by Fractions—pp. 260–261** Objective(s): To divide a fraction by a fraction. **8-8 Divide with Whole and Mixed Numbers—pp. 264–265** Objective(s): To divide fractions by whole numbers and whole numbers by fractions. To divide with mixed numbers. **8-9 Order of Operations with Fractions—pp. 266–267** Objective(s): To apply the order of operations to fractional computation. To simplify using the distributive property.
6.NS.A.2 Understand division of fractions and whole numbers as the inverse of multiplication (e.g., 4/2=4 x 1/2).	**8-3 Properties of Multiplication** (multiplicative inverses)—pp. 254–255 Objective(s): To use multiplication properties with fractions. To find the reciprocal of a number.
6.NS.A.3 Solve for the unknown value in equations such as 1/4 ÷ *n* = 1/8.	**7-9 Addition and Subtraction Equations with Fractions**—pp. 238–239 Objective(s): To solve addition and subtraction equations involving fractions. **8-12 Multiplication and Division Equations with Fractions**—pp. 272–273 Objective(s): To solve multiplication and division equations involving fractions. To use formulas to convert between temperatures in degrees Celsius and degrees Fahrenheit.
6.NS.A.4 Multiply and divide any two fractions, including mixed numbers, fluently.	**8-1 Multiply Fractions by Fractions**—pp. 250–251 Objective(s): To multiply fractions by fractions, simplifying using the GCF when possible. **8-2 Multiply Fractions and Whole Numbers**—pp. 252–253 Objective(s): To multiply fractions and whole numbers. **8-4 Multiply Mixed Numbers**—pp. 256–257 Objective(s): To multiply mixed numbers. **8-5 Meaning of Division**—pp. 258–259 Objective(s): To understand division with fractions. ***8-5A Dividing with Fractions**—Online Objective(s): To write a problem for a division expression involving the division of two fractions. To use a visual fraction model to show a quotient. **8-6 Divide Fractions by Fractions**—pp. 260–261 Objective(s): To divide a fraction by a fraction. **8-8 Divide with Whole and Mixed Numbers**—pp. 264–265 Objective(s): To divide fractions by whole numbers and whole numbers by fractions. To divide with mixed numbers.

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

6.NS.B.5	Fluently divide multi-digit numbers using the standard algorithm.	**Skills Update: Trial Quotients**—p. 10 **Skills Update: Divide Whole Numbers**—p. 11 **3-1 Short Division**—pp. 88–89 　　Objective(s): To use short division to find quotients. 　　　　　　To use divisibility rules to predict if a quotient will have a remainder. **3-2 Estimate Quotients**—pp. 90–91 　　Objective(s): To estimate quotients using compatible numbers. **3-3 Divide Whole Numbers**—pp. 92–93 　　Objective(s): To divide whole numbers in thousands by 2- and 3-digit numbers. 　　　　　　To divide with zeros in the quotient.
6.NS.B.6	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	**Skills Update: Add Whole Numbers and Decimals**—p. 5 **Skills Update: Subtract Whole Numbers and Decimals**—p. 6 **1-7 Addition of Whole Numbers and Decimals**—pp. 46–47 　　Objective(s): To add whole numbers and decimals. **1-8 Subtraction of Whole Numbers and Decimals**—pp. 48–49 　　Objective(s): To subtract decimals through thousandths. 　　　　　　To subtract money amounts. **1-9 Addition and Subtraction of Decimals**—pp. 50–51 　　Objective(s): To add three or more decimals. 　　　　　　To subtract decimals with multiple regroupings. **2-3 Multiply Whole Numbers**—pp. 70–71 　　Objective(s): To multiply with zeros in one or more factors. **2-4 Multiply with Decimals**—pp. 72–73 　　Objective(s): To multiply decimals by whole numbers. 　　　　　　To multiply decimals by decimals. **3-4 Divide Decimals by 10, 100, and 1,000**—pp. 94–95 　　Objective(s): To divide decimals by powers of ten. 　　　　　　To write decimals less than 1 in scientific notation. **3-5 Divide Decimals by Whole Numbers**—pp. 96–97 　　Objective(s): To divide decimals by whole numbers. **3-6 Patterns with Tenths, Hundredths, and Thousandths**—pp. 98–99 　　Objective(s): To divide whole numbers and decimals by 0.1, 0.01, and 0.001. **3-7 Estimate Decimal Quotients**—pp. 100–101 　　Objective(s): To estimate quotients of two decimals. **3-8 Decimal Divisors**—pp. 102–103 　　Objective(s): To divide decimals by decimals. **3-9 Zeros in Division**—pp. 104–105 　　　　　　Objective(s): To divide decimals by inserting zeros in dividend or quotient
6.NS.B.7	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.	**6-5 Greatest Common Factor**—pp. 186–187 　　Objective(s): To find the greatest common factor of two or more numbers. ***6-5A The Distributive Property and Common Factors**—Online 　　Objective(s): To 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.

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	6-6 Fractions in Simplest Form—pp. 188–189 Objective(s): To express fractions in simplest form. **6-9 Least Common Multiple**—pp. 194–195 Objective(s): To find the least common multiple (LCM) of two or more numbers.
6.NS.B.8 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. *For example, express 36 + 8 as 4(9+ 2). Apply and extend previous understandings of numbers to the system of rational numbers.*	***6-5A The Distributive Property and Common Factors**—Online Objective(s): To 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.
6.NS.B.9 Find the greatest common factor and least common multiple for two or more whole numbers using prime factorization.	**6-5 Greatest Common Factor**—pp. 186–187 Objective(s): To find the greatest common factor of two or more numbers. **6-9 Least Common Multiple**—pp. 194–195 Objective(s): To find the least common multiple (LCM) of two or more numbers.
Apply and extend previous understandings of numbers to the system of rational numbers.	
6.NS.C.10 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.	**5-1 Integers**—pp. 150–151 Objective(s): To locate integers and their opposites on a number line. To understand the meaning of the absolute value of an integer. To name an integer to represent a situation. ***5-1A Integers in the Real World**—Online Objective(s): To use positive and negative numbers to represent quantities in the real world and to explain the meaning of 0 in each situation.
6.NS.C.11 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 coordinate.	
6.NS.C.11a 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, e.g., –(–3) = 3, and that 0 is its own opposite. Understand that 0 is an integer that is neither negative nor positive.	**5-1 Integers**—pp. 150–151 Objective(s): To locate integers and their opposites on a number line. To understand the meaning of the absolute value of an integer. To name an integer to represent a situation. ***5-1A Integers in the Real World**—Online Objective(s): To use positive and negative numbers to represent quantities in the real world and to explain the meaning of 0 in each situation.
6.NS.C.11b 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.	**14-5 Graph Ordered Pairs**—pp. 504–505 Objective(s): To name ordered pairs for points on a coordinate plane, and vice versa. To graph points in all four quadrants.

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6.NS.C.11c 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.	**6-16 Rational Numbers**—pp. 208–209 Objective(s): To identify rational numbers and their opposites. To show rational numbers on a number line. **6-17 Compare and Order Rational Numbers**—pp. 210–211 Objective(s): To compare rational numbers. To order rational numbers. ***14-5A Distances and the Coordinate Plane**—Online Objective(s): To find distances between points with the same first coordinate or the same second coordinate in a coordinate plane. To solve real-world problems by graphing points in all four quadrants of a coordinate plane.
6.NS.C.12 Understand that rational numbers are quotients of integers (non- zero denominators); a rational number is either a fraction or a negative fraction.	**6-16 Rational Numbers**—pp. 208–209 Objective(s): To identify rational numbers and their opposites. To show rational numbers on a number line.
6.NS.C.13 Understand that a fraction or a negative fraction is a quotient of two integers (-8/3 is -8÷3).	
6.NS.C.13a Represent rational numbers as fractions or decimals (terminating or repeating) when possible, and translate between the representations.	**6-16 Rational Numbers**—pp. 208–209 Objective(s): To identify rational numbers and their opposites. To show rational numbers on a number line.
6.NS.C.14 Add, subtract, multiply, and divide positive rational numbers fluently.	**Skills Update: Add Whole Numbers and Decimals**—p. 5 **Skills Update: Subtract Whole Numbers and Decimals**—p. 6 **Skills Update: Properties of Addition and Multiplication**—p. 8 **Skills Update: Multiply 1- and 2-Digit Numbers**—p. 9 **Skills Update: Divide Whole Numbers**—p. 11 **Skills Update: Add and Subtract Fractions: Like Denominators**—p. 12 **1-7 Addition of Whole Numbers and Decimals**—pp. 46–47 Objective(s): To add whole numbers and decimals. **1-8 Subtraction of Whole Numbers and Decimals**—pp. 48–49 Objective(s): To subtract decimals through thousandths. To subtract money amounts. **1-9 Addition and Subtraction of Decimals**—pp. 50–51 Objective(s): To add three or more decimals. To subtract decimals with multiple regroupings. **2-3 Multiply Whole Numbers**—pp. 70–71 Objective(s): To multiply with zeros in one or more factors. **2-4 Multiply with Decimals**—pp. 72–73 Objective(s): To multiply decimals by whole numbers. To multiply decimals by decimals. **3-3 Divide Whole Numbers**—pp. 92–93 Objective(s): To divide whole numbers in thousands by 2- and 3-digit numbers. To divide with zeros in the quotient. **3-4 Divide Decimals by 10, 100, and 1,000**—pp. 94–95 Objective(s): To divide decimals by powers of ten. To write decimals less than 1 in scientific notation. **3-5 Divide Decimals by Whole Numbers**—pp. 96–97 Objective(s): To divide decimals by whole numbers. **3-8 Decimal Divisors**—pp. 102–103 Objective(s): To divide decimals by decimals. **7-3 Add Fractions**—pp. 226–227 Objective(s): To add fractions with unlike denominators.

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	7-4 Add Mixed Numbers—pp. 228–229 Objective(s): To add mixed numbers. **7-5 Subtract Fractions**—pp. 230–231 Objective(s): To subtract fractions with unlike denominators. **7-6 Subtract Mixed Numbers**—pp. 232–233 Objective(s): To subtract mixed numbers. **7-7 Mental Math: Addition and Subtraction**—pp. 234–235 Objective(s): To use the strategies of breaking apart into whole numbers and fractions, looking for sums of 1, and compensating to add and subtract fractions and mixed numbers mentally. **8-1 Multiply Fractions by Fractions**—pp. 250–251 Objective(s): To multiply fractions by fractions, simplifying using the GCF when possible. **8-2 Multiply Fractions and Whole Numbers**—pp. 252–253 Objective(s): To multiply fractions and whole numbers. **8-4 Multiply Mixed Numbers**—pp. 256–257 Objective(s): To multiply mixed numbers. ***8-5A Dividing with Fractions**—Online Objective(s): To write a problem for a division expression involving the division of two fractions. To use a visual fraction model to show a quotient. **8-6 Divide Fractions by Fractions**—pp. 260–261 **8-8 Divide with Whole and Mixed Numbers**—pp. 264–265 Objective(s): To divide fractions by whole numbers and whole numbers by fractions. To divide with mixed numbers.
6.NS.C.15 Understand integer subtraction as the inverse of integer addition.	**5-4 Subtract Integers**—pp. 156–157 Objective(s): To subtract integers.
6.NS.C.16 Understand integer division as the inverse of integer multiplication.	**5-6 Divide Integers**—pp. 160–161 Objective(s): To divide integers.
6.NS.C.17 Add and multiply integers between -10 and 10; subtract and divide integers using the related facts. Use the number line and chip models for addition and subtraction.	**5-3 Add Integers**—pp. 154–155 Objective(s): To add integers using a number line. To add integers using absolute value. **5-4 Subtract Integers**—pp. 156–157 Objective(s): To subtract integers. **5-5 Multiply Integers**—pp. 158–159 Objective(s): To multiply integers. **5-6 Divide Integers**—pp. 160–161 Objective(s): To divide integers.
6.NS.C.18 Understand and use positive exponents with integers.	
6.NS.C.18a Express numbers in scientific notation.	**2-6 Scientific Notation**—pp. 76–77 Objective(s): To write large whole numbers in scientific notation. To write numbers expressed in scientific notation as whole numbers.
6.NS.C.19 Understand the concept of square root and cube root.	**Enrichment: Square Roots**—p. 83 *Cube root introduced in Grade 8: Lesson *12-5A Perfect Cubes and Cube Roots—Online

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6.NS.C.20	Understand ordering and absolute value of rational numbers.	
6.NS.C.20a	Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *For example, interpret –3 > –7 as a statement that –3 is located to the right of –7 on a number line oriented from left to right.*	**4-4 Equations and Inequalities**—pp. 128–129 Objective(s): To translate English statements into equations and inequalities. To determine whether an equation or an inequality is true or false, and true or false. To determine whether a given value is a solution to an equation or inequality. ***4-4A Inequalities**—Online Objective(s): To translate word sentences into inequalities. To determine whether a given value is a solution of an inequality. To graph the solution to an inequality on the number line. ***4-4B Write Inequalities**—Online Objective(s): To write an inequality of the form $x > c$ or $x < c$ to represent a constraint or a condition in the real world.
6.NS.C.20b	Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write –3ºC > –7ºC to express the fact that –3ºC is warmer than –7ºC.*	***5-1A Integers in the Real World**—Online Objective(s): To use positive and negative numbers to represent quantities in the real world and to explain the meaning of 0 in each situation. **5-2 Compare and Order Integers**—pp. 152–153 Objective(s): To compare and order integers. ***5-2A Use Reasoning to Compare and Order Rational Numbers**—Online Objective(s): To interpret comparisons of rational numbers and absolute values in real world situations. To distinguish comparisons of absolute value of inequalities from statements about order.
6.NS.C.20c	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. *For example, for an account balance of –30 dollars, write |–30| = 30 to describe the size of the debt in dollars.*	**5-1 Integers**—pp. 150–151 Objective(s): To locate integers and their opposites on a number line. To understand the meaning of the absolute value of an integer. To name an integer to represent a situation.
6.NS.C.20d	Distinguish comparisons of absolute value from statements about order. *For example, recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars.*	***5-2A Use Reasoning to Compare and Order Rational Numbers**—Online Objective(s): To interpret comparisons of rational numbers and absolute values in real world situations. To distinguish comparisons of absolute value of inequalities from statements about order.
6.NS.C.21	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.	***14-5A Distances and the Coordinate Plane**—Online Objective(s): To find distances between points with the same first coordinate or the same second coordinate in a coordinate plane. To solve real-world problems by graphing points in all four quadrants of a coordinate plane.

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Apply and extend previous understandings of arithmetic to algebraic expressions.	
6.EE.A.1 Write and evaluate numerical expressions involving whole-number exponents.	**1-3 Place Value and Exponents**—pp. 38–39 Objective(s): To write exponential expressions in standard form and vice versa. To write the expanded form of a number using exponents, and vice versa. **2-5 Exponents**—pp. 74–75 Objective(s): To rename numbers expressed in exponential form, factor form, and standard form. **4-1 Order of Operations**—pp. 122–123 Objective(s): To use order of operations to compute with whole numbers. ***4-2A Expressions Involving Exponents**—Online Objective(s): To write and evaluate numerical expressions involving exponents. **4-3 Evaluate Algebraic Expressions**—pp. 126–127 Objective(s): To apply the order of operations to evaluate algebraic expressions when values for variables are given. To combine like terms in algebraic expressions. **8-9 Order of Operations with Fractions**—pp. 266–267 Objective(s): To apply the order of operations to fractional computation. To simplify using the distributive property.
6.EE.A.2 Write, read, and evaluate expressions in which letters stand for numbers (variables).	
6.EE.A.2a Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as 5 – y, or 8 is less than y as y - 8.*	**1-10 Addition and Subtraction Expressions** (variables)—pp. 52–53 Objective(s): To write word expressions as numerical expressions and vice versa. To write word expressions as algebraic expressions and vice versa. **3-10 Multiplication and Division Expressions** (variables)—pp. 106–107 Objective(s): To write English expressions to match numerical and algebraic expressions involving multiplication and division. To write numerical and algebraic expressions to match English expressions containing multiplication and division concepts. **4-2 Translate Expressions** (variables)—pp. 124–125 Objective(s): To translate multistep English expressions to algebraic expressions. To translate multistep algebraic expressions into English expressions.

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6.EE.A.2b Identify parts of an expression using mathematical terms (sum, difference, product, quotient, term, factor, coefficient, variable, constant); view one or more parts of an expression as a single entity. *For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.*	**1-10 Addition and Subtraction Expressions** (variable)—pp. 52–53
	    Objective(s): To write word expressions as numerical expressions and vice versa.
	    To write word expressions as algebraic expressions and vice versa.
	3-10 Multiplication and Division Expressions—pp. 106–107
	    Objective(s): To write English expressions to match numerical and algebraic expressions involving multiplication and division.
	    To write numerical and algebraic expressions to match English expressions containing multiplication and division concepts.
	*4-1A Expressions—Online
	    Objective(s): To identify the parts of an expression using the mathematical terms: sum, term, product, factor, quotient, coefficient.
	4-2 Translate Expressions—pp. 124–125
	    Objective(s): To translate multistep English expressions to algebraic expressions.
	    To translate multistep algebraic expressions into English expressions.

6.EE.A.2c Evaluate expressions. Include expressions that arise from formulas used in real-world problems. *For example, use the formulas $V = s^3$ and $A = 6s^2$ to find the volume and surface area of a cube with sides of length s = 1/2.* (Order of Operations).	**1-11 Evaluate Addition and Subtraction Expressions**—pp. 54–55
	    Objective(s): To find the value of algebraic expressions involving addition or subtraction.
	2-5 Exponents—pp. 74–75
	    Objective(s): To rename numbers expressed in exponential form, factor form, and standard form.
	3-11 Evaluate Multiplication and Division Expressions—pp. 108–109
	    Objective(s): To find the value of algebraic expressions involving multiplication or division.
	4-1 Order of Operations—pp. 122–123
	    Objective(s): To use order of operations to compute with whole numbers.
	13-16 Volume of Prisms—pp. 478–479
	    Objective(s): To use formulas to find the volume of cubes and rectangular prisms.
	13-17 Volume of Triangular Prisms and Cylinders—pp. 480–481
	    Objective(s): To use formulas to find the volume of triangular prisms and cylinders.
	13-18 Volume of Pyramids—pp. 482–483
	    Objective(s): To use a formula to find the volume of a pyramid.
	13-19 Use Formulas to Solve Problems—pp. 484–485
	    Objective(s): To use perimeter and area formulas to solve problems involving irregular or compound figures.

6.EE.A.3 Apply the properties of operations to generate equivalent expressions. *For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y.*	**Skills Update: Properties of Addition and Multiplication**—p. 8
	4-2 Translate Expressions—pp. 124–125
	    Objective(s): To translate multistep English expressions to algebraic expressions.
	    To translate multistep algebraic expressions into English expressions.
	*4-3A Equivalent Expressions—Online
	    Objective(s): To determine whether two expressions are equivalent by evaluating both expressions at specific values of the variable.

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	*4-3B Simplify Expressions (Commutative Property, Associative Property, Distributive Property)—Online Objective(s): To simplify first-degree expressions by combining like terms. To apply properties to justify steps in a simplification. ***6-5A The Distributive Property and Common Factors**—Online Objective(s): To 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. **7-1 Addition Properties: Fractions**—pp. 222–223 Objective(s): To apply addition properties to computations with fractions. **8-3 Properties of Multiplication**—pp. 254–255 Objective(s): To use multiplication properties with fractions. To find the reciprocal of a number.
6.EE.A.4 Identify and explain when two expressions are equivalent. *For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.*	***4-3A Equivalent Expressions**—Online Objective(s): To determine whether two expressions are equivalent by evaluating both expressions at specific values of the variable.
Reason about and solve one-variable equations and inequalities.	
6.EE.B.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.	**4-4 Equations and Inequalities**—pp. 128–129 Objective(s): To translate English statements into equations and inequalities. To determine whether an equation or an inequality is true or false, and true or false. To determine whether a given value is a solution to an equation or inequality.
6.EE.B.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.	**1-10 Addition and Subtraction Expressions** (variable)—pp. 52–53 Objective(s): To write word expressions as numerical expressions and vice versa. To write word expressions as algebraic expressions and vice versa. **1-11 Evaluate Addition and Subtraction Expressions**—pp. 54–55 Objective(s): To find the value of algebraic expressions involving addition or subtraction. **3-10 Multiplication and Division Expressions**—pp. 106–107 Objective(s): To write English expressions to match numerical and algebraic expressions involving multiplication and division. To write numerical and algebraic expressions to match English expressions containing multiplication and division concepts. **3-11 Evaluate Multiplication and Division Expressions**—pp. 108–109 Objective(s): To find the value of algebraic expressions involving multiplication or division. **4-2 Translate Expressions**—pp. 124–125 Objective(s): To translate multistep English expressions to algebraic expressions. To translate multistep algebraic expressions into English expressions.

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	4-3 Evaluate Algebraic Expressions—pp. 126–127 Objective(s): To apply the order of operations to evaluate algebraic expressions when values for variables are given. To combine like terms in algebraic expressions. ***4-3B Simplify Expressions** (Commutative Property, Associative Property, Distributive Property)—Online Objective(s): To simplify first-degree expressions by combining like terms. To apply properties to justify steps in a simplification.
6.EE.B.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.	**1-12 Problem Solving Strategy: Write an Equation**—pp. 56–57 Objective(s): To solve problems by writing an equation. **4-5 Addition Equations**—pp. 130–131 Objective(s): To solve addition equations using the subtraction property of equality. **4-6 Subtraction Equations**—pp. 132–133 Objective(s): To solve algebraic subtraction equations using the addition property of equality. To solve algebraic subtraction equations using a related sentence when the subtrahend is unknown. **4-7 Multiplication and Division Equations**—pp. 134–135 Objective(s): To solve algebraic multiplication equations using the division property of equality. To solve algebraic division equations using the multiplication property of equality when the dividend is unknown. To solve algebraic division equations using a related sentence when the divisor is unknown. ***4-7A Write an Equation**—Online Objective(s): To write an equation equivalent to an equation with an unknown operand. To find the missing factor in an equation. **4-8 Use Formulas**—pp. 136–137 Objective(s): To use formulas to solve problems. **4-10 Problem Solving Strategy: Use More Than One Step** (write and solve an equation)—pp. 140–141 Objective(s): To solve problems that use more than one step. **7-9 Addition and Subtraction Equations with Fractions**—pp. 238–239 Objective(s): To solve addition and subtraction equations involving fractions. **8-12 Multiplication and Division Equations with Fractions**—pp. 272–273 Objective(s): To solve multiplication and division equations involving fractions. To use formulas to convert between temperatures in degrees Celsius and degrees Fahrenheit. **14-1 Two-Step Equations**—pp. 496–497 Objective(s): To write and solve two-step algebraic equations. **14-2 Addition and Subtraction Equations with Integers**—pp. 498–499 Objective(s): To write and solve addition and subtraction equations involving integers. **14-3 Multiplication and Division Equations with Integers**—pp. 500–501 Objective(s): To write and solve 1- and 2-step equations involving multiplication, division, and integers.

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6.EE.B.8 Distinguish between an algebraic expression and an equation.	**1-10 Addition and Subtraction Expressions**—pp. 52–53 Objective(s): To write word expressions as numerical expressions and vice versa. To write word expressions as algebraic expressions and vice versa. **1-11 Evaluate Addition and Subtraction Expressions**—pp. 54–55 Objective(s): To find the value of algebraic expressions involving addition or subtraction. **1-12 Problem Solving Strategy: Write an Equation**—pp. 56–57 Objective(s): To solve problems by writing an equation. **3-10 Multiplication and Division Expressions**—pp. 106–107 Objective(s): To write English expressions to match numerical and algebraic expressions involving multiplication and division. To write numerical and algebraic expressions to match English expressions containing multiplication and division concepts. ***4-7A Write an Equation**—Online Objective(s): To write an equation equivalent to an equation with an unknown operand. To find the missing factor in an equation.
6.EE.B.9 Understand that adding or subtracting the same number to both sides of an equation creates a new equation that has the same solution.	**4-5 Addition Equations**—pp. 130–131 Objective(s): To solve addition equations using the subtraction property of equality. **4-6 Subtraction Equations**—pp. 132–133 Objective(s): To solve algebraic subtraction equations using the addition property of equality. To solve algebraic subtraction equations using a related sentence when the subtrahend is unknown.
6.EE.B.10 Understand that multiplying or dividing both sides of an equation by the same non-zero number creates a new equation that has the same solutions.	**4-7 Multiplication and Division Equations**—pp. 134–135 Objective(s): To solve algebraic multiplication equations using the division property of equality. To solve algebraic division equations using the multiplication property of equality when the dividend is unknown. To solve algebraic division equations using a related sentence when the divisor is unknown.
6.EE.B.11 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.	**4-4 Equations and Inequalities**—pp. 128–129 Objective(s): To translate English statements into equations and inequalities. To determine whether an equation or an inequality is true or false, and true or false. To determine whether a given value is a solution to an equation or inequality. ***4-4A Inequalities**—Online Objective(s): To translate word sentences into inequalities. To determine whether a given value is a solution of an inequality. To graph the solution to an inequality on the number line. ***4-4B Write Inequalities**—Online Objective(s): To write an inequality of the form $x > c$ or $x < c$ to represent a constraint or a condition in the real world.

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Represent and analyze quantitative relationships between dependent and independent variables.	
6.EE.C.12 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. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.*	***14-4A Independent and Dependent Variables**—Online Objective(s): To distinguish between independent and dependent variables. To write an equation from a list of values that describes the relationship between two variables. ***14-8A Related Variables**—Online Objective(s): To analyze the relationship between the independent and dependent variable using tables. To graph the relationship between two variables. To relate tables and graphs to equations.
Represent Linear Functions Using Tables, Equations, and Graphs	
6.EE.D.13 Understand that relationships between quantities can be represented by graphs and tables.	***14-7A Model Rates**—Online Objective(s): To graph equivalent rates on a coordinate plane. To observe the patterns in a graph of equivalent rates. ***14-8A Related Variables**—Online Objective(s): To analyze the relationship between the independent and dependent variable using tables. To graph the relationship between two variables. To relate tables and graphs to equations.
6.EE.D.14 Solve simple problems involving linear functions whose input values are integers; write the equation; graph the resulting ordered pairs of integers.	**14-4 Functions and Ordered Pairs**—pp. 502–503 Objective(s): To write ordered pairs of numbers for a given function rule. To complete function tables. **14-5 Graph Ordered Pairs**—pp. 504–505 Objective(s): To name ordered pairs for points on a coordinate plane, and vice versa. To graph points in all four quadrants. **14-8 Graph Functions**—pp. 510–511 Objective(s): To complete a function table to find (x, y) coordinates. To write an equation for a linear function. To graph linear functions on a coordinate plane.
6.NS.D.15 Represent simple relationships between quantities using verbal descriptions, formulas or equations, tables, and graphs.	**4-5 Addition Equations**—pp. 130–131 Objective(s): To solve addition equations using the subtraction property of equality. **4-6 Subtraction Equations**—pp. 132–133 Objective(s): To solve algebraic subtraction equations using the addition property of equality. To solve algebraic subtraction equations using a related sentence when the subtrahend is unknown. **4-7 Multiplication and Division Equations**—pp. 134–135 Objective(s): To solve algebraic multiplication equations using the division property of equality. To solve algebraic division equations using the multiplication property of equality when the dividend is unknown. To solve algebraic division equations using a related sentence when the divisor is unknown.

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	*4-7A Write an Equation—Online
	Objective(s): To write an equation equivalent to an equation with an unknown operand.
	To find the missing factor in an equation.
	4-8 Use Formulas—pp. 136–137
	Objective(s): To use formulas to solve problems.
	4-10 Problem Solving Strategy: Use More Than One Step (write and solve an equation)—pp. 140–141
	Objective(s): To solve problems that use more than one step.
	5-10 Problem Solving Strategy: Make a Table—pp. 168–169
	Objective(s): To solve problems by making a table.
	7-9 Addition and Subtraction Equations with Fractions—pp. 238–239
	Objective(s): To solve addition and subtraction equations involving fractions.
	8-12 Multiplication and Division Equations with Fractions—pp. 272–273
	Objective(s): To solve multiplication and division equations involving fractions.
	To use formulas to convert between temperatures in degrees Celsius and degrees Fahrenheit.
	*11-3A Compare Ratios—Online
	Objective(s): To use tables to compare ratios
	To compare ratios to solve real-world problems.
	14-5 Graph Ordered Pairs—pp. 504–505
	Objective(s): To name ordered pairs for points on a coordinate plane, and vice versa.
	To graph points in all four quadrants.
	*14-7A Model Rates—Online
	Objective(s): To graph equivalent rates on a coordinate plane.
	To observe the patterns in a graph of equivalent rates.
	*14-8A Related Variables—Online
	Objective(s): To analyze the relationship between the independent and dependent variable using tables.
	To graph the relationship between two variables.
	To relate tables and graphs to equations.
	14-8 Graph Functions—pp. 510–511
	Objective(s): To complete a function table to find (x, y) coordinates.
	To write an equation for a linear function.
	To graph linear functions on a coordinate plane.

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Geometry

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

5.G.A.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.

13-9 Area of Rectangles and Squares—pp. 464–465
Objective(s): To use formulas to find the areas of rectangles, squares, and complex figures.
13-10 Area of Triangles and Parallelograms—pp. 466–467
Objective(s): To use formulas to find the area of parallelograms and triangles.
13-11 Area of Trapezoids—pp. 468–469
Objective(s): To use a formula to find the area of a trapezoid.
***13-11A Plane Figures and Area**—Online
Objective(s): To find the area of a figure by decomposing into known shapes
To solve real-world problems involving the composition and decomposition of area.

5.G.A.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.

13-16 Volume of Prisms—pp. 478–479
Objective(s): To use formulas to find the volume of cubes and rectangular prisms.
***13-16A Use Partial Cubes to Find Volume**—Online
Objective(s): To use a model to find the volume of a rectangular prism with a fractional dimension by counting unit cubes with fractional sides.
***13-16B Volume of a Prism**—Online
Objective(s): To find the volume of a rectangular prism with a fractional dimension by using an equation and comparing to the volume found by counting unit cubes with fractional sides.

5.G.A.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.

14-5 Graph Ordered Pairs—pp. 504–505
Objective(s): To name ordered pairs for points on a coordinate plane, and vice versa
To graph points in all four quadrants.
***14-5B Graphing Polygons**—Online
Objective(s): To calculate vertical and horizontal distances on a coordinate plane
To graph parallelograms, triangles, and trapezoids on the coordinate plane by using the coordinates of their vertices.
14-6 Graph Reflections and Translations—pp. 506–507
Objective(s): To graph reflections and translations of geometric figures on a coordinate plane.
14-7 Graph Rotations—pp. 508–509
Objective(s): To graph rotations on a coordinate plane.

5.G.A.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.

10-17 Solid Figures—pp. 362–363
Objective(s): To classify solid figures.
***13-13A Use Nets to Find Surface Area**—Online
Objective(s): To find the surface area of a prism by calculating the surface area of each surface of the net that makes the figure.
13-14 Surface Area of Cubes, Rectangular Prisms, and Cylinders— pp. 474–475
Objective(s): To use formulas to find the surface area of cubes, rectangular prisms, and cylinders.

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	13-15 Surface Area of Pyramids and Triangular Prisms—pp. 476–477 Objective(s): To find the surface areas of square pyramids and triangular prisms. **Blackline Masters: Nets**—TE p. T54
5.G.A.5 Understand and apply basic properties of lines, and angles.	
5.G.A.5a Understand congruence of corresponding and alternate interior angles when parallel lines are cut by transversal, and that such congruencies imply parallel lines.	**Skills Update: Lines: Intersecting and Parallel**—p. 18 **10-13 Congruent and Similar Polygons**—pp. 354–355 Objective(s): To identify congruent and similar polygons and their corresponding parts. **10-4 Angles of Parallel Lines**—pp. 336–337 Objective(s): To identify interior angles, exterior angles, corresponding angles, alternate interior angles, and alternate exterior angles.
5.G.A.5b Locate interior and exterior angles of any triangle, and use the property that an exterior angle of a triangle is equal to the sum of the remote (opposite) interior angles.	**10-4 Angles of Parallel Lines**—pp. 336–337 Objective(s): To identify interior angles, exterior angles, corresponding angles, alternate interior angles, and alternate exterior angles. **10-10 Angles of Triangles and Quadrilaterals**—pp. 348–349 Objective(s): To learn about the sums of the measures of the interior angles of triangles and quadrilaterals. To find the measure of the third angle in a triangle when two angle measures are known and the measure of the fourth angle in a quadrilateral when three angle measures are known.
5.G.A.6 Understand and apply basic properties of triangles, including: triangle inequality relationships of vertical angles, complementary angles, supplementary angles.	**10-10 Angles of Triangles and Quadrilaterals**—pp. 348–349 Objective(s): To learn about the sums of the measures of the interior angles of triangles and quadrilaterals. To find the measure of the third angle in a triangle when two angle measures are known and the measure of the fourth angle in a quadrilateral when three angle measures are known.
5.G.A.7 Understand that for polygons, congruence means corresponding sides and angles have equal measures.	
5.G.A.7a Know that the sum of the exterior angles of a convex polygon is 360º.	RELATED CONTENT— **10-4 Angles of Parallel Lines** (exterior angles)—pp. 336–337 **10-10 Angles of Triangles and Quadrilaterals** (Critical Thinking—pp. 348–349
5.G.A.8 Understand the basic rigid motions (transformations) in the plane (reflections, rotations, translations).	
5.G.A.8a Understand and use simple compositions of basic rigid transformations (a translation followed by reflection).	**10-14 Transformations**—pp. 356–357 Objective(s): To identify and draw translations (slides), reflections (flips), and rotations (turns) of figures.

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Statistics & Probability

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Develop understanding of statistical variability.	
6.SP.A.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*	***9-6A Statistical Characteristics of a Data Set**—Online Objective(s): To understand that a set of data has a distribution that can be described by its center, spread, and overall shape using dot plots. To identify whether a question is a statistical question. To find and use the mean, median, and mode of a set of data.
6.SP.A.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.	**9-5 Apply Measures of Central Tendency and Range**—pp. 300–301 Objective(s): To find and use the range, mean, median, and mode of a set of data. **9-6 Analyze Data**—pp. 302–303 Objective(s): To identify clusters, gaps, and outliers for a set of data To interpret and make line plots. ***9-7A Describe Data—Online** Objective(s): To use range and interquartile range to describe the spread of a set of data To display numerical data in dot plots To summarize numerical data sets in relation to their context. **9-8 Stem-and-Leaf Plots**—pp. 306–307 Objective(s): To make and interpret a stem-and-leaf plot.
6.SP.A.3 Recognize that a measure of center (median and/or mean) 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.	**9-5 Apply Measures of Central Tendency and Range**—pp. 300–301 Objective(s): To find and use the range, mean, median, and mode of a set of data. **9-6 Analyze Data**—pp. 302–303 Objective(s): To identify clusters, gaps, and outliers for a set of data To interpret and make line plots. ***9-7A Describe Data—Online** Objective(s): To use range and interquartile range to describe the spread of a set of data To display numerical data in dot plots To summarize numerical data sets in relation to their context.
Summarize and describe distributions.	
6.SP.B.4 Display numerical data in plots on a number line, including dot plots, circle graphs, stem and leaf plots, histograms, box and whisker plots, and select appropriate representation to address questions.	**9-5 Apply Measures of Central Tendency and Range**—pp. 300–301 Objective(s): To find and use the range, mean, median, and mode of a set of data. **9-6 Analyze Data**—pp. 302–303 Objective(s): To identify clusters, gaps, and outliers for a set of data To interpret and make line plots. **9-7 Box-and-Whisker Plots**—pp. 304–305 Objective(s): To interpret box-and-whisker plots To make box-and-whisker plots to show the distribution of data. ***9-7A Describe Data—Online** Objective(s): To use range and interquartile range to describe the spread of a set of data To display numerical data in dot plots To summarize numerical data sets in relation to their context.

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	9-8 Stem-and-Leaf Plots—pp. 306–307 Objective(s): To make and interpret a stem-and-leaf plot.
6.SP.B.5 Summarize numerical data sets in relation to their context.	
6.SP.B.5a Reporting the number of observations.	***9-3A Summarize the Data**—Online Objective(s): To summarize numerical data. **9-4 Record and Interpret Data**—pp. 298–299 Objective(s): To make and interpret frequency tables. ***9-7A Describe Data**—Online Objective(s): To use range and interquartile range to describe the spread of a set of data To display numerical data in dot plots To summarize numerical data sets in relation to their context. **9-8 Stem–and–Leaf Plots**—pp. 306–307 Objective(s): To make and interpret a stem-and-leaf plot. **9-13 Histograms**—pp. 316–317 Objective(s): To make/use a frequency table in preparation for constructing a histogram To make and use a histogram.
6.SP.B.5b Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.	***9-3A Summarize the Data**—Online Objective(s): To summarize numerical data. ***9-7A Describe Data**—Online Objective(s): To use range and interquartile range to describe the spread of a set of data To display numerical data in dot plots To summarize numerical data sets in relation to their context.
6.SP.B.5c 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.	**9-5 Apply Measures of Central Tendency and Range**—pp. 300–301 Objective(s): To find and use the range, mean, median, and mode of a set of data. **9-6 Analyze Data**—pp. 302–303 Objective(s): To identify clusters, gaps, and outliers for a set of data To interpret and make line plots. ***9-6B Choosing the Best Measures to Describe Data**—Online Objective(s): To choose the best measures of central tendency and spread to describe a set of data. **9-7 Box-and-Whisker Plots**—pp. 304–305 Objective(s): To interpret box-and-whisker plots To make box-and-whisker plots to show the distribution of data. ***9-7A Describe Data**—Online Objective(s): To use range and interquartile range to describe the spread of a set of data To display numerical data in dot plots To summarize numerical data sets in relation to their context. **9-8 Stem-and-Leaf Plots**—pp. 306–307 Objective(s): To make and interpret a stem-and-leaf plot. **9-9 Line Graphs**—pp. 308–309 Objective(s): To make line graphs. To analyze line graphs.

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6.SP.B.5d 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.	***9-6B Choosing the Best Measures to Describe Data—Online** Objective(s): To choose the best measures of central tendency and spread to describe a set of data.