# Centerville-Abington Elementary Curriculum Mapping

## *Math – Excel Grade 6*

***1st Nine Weeks***

***Roderic Rinehart***

| Unit/ Chapter/ Lesson | Indiana Standard(s) | Key Questions | Resources/Activities | Vocabulary | Assessments |
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| Ch.1/Les. 7, 8, 9<br><br>Ch.7/Les. 3. 4. 5. 6. | 6.2.10 Mental math for adding and subtracting fractions and decimals<br><br>CCSS Math Practice<br>6.NS.3 Compute fluently with multi-digit decimals<br><br>5.C.8: Add, subtract, multiply, and divide decimals to hundredths, using models or drawings and strategies based on place value or the properties of operations. Describe the strategy and explain the reasoning.<br><br>5.AT.5: Solve real-world problems involving addition, subtraction, multiplication, and division with decimals to hundredths, including problems that involve money in decimal notation (e.g. by using equations to represent the problem). | How do you use mental math to add or subtract simple fractions and decimals?<br><br>**REAL LIFE APPLICATION.** Shopping on a budget, needing to calculate the approximate cost of your items real-time. | Sadlier-Oxford Progress in Mathematics | None | Chapter 1 test<br>Chapter 7 test |
| Ch.1/Les. 7, | 6.2.3 Multiply and divide | How do you add, subtract, | Sadlier-Oxford Progress in | None | Chapter 1 test |

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| 8, 9<br><br>Ch.2/Les. 4<br><br>Ch.3/Les. 5 | decimals<br><br>6.NS.3 Compute fluently with multi-digit decimals<br><br>5.C.8: Add, subtract, multiply, and divide decimals to hundredths, using models or drawings and strategies based on place value or the properties of operations. Describe the strategy and explain the reasoning.<br><br>5.AT.5: Solve real-world problems involving addition, subtraction, multiplication, and division with decimals to hundredths, including problems that involve money in decimal notation (e.g. by using equations to represent the problem). | multiply, and divide multi-digit decimals using a standard algorithm for each operation? | Mathematics | | Chapter 2 test<br>Chapter 3 test |
| Ch.2/Les. 2<br>Ch.3/Les.7 | 6.2.9 Estimation to determine reasonable answers<br><br>CCSS Math Practice<br>6.NS.3 Compute fluently with multi-digit decimals | How can you use estimation to decide whether answers are reasonable in decimal problems? | Sadlier-Oxford Progress in Mathematics | Estimation, round, acre, compatible numbers | Chapter 2 test<br>Chapter 3 test |
| Ch.1/Les. 7, 8, 9<br><br>Ch.2/Les.4<br>Ch.3/Les.5 | 6.5.10 Compute with money in decimal notation<br>6.NS.3 Compute fluently with multi-digit decimals<br>6.NS.3 Compute fluently with multi-digit decimals<br><br>5.C.8: Add, subtract, multiply, | How do you add, subtract, multiply, and divide with money in decimal notation? | Sadlier-Oxford Progress in Mathematics | None | Chapter 1 test<br>Chapter 2 test<br>Chapter 3 test |

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| | and divide decimals to hundredths, using models or drawings and strategies based on place value or the properties of operations. Describe the strategy and explain the reasoning.<br><br>5.AT.5: Solve real-world problems involving addition, subtraction, multiplication, and division with decimals to hundredths, including problems that involve money in decimal notation (e.g. by using equations to represent the problem). | | | | |
| Ch.3/Les.3 | 6.NS.2 Fluency in dividing multi-digit numbers<br><br>6.C.1: Divide multi-digit whole numbers fluently using a standard algorithmic approach. | How do you divide multi-digit number using a standard algorithm? | Sadlier-Oxford Progress in Mathematics | None | Chapter 3 test |
| Ch.4/Les.8 | 6.3.2 Write and use formulas to solve problems<br><br>6.EE.7 Writing and solving equations for real world and math problems<br><br>7.EE.4 - Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. | How do you solve real-world and math problems by writing and solving equations? | Sadlier-Oxford Progress in Mathematics | Formula, distance formula, volume formula, perimeter formula | Chapter 4 test |

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| | 6.AF.3: Define and use multiple variables when writing expressions to represent real-world and other mathematical problems, and evaluate them for given values.<br><br>6.AF.4: Understand that solving an equation or inequality is the process of answering the following 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.<br><br>6.AF.5: Solve equations of the form x + p = q, x - p = q, px = q, and x/p = q fluently for cases in which p, q and x are all nonnegative rational numbers. Represent real world problems using equations of these forms and solve such problems. | | | | |
| Ch.4/Les.1, 3 | 6.3.6 Apply order of operations and properties of real numbers<br><br>6.EE.2c Evaluate expressions at specific values of their variables<br>6.EE.3 Apply properties of operations to generate equivalent expressions | How do you evaluate expressions at specific values of variables? How do you apply properties of operations to generate equivalent expressions? | Sadlier-Oxford Progress in Mathematics | Order of operations, brackets, parentheses, fraction bars, evaluate, terms, like terms, simplify an expression | Chapter 4 test |

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| | 7.EE.1 - Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.<br><br>6.AF.2: Apply the properties of operations (e.g., identity, inverse, commutative, associative, distributive properties) to create equivalent linear expressions and to justify whether two linear expressions are equivalent when the two expressions name the same number regardless of which value is substituted into them. | | | | |
| Ch.4/Les.2 | 6.EE.2a Write expressions that record operations…<br><br>7.EE.1 - Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.<br><br>6.AF.5: Solve equations of the form x + p = q, x - p = q, px = q, and x/p = q fluently for cases in which p, q and x are all nonnegative rational numbers. Represent real world problems using equations of these forms and solve such problems. | How do you write expressions that record operations with numbers and with letters standing for numbers? | Sadlier-Oxford Progress in Mathematics | Algebraic expression, variable | Chapter 4 test |
| Ch.4/Les.3 | 6.EE.2b Identify parts of | Can you name the parts of an | Sadlier-Oxford Progress in | Evaluate, | Chapter 4 test |

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| | expression using math terms…<br><br>7.EE.1 - Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.<br><br>6.AF.3: Define and use multiple variables when writing expressions to represent real-world and other mathematical problems, and evaluate them for given values. | expression using mathematical terms, view one or more parts of an expression as a single entity? | Mathematics | simplify an expression, terms, like terms | |
| Ch.4/Les. 2, 3 | 6.3.4 Use parentheses to indicate order of operations<br><br>6.EE.2 Write, read, evaluate expressions …<br><br>7.EE.1 - Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.<br><br>6.AF.5: Solve equations of the form x + p = q, x - p = q, px = q, and x/p = q fluently for cases in which p, q and x are all nonnegative rational numbers. Represent real world problems using equations of these forms and solve such problems. | How do you read, write, and evaluate expressions in which letters stand for numbers? How are parentheses used to indicate which operation to perform first…? | Sadlier-Oxford Progress in Mathematics | Algebraic expression, variable, evaluate, simplify an expression, terms, like terms | Chapter 4 test |
| Ch.4/Les.1 | 6.EE.1 Write and evaluate numerical expressions involving whole number | How do you write and evaluate numerical expressions? | Sadlier-Oxford Progress in Mathematics | Order of operations, brackets, | Chapter 4 test |

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| | exponents<br><br>7.EE.1 - Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.<br><br>6.AF.4: Understand that solving an equation or inequality is the process of answering the following 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. | | | parentheses, fraction bars | |
| Ch.4/Les.2 | 6.EE.4 Identify when two expressions are equivalent…<br><br>7.EE.1 - Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.<br><br>6.AF.4: Understand that solving an equation or inequality is the process of answering the following 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. | How do you identify two expressions when they are equivalent? | Sadlier-Oxford Progress in Mathematics | Algebraic expression, variable | Chapter 4 test |

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| Ch.4/Les.8 | 6.3.9 How change relates to other changes in variables<br><br>6.EE.9 Use variables to represent two quantities in real world…<br><br>7.EE.1 - Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.<br>7.EE.4 - Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.<br><br>6.AF.4: Understand that solving an equation or inequality is the process of answering the following 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. | How does a change in one variable relate to a change in the second variable? | Sadlier-Oxford Progress in Mathematics | Formula, distance formula, volume formula, perimeter formula | Chapter 4 test |
| Ch.14/Les. 8 | 6.3.1 Write and solve one step linear equations…<br><br>6.EE.5 Solving an equation or inequality to answer a question<br>6.EE.6 Use variables to represent numbers… | How do you write and solve one step linear equations and inequalities in one variable and check answers? | Sadlier-Oxford Progress in Mathematics | Linear function, function, function table, solution | Chapter 14 test |

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| | 7.EE.3 - Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically.<br><br>6.AF.4: Understand that solving an equation or inequality is the process of answering the following 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. | | | | |
| Ch.14/Les. 4, 5 | 6.3.7 Graph ordered pairs, four quadrants in coordinate plane<br><br>6.NS.6 Rational numbers on number line<br>6.NS.6b Signs of numbers in ordered pairs indicating locations<br>6.NS.6c Find and position integers on diagrams…<br><br>6.AF.7: Understand that signs of numbers in ordered pairs indicate the quadrant containing the point; recognize that when two ordered pairs differ only by signs, the locations of the | How do you identify and graph ordered pairs in four quadrants of a coordinate plane? | Sadlier-Oxford Progress in Mathematics | Function, ordered pair, function table, function rule, coordinate plane, x-axis, y-axis, x-coordinate, y-coordinate, quadrant, coordinates, graph, coordinate axes, origin | Chapter 14 test |

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| | points are related by reflections across one or both axes. Graph points with rational number coordinates on a coordinate plane.<br><br>6.AF.8: Solve real-world and other mathematical problems by graphing points with rational number coordinates on a coordinate plane. Include the use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. | | | | |
| Ch.14/Les.8 | 6.3.8 Linear functions with integer values<br><br>6.EE.9 Variables to represent two quantities in real world problems…<br><br>7.EE.4 - Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.<br><br>6.NS.2: Understand the integer number system. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of | How do you solve problems involving linear functions with integer values? | Sadlier-Oxford Progress in Mathematics | Function, function table, linear function, solution | Chapter 14 test |

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| | the opposite of a number is the number itself (e.g., –(–3) = 3), and that 0 is its own opposite. | | | | |
| Ch.14/Les. 5, 6, 7 | 6.G.3 Polygons and coordinate planes…<br><br>6.AF.8: Solve real-world and other mathematical problems by graphing points with rational number coordinates on a coordinate plane. Include the use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. | How do you draw polygons in a coordinate plane given coordinate for vertices? How do you use a coordinate to find the length of a side to join parts with the same first coordinate or same second coordinate? | Sadlier-Oxford Progress in Mathematics | Coordinate plane, x-axis, y-axis, coordinate axes, origin, quadrant, ordered pair, coordinates, x-coordinate, y-coordinate, graph, reflection, line of reflection, image, prime notation, transfer, rotate, center of rotation, rotate image point | Chapter 14 test |

*Problem solving throughout year*
Ch.1/Les. 12, 13
Ch.2/Les.7, 8
Ch.3/Les. 13, 14
Ch.4/Les. 10, 11
Ch.7/Les. 10
Ch.14/Les. 10, 11

# Curriculum Mapping
Math – Excel Grade 6
2nd Nine Weeks

| Unit/ **Chapter/ Lesson** | Indiana **Standard(s)** | Key Questions | Resources/Activities | Vocabulary | Assessments |
|---|---|---|---|---|---|
| Ch.5/Les.1 | 6.1.1 Negative numbers<br><br>6.NS.5 Positive and negative numbers<br><br>7.NS.1.a - Describe situations in which opposite quantities combine to make 0.<br>7.NS.1.b - Understand $p + q$ as the number located a distance $\|q\|$ from $p$, in the positive or negative direction depending on whether $q$ is positive or negative.<br>7.NS.1.c - Understand subtraction of rational numbers as adding the additive inverse<br>7.NS.1.d - Apply properties of operations as strategies to add and subtract rational numbers.<br><br>6.NS.1: Understand that positive and negative numbers are used 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 | How can you apply the basic concept of negative numbers? | Sadlier-Oxford Progress in Mathematics | Integer, positive integer, negative integer, opposites, additive inverses, absolute value | Chapter 5 test |

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| | numbers to represent and compare quantities in real-world contexts, explaining the meaning of 0 in each situation.<br><br>6.NS.2: Understand the integer number system. 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. | | | | |
| Ch.5/Les. 1, 2 | 6.1.2 Absolute value<br><br>6.NS.6a Opposite signs of numbers on number line<br><br>7.NS.1.c - Understand subtraction of rational numbers as adding the additive inverse<br><br>6.NS.4: Understand that the absolute value of a number is the distance from zero on a number line. Find the absolute value of real numbers and know that the distance between two numbers on the number line is the absolute value of their difference. Interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. | How do you interpret absolute value of numbers as distance from zero on number line and find absolute value of real numbers?<br><br>**REAL LIFE APPLICATION.** Thermometers, football plays, stock market values, borrowing money, digging below ground in Minecraft. | Sadlier-Oxford Progress in Mathematics | Integer, positive integer, negative integer, opposites, additive inverses, absolute value | Chapter 5 test |
| Ch.5/Les. 3, 4 | 6.2.1 Add and subtract integers | How do you add and subtract positive and negative numbers? | Sadlier-Oxford Progress in | Integers with like signs, integers with unlike | Chapter 5 test |

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| | 7.NS.1 Add and subtract rational numbers | | Mathematics | signs, opposite of an integer | |
| Ch.5/Les.2<br>Ch.6/Les. 8, 10<br>Ch.1/Les.4 | 6.1.3 Compare and represent variety of numbers on number line<br><br>6.NS.7a Inequality statements<br><br>7.NS.1 Add and subtract rational numbers<br><br>6.NS.1: Understand that positive and negative numbers are used 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 and compare quantities in real-world contexts, explaining the meaning of 0 in each situation.<br><br>6.NS.4: Understand that the absolute value of a number is the distance from zero on a number line. Find the absolute value of real numbers and know that the distance between two numbers on the number line is the absolute value of their difference. Interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. | How can you compare and represent on a number line positive and negative integers, fractions, decimals, and mixed numbers? | Sadlier-Oxford Progress in Mathematics | Close to zero, close to half, close to one, like denominators, unlike denominators | Chapter 1 test<br>Chapter 5 test<br>Chapter 6 test |
| Ch.5/Les.5, 6 | 6.2.2 Compute positive and negative numbers | How do you multiply and divide positive and negative numbers? | Sadlier-Oxford Progress in | None | Chapter 5 test |

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| | 7.NS.2a Fractions to rational numbers | | Mathematics | | |
| Ch.5/Les.9 | 6.5.9 Temperature | How do you use formulas to convert degrees Celsius to degrees Fahrenheit? | Sadlier-Oxford Progress in Mathematics | Degrees Celsius, degrees Fahrenheit | Chapter 5 test |
| Ch.5/Les. 1. 2 | 6.NS.7d Absolute value and order<br><br>7.NS.1.c - Understand subtraction of rational numbers as adding the additive inverse | How do you distinguish comparisons of absolute value from statements about order? | Sadlier-Oxford Progress in Mathematics | Integer, positive integer, negative integer, opposites, additive inverses, absolute value | Chapter 5 test |
| Ch.6/Les. 12, 13, 14 | 6.1.4 Convert between two representations of numbers<br><br>6.RP.3c Percent of quantity | How do you express fractions and mixed numbers whose denominators are powers of 10 as decimals? How do you express decimals as fractions or mixed numbers with denominators that are powers of 10? | Sadlier-Oxford Progress in Mathematics | Powers of 10 | Chapter 6 test |
| Ch.6/Les. 16 | 6.NS.7 Absolute value<br><br>7.NS.1.c - Understand subtraction of rational numbers as adding the additive inverse | How do you order and figure out absolute value of rational numbers? | Sadlier-Oxford Progress in Mathematics | Rational numbers | Chapter 6 test |
| Ch.6/Les. 16 | 6.NS.7b Rational numbers in real world context<br><br>7.NS.3 - Solve real-world and mathematical problems involving the four<br>operations with rational numbers. | How do you write, interpret, and explain statements of order for rational numbers in real-world contexts? | Sadlier-Oxford Progress in Mathematics | Rational numbers | Chapter 6 test |
| Ch.6/Les. 16 | 6.NS.7c Absolute value and distance on number line…<br><br>6.NS.2: Understand the integer number system. Recognize opposite signs of numbers as | How do you identify rational numbers and their opposites and show rational numbers on a number line? | Sadlier-Oxford Progress in Mathematics | Rational numbers | Chapter 6 test |

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| | 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. | | | | |
| Ch.6/Les. 12, 13, 14<br>Ch.11/Les.10, 11, 12 | 6.1.4 Convert between two representations of numbers<br><br>6.RP.3c Percent of quantity | How do you convert between any two representations of numbers (fractions, decimals, and percents) without the use of a calculator? | Sadlier-Oxford Progress in Mathematics | Powers of 10, percent (%), decimal percent | Chapter 6 test<br>Chapter 11 test |
| Ch.6/Les. 5, 9 | 6.1.7 Least common multiple and greatest common factor<br><br>6.NS.4 Greatest common factor and least common multiple…<br><br>6.NS.7: Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole<br><br>numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers from 1 to 100, with a common factor as a multiple of a sum of two whole numbers with no common factor. | How do you find LCM and GCF of whole numbers? Can you use these to solve problems with fractions? | Sadlier-Oxford Progress in Mathematics | Common factors, Greatest common factor (GCF), least common multiple (LCM), prime factorization, greatest common denominator (GCD), common multiple, multiple | Chapter 6 test |
| Ch.7/Les. 11<br>Ch.8/Les. 18 | 6.2.5 Problem solving with positive fractions<br><br>6.NS.1 Interpret and compute quotients of fractions…<br><br>6.C.2: Compute with positive | How do you solve problems involving addition, subtraction, multiplication, and division of positive fractions and explain why particular operation was used for a given situation? | Sadlier-Oxford Progress in Mathematics | Bushel | Chapter 7 test<br>Chapter 8 test |

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| | fractions and positive decimals fluently using a standard algorithmic approach. | | | | |
| Ch.7/Les. 11<br>Ch.1/Les. 7, 8, 9 | 6.2.10 Mental math to compute simple fractions and decimals<br><br>CCSS Math Practice<br><br>6.C.2: Compute with positive fractions and positive decimals fluently using a standard algorithmic approach. | How do you use mental math to add or subtract simple fractions and decimals? | Sadlier-Oxford Progress in Mathematics | Break apart, compensate | Chapter 7 test<br>Chapter 1 test |
| Ch.8/Les. 14 | 6.6.4 Compound events and theoretical probability<br><br>7.SP.8 Probability using organized lists, tables, tree diagrams, and simulations | Can you show all possible outcomes for compound events in organized way and find theoretical problems for each outcome? | Sadlier-Oxford Progress in Mathematics | Compound event, tree diagram, Counting Principle, independent events, dependent events | Chapter 8 test |
| Ch.8/Les. 16 | 6.6.5 Data to estimate probability<br><br>7.SP.6 Probability of a chance…<br><br>7.SP.7 Probability models | Can you use data to estimate probability of future events?<br><br>**REAL LIFE APPLICATION.** Tracking the probability of the lottery, lightning strikes, making the NFL or NBA, becoming a millionaire, graduating from college, living to be 100, becoming a movie star, becoming a musician, making your own video game. | Sadlier-Oxford Progress in Mathematics | Odds, odds in favor, odds against | Chapter 8 test |
| Ch.8/Les. 1, 2, 4, 6, 8 | 6.2.4 Multiply & divide positive fractions and perform calculations<br><br>6.NS.1 Interpret and compute quotients of fractions and solve real world problems… | Can you explain how to multiply and divide positive fractions and perform the calculations? | Sadlier-Oxford Progress in Mathematics | None | Chapter 8 test |
| Ch.11/Les. 12 | 6.1.5 Decimal equivalents<br><br>4.NF.6 Decimal notation for | How do you recognize decimal equivalents for commonly used fractions without use of a calculator? | Sadlier-Oxford Progress in Mathematics | Decimal percent | Chapter 11 test |

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| | fractions with denominators of 10 or 100<br><br>6.C.2: Compute with positive fractions and positive decimals fluently using a standard algorithmic approach. | | | | |
| Ch.8/Les. 13 | 6.6.6 Probabilities as ratios, relative frequency…<br><br>7.SP.5 Probability of chance event has number between 0 and 1<br><br>6.AF.9: 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.<br><br>6.AF.10: Use variables to represent two quantities in a proportional relationship in a real-world problem; write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. | How can you understand and represent probability as ratios, measures of relative frequency, decimals between zero and one, percent between zero and 100, and verify probability computed are reasonable? | Sadlier-Oxford Progress in Mathematics | Probability, event, impossible, certain, theoretical probability, outcome, sample space, complementary events, mutually exclusive events, disjoint events, experimental probability, trial | Chapter 8 test |
| Ch.11/Les. 1, 2 | 6.1.6 Models to represent ratios<br><br>6.RP.3 Ratio and rate reasoning to solve real world problems | Can you use models to represent ratios? | Sadlier-Oxford Progress in Mathematics | Ratio, terms, simplest form, equivalent ratios, equivalent fractions | Chapter 11 test |

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| | 6.AF.9: 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.<br><br>6.AF.10: Use variables to represent two quantities in a proportional relationship in a real-world problem; write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. | | | | |
| Ch.11/Les.1, 2 | 6.2.6 Ratios to show relative sizes<br><br>6.RP.1 Ratio and appropriate language…<br><br>6.AF.9: 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.<br><br>6.AF.10: Use variables to represent two quantities in a proportional relationship in a real-world problem; write an equation to express one quantity, the | Can you interpret and use ratios to show relative sizes of two quantities?<br><br>**REAL LIFE APPLICATION.**<br>Using data from class on lunches (A/B/C/S/P) or grades (A/B/C/D/F) to show relative sizes comparing each of them for that day or nine weeks. | Sadlier-Oxford Progress in Mathematics | Ratio, terms, simplest form, equivalent ratios, equivalent fractions | Chapter 11 test |

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| | dependent variable, in terms of the other quantity, the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. | | | | |
| Ch.11/Les. 4, 5, 6 | 6.2.7 Proportions<br><br>6.RP.3a Tables of equivalent ratios…<br><br>7.RP.2.b - Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.<br><br>6.AF.9: 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.<br><br>6.AF.10: Use variables to represent two quantities in a proportional relationship in a real-world problem; write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. | How can you understand proportions and use them to solve problems? | Sadlier-Oxford Progress in Mathematics | Proportion, extremes, means, cross-product rules, reciprocal | Chapter 11 test |

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| Ch.11/Les. 3 | 6.RP.3b Unit rate problems<br><br>7.RP.1 - Compute unit rates<br><br>6.AF.9: 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.<br><br>6.AF.10: Use variables to represent two quantities in a proportional relationship in a real-world problem; write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. | Can you solve unit rate problems including those involving unit price and constant speed? | Sadlier-Oxford Progress in Mathematics | Rate, unit rate, unit price | Chapter 11 test |
| Ch.12/Les. 4 | 6.RP.2 Unit rate…<br><br>7.RP.1 - Compute unit rates<br><br>6.AF.9: 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.<br><br>6.AF.10: Use variables to represent two quantities in a proportional relationship in a real-world | Can you understand the concept of unit rate associated with ratio and use rate language in context of ratio relationships?<br><br>**REAL LIFE APPLICATION.**<br>Going to the grocery store and finding 10 items sold in bulk or multi-packs and sold individually and then comparing the unit rate for each item or ounce. | Sadlier-Oxford Progress in Mathematics | Rate | Chapter 12 test |

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| | problem; write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. | | | | |
| Ch.12/Les. 7, 10, 11 | 6.2.8 Discounts at sales, interest, tips<br><br>6.RP.3c Percent of quantity | Can you calculate a given percentage of quantity and solve problems involving discount at sales, interest earned, and tips? | Sadlier-Oxford Progress in Mathematics | Discount, list price, rate of discount, sale price, commission, rate of commission, straight commission, interest, principle, simple interest, rate of interest | Chapter 12 test |

*Problem solving throughout year*
Ch.5/Les. 10, 11
Ch.6/Les. 18, 19
Ch.7/Les. 10, 11
Ch.8/Les. 17, 18
Ch.11/Les. 15, 16

# Curriculum Mapping
Math – Excel Grade 6
3rd Nine Weeks

| Unit/ Chapter/ Lesson | Indiana Standard(s) | Key Questions | Resources/Activities | Vocabulary | Assessments |
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| Ch.9/Les. 4, 8 | 6.6.1 Graph, stem-and-leaf plots<br><br>6.DS.1: Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for the variability in the answers. 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.<br><br>6.DS.2: Select, create, and interpret graphical representations of numerical data, including line plots, histograms, and box plots.<br><br>6.DS.3: Formulate statistical questions; collect and organize the data (e.g., using technology); display and interpret the data with graphical representations (e.g., using technology). | How can you organize and display a single variable data in apply graph, and stem-and-leaf plots, and explain which types of graphs are appropriate for various data sets? | Sadlier-Oxford Progress in Mathematics | Frequency, cumulative frequency table, tally marks, cumulative frequency, total frequency, ungrouped frequency, related frequency, stem-and-leaf plot | Chapter 9 test |
| Ch.9/Les. 4, 9, 13 | 6.6.2 Frequency tables<br>6.SP.4 Number line, dot plots, histograms, box plots | Can you make frequency tables for numerical data, understand and find relative and cumulative frequency? | Sadlier-Oxford Progress in Mathematics | Frequency, cumulative frequency table, tally marks, cumulative | Chapter 9 test |

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| | 6.SP.5a Reporting observations<br><br>6.DS.1: Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for the variability in the answers. 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.<br><br>6.DS.2: Select, create, and interpret graphical representations of numerical data, including line plots, histograms, and box plots.<br><br>6.DS.3: Formulate statistical questions; collect and organize the data (e.g., using technology); display and interpret the data with graphical representations (e.g., using technology).<br><br>6.DS.4: Summarize numerical data sets in relation to their context in multiple ways, such as: report the number of observations; describe the nature of the attribute under investigation, including how it was measured and its units of measurement; determine quantitative measures of center (mean and/or median) and spread (range and interquartile range), as well as describe any overall | Can you use histograms of data and related frequency distribution and broken line graph for cumulative frequency?<br><br>**REAL LIFE APPLICATION.** Making a histogram for each chapter test up to this point, showing the A/B/C/D/F. | | frequency, total frequency, ungrouped frequency, related frequency, stem-and-leaf plot, histogram, line graph, trend | |

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| | pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered; and relate the choice of measures of center and spread to the shape of the data distribution and the context in which the data were gathered. | | | | |
| Ch.9/Les. 5 | 6.6.3 Mean, median, mode<br><br>6.SP.5c Patterns with measures of center and variability<br><br>6.SP.2 Statistical questions<br><br>6.SP.5d Choice of measures of center and variability to shape…<br><br>6.SP.3 Measure of center<br><br>7.SP.3 - Draw informal comparative inferences about two populations.<br><br>6.DS.1: Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for the variability in the answers. 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.<br><br>6.DS.2: Select, create, and interpret graphical representations of numerical data, including line | Can you compare mean, median, mode for a set of data and explain which measurement is most appropriate in given context?<br><br>**REAL LIFE APPLICATION.** Finding a sports player and calculating their mean, median, mode for their points, assists, rebounds, touchdowns, birdies, aces, victories, or whatever stat you choose. | Sadlier-Oxford Progress in Mathematics | Mean, median, mode, measure of central tendency, range | Chapter 9 test |

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| | plots, histograms, and box plots.<br><br>6.DS.3: Formulate statistical questions; collect and organize the data (e.g., using technology); display and interpret the data with graphical representations (e.g., using technology).<br><br>6.DS.4: Summarize numerical data sets in relation to their context in multiple ways, such as: report the number of observations; describe the nature of the attribute under investigation, including how it was measured and its units of measurement; determine quantitative measures of center (mean and/or median) and spread (range and interquartile range), as well as describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered; and relate the choice of measures of center and spread to the shape of the data distribution and the context in which the data were gathered. | | | | |
| Ch.9/Les. 1, 2 | 6.SP.1 Statistical question…<br><br>6.DS.1: Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for the variability in the answers. | Can you recognize a statistical question as one anticipates variability in data related to the question and accountability for it in the answers? | Sadlier-Oxford Progress in Mathematics | Survey, population, sample, representative sample, random sample, convenience sampling, response to survey | Chapter 9 test |

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| | 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. | | | | |
| Ch.9/Les. 6, 12 | 6.SP.5b Nature of attribute…<br><br>6.DS.4: Summarize numerical data sets in relation to their context in multiple ways, such as: report the number of observations; describe the nature of the attribute under investigation, including how it was measured and its units of measurement; determine quantitative measures of center (mean and/or median) and spread (range and interquartile range), as well as describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered; and relate the choice of measures of center and spread to the shape of the data distribution and the context in which the data were gathered. | Can you describe the nature of attributes under investigation, including how to measure and units of measure? | Sadlier-Oxford Progress in Mathematics | Line plot, clusters, gaps, outliers, misleading, expanded scale | Chapter 9 test |
| Ch.10/ Les. 3 | 6.4.2 Angle properties<br><br>7.G.5 Different angles to solve multi-step problems | Can you use properties of complementary, supplementary, and vertical angles to solve problems involving unknown angles and justify solutions? | Sadlier-Oxford Progress in Mathematics | Complementary angles, complementary, supplementary angles, supplementary, adjacent angles, linear pair, vertical angles | Chapter 10 test |

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| Ch.10/ Les.3 | 6.4.1 Angles and angle relationships<br><br>7.G.5 Different angles to solve multi-step problems | Can you identify and draw vertical, adjacent, complementary, and supplementary angles, and describe these angle relationships? | Sadlier-Oxford Progress in Mathematics | Complementary angles, complementary, supplementary angles, supplementary, adjacent angles, linear pair, vertical angles | Chapter 10 test |
| Ch.10/ Les. 8, 9 | 6.4.3 Quadrilaterals and triangles<br><br>7.G.2 Draw geometric shapes with sizes given<br><br>6.GM.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 to solve real-world and other mathematical problems. | Can you draw quadrilaterals and triangles from given information about them? | Sadlier-Oxford Progress in Mathematics | Equilateral triangle, isosceles triangle, scalene triangle, acute triangle, obtuse triangle, right triangle, isosceles right triangle, scalene obtuse triangle, congruent triangle, quadrilateral, trapezoid, rhombus, rectangle, square, parallelogram | Chapter 10 test |
| Ch.10/ Les. 10 | 6.4.4 Interior angles<br><br>8.G.5 Informal arguments to establish facts…<br><br>6.GM.2: Know that the sum of the interior angles of any triangle is 180o and that the sum of the interior angles of any quadrilateral is 360o. Use this information to solve real-world and mathematical problems. | Can you understand the sum of interior angles of any triangle is 180 degrees and the sum of interior angles of any quadrilateral is 360 degrees? | Sadlier-Oxford Progress in Mathematics | Interior angles of triangle, exterior angles of triangle | Chapter 10 test |
| Ch.10/ Les. 13 | 6.4.5 Two-dimensional shapes<br><br>8.G.5 Informal arguments to establish facts… | Can you identify and draw 2D shapes that are similar? | Sadlier-Oxford Progress in Mathematics | Congruent, similar, congruent polygons, similar polygons, corresponding parts, | Chapter 10 test |

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| Ch.10/ Les. 14 | 6.4.6 Translations, reflections<br><br>8.G.2 Two-dimensional figures and congruent… | Can you draw translations, and reflections of shapes? | Sadlier-Oxford Progress in Mathematics | Transformation, image, translation, slide, reflection, flip, rotation, turn, translation image, translation arrow, line of reflection, reflection image, rotation arrow | Chapter 10 test |
| Ch.13/ Les. 8, 9, 10 | 6.3.5 Geometric quantities<br><br>6.G.1 Area of shapes<br><br>6.G.2 Volume of right rectangular prism<br><br>6.GM.4: Find the area of complex shapes composed of polygons by composing or decomposing into simple shapes; apply this technique to solve real-world and other mathematical problems. | How do you use variables in expressions describing geometric quantities? | Sadlier-Oxford Progress in Mathematics | Perimeter, area, square unit, base, height, perpendicular, segment, lower base, upper base | Chapter 13 test |
| Ch.13/ Les. 1, 3 | 6.5.1 Standard units and tools<br><br>6.GM.1: Convert between measurement systems (English to metric and metric to English) given conversion factors, and use these conversions in solving real-world problems. | Can you select and apply appropriate standard units and tools to measure length, area, volume, time, weight, temperature, and size of angles? | Sadlier-Oxford Progress in Mathematics | Tools, inches ruler, yardstick, odometer, inches, feet, yards, miles, fluid ounces, cups, pints, quarts, gallons, weight, ounce, pounds, Ton (T) | Chapter 13 test |
| Ch.13/ Les. 9, 10, 11 | 6.5.3 Units for measuring area<br><br>6.G.1 - area | Can you understand and use large units for measuring area by comparing acres and square miles to square yards and square kilometers to square meters? | Sadlier-Oxford Progress in Mathematics | Area, square units, base, height, perpendicular segment, lower base, upper base | Chapter 13 test |
| Ch.13/ | 6.5.4 Constant Pi | Do you understand the concept of | Sadlier-Oxford | Circumference, | Chapter 13 test |

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| Les. 12, 13 | 6.G.1 - area<br><br>7.G.4 Area and circumference | constant pi as ratio of circumference to diameter of a circle? Can you develop and use formulas for circumference and area of circle? | Progress in Mathematics | diameter, radius, formulas for circumference, area of circle, formula to find area of circle | |
| Ch.13/<br>Les. 12, 13 | 6.5.5 Common estimates for Pi<br><br>7.G.4 Area and circumference | Do you know common estimates of pi and use values (3.14, 22/7) to estimate and calculate circumference and area of a circle? | Sadlier-Oxford Progress in Mathematics | Circumference, diameter, radius, formulas for circumference, area of circle, formula to find area of circle | Chapter 13 test |
| Ch.13/<br>Les. 21 | 6.5.6 Significant figures<br><br>7.G.4 Area and circumference | Do you understand concept of significant figures and round answers to appropriate numbers of significant figures? | Sadlier-Oxford Progress in Mathematics | None | Chapter 13 test |
| Ch. 13/<br>Les. 14,<br>16, 17 | 6.5.8 Surface area and volume…<br><br>6.G.2 Volume of right rectangular prism… | Can you use strategies to find surface area and volume of right prisms and cylinders using appropriate units?<br><br>**REAL LIFE APPLICATION.**<br>Using wrapping paper for presents. How much to buy for the gift you have chosen? | Sadlier-Oxford Progress in Mathematics | Surface area, volume, cubic unit, triangular prism, cylinder | Chapter 13 test |
| Ch.13/<br>Les. 14 | 6.5.7 Surface area<br><br>6.G.4 Three-dimensional figures… | How do you construct a cube and rectangular box from 2D patterns and use patterns to compute surface area of these objects? | Sadlier-Oxford Progress in Mathematics | Surface area | Chapter 13 test |

*Problem solving throughout year*
Ch.9/Les. 15, 16
Ch.10/Les. 19, 20
Ch.13/Les. 6, 19, 20

# Curriculum Mapping
Math – Excel Grade 6
4th Nine Weeks

| Unit/ **Chapter/ Lesson** | Indiana Standard(s) | Key Questions | Resources/Activities | Vocabulary | Assessments |
|---|---|---|---|---|---|
| Ch.1/Les. 1 | 4.NBT.3 Round multi-digit whole numbers to any place<br><br>6.NS.3: Compare and order rational numbers and plot them on a number line. Write, interpret, and explain statements of order for rational numbers in real-world contexts. | Can you read and write whole numbers through trillions using place value? Can you read and write decimal numbers to millionths using place value? | Sadlier-Oxford Progress in Mathematics | Period, trillions, standard form, word name, place, decimal point | Chapter 1 test |
| Ch.1/Les.2 | 4.NBT.3 Round multi-digit whole numbers to any place | Can you write expanded form of whole numbers to trillions and decimal numbers to millionths? | Sadlier-Oxford Progress in Mathematics | Expanded form, standard form | Chapter 1 test |
| Ch.1/Les.3 | 6.C.5: Evaluate positive rational numbers with whole number exponents. | Can you write exponential expressions in standard form? Can you write expanded form of numbers using exponential and vice versa? | Sadlier-Oxford Progress in Mathematics | Exponent, base, power, positive powers of 10, negative powers of 10 | Chapter 1 test |
| Ch.1/Les. 5 | 4.NBT.3 Round multi-digit whole numbers to any place | How do you round whole numbers and decimals to particular place and to greatest place? | Sadlier-Oxford Progress in Mathematics | Rounded number, rounding | Chapter 1 test |
| Ch.1/Les. 6 | 5.2.6 Estimation and reasonable answers | How do you use front-end estimation or rounding to estimate decimal sums and differences including money amounts? | Sadlier-Oxford Progress in Mathematics | Front end estimation, rounding | Chapter 1 test |

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| Ch.1/Les. 10 | 5.OA.2 Expressions<br><br>6.AF.3: Define and use multiple variables when writing expressions to represent real-world and other mathematical problems, and evaluate them for given values. | How do you write word expressions as numerical expressions and vice versa? How do you write word expressions and vice versa? | Sadlier-Oxford Progress in Mathematics | Numerical expression, variable, algebraic expression, equation | Chapter 1 test |
| Ch.1/Les. 11 | 6.3.1 One-step linear equations and inequalities<br><br>6.AF.5: Solve equations of the form x + p = q, x - p = q, px = q, and x/p = q fluently for cases in which p, q and x are all nonnegative rational numbers. Represent real world problems using equations of these forms and solve such problems. | How do you find value of algebraic expressions involving addition or subtraction? | Sadlier-Oxford Progress in Mathematics | Evaluate | Chapter 1 test |
| Ch.2/Les. 1 | 5.2.1 Whole number multiplication and division<br><br>5.C.1: Multiply multi-digit whole numbers fluently using a standard algorithmic approach. | How do you multiply a whole number by power of 10 or multiple of 10 and multiply a decimal by power of 10? | Sadlier-Oxford Progress in Mathematics | Multiple, multiplicand, multiplier, product | Chapter 2 test |
| Ch.2/Les.3 | 5.2.1 Whole number multiplication and division | How do you multiply with zero in one or more whole number factors? | Sadlier-Oxford Progress in Mathematics | Partial product, distributive property | Chapter 2 test |
| Ch.2/Les.5 | 7.1.4 Whole number powers and whole numbers | Can you rename numbers expressed in exponential form, factor form, and standard form? | Sadlier-Oxford Progress in Mathematics | Exponent, base, power, exponential form | Chapter 2 test |

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| Ch.2/Les. 6 | 7.1.1 Scientific notation | Can you write a larger whole number in scientific notation? Can you write a number exponent in scientific notation as a whole number? | Sadlier-Oxford Progress in Mathematics | Scientific notation, exponent, powers of 10 | Chapter 2 test |
| Ch.3/Les.1 | 5.C.2: Find whole-number quotients and remainders with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning used. | Can you use short division to find quotients? Can you use divisibility rules to predict if quotient will have remainder? | Sadlier-Oxford Progress in Mathematics | Short division, divisibility rules, quotient | Chapter 3 test |
| Ch.3/Les.2 | 5.2.6 Estimation and reasonable answers | Can you estimate quotients using compatible numbers? | Sadlier-Oxford Progress in Mathematics | Compatible numbers | Chapter 3 test |
| Ch.3/Les. 4, 6 | 6.2.3 Decimals<br><br>6.C.2: Compute with positive fractions and positive decimals fluently using a standard algorithmic approach. | Can you divide decimal by powers of 10 and write decimals less than one in scientific notation? Can you divide whole numbers and decimals by .1, .01, and .001? | Sadlier-Oxford Progress in Mathematics | Negative exponents | Chapter 3 test |
| Ch.3/Les. 8, 9 | 6.2.3 Decimals<br><br>6.C.2: Compute with positive fractions and positive decimals fluently using a standard algorithmic approach. | How do you divide decimals by decimals? How do you divide decimals by inserting zeros in dividend or quotient? | Sadlier-Oxford Progress in Mathematics | None | Chapter 3 test |
| Ch.3/Les. 10, 11 | 7.3.1 Using variables and appropriate operations… | Can you write word expressions as numerical multiplication and division | Sadlier-Oxford Progress in | Expression, numerical expression, | Chapter 3 test |

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| | 6.AF.3: Define and use multiple variables when writing expressions to represent real-world and other mathematical problems, and evaluate them for given values.<br><br>6.AF.6: Write an inequality of the form $x > c$, $x \geq c$, $x < c$, or $x \leq c$, where c is a rational number, to represent a constraint or condition in a real-world or other mathematical problem. Recognize inequalities have infinitely many solutions and represent solutions on a number line diagram. | expressions and vice versa? Can you write algebraic multiplication and division expressions and vice versa? How do you find value of algebraic expressions involving multiplication and division? | Mathematics | multiplication expression, division expression, algebraic expression, variable, evaluate | |
| Ch.3/Les. 12 | 5.1.2 Round numbers and decimals | How do you round decimal quotients to nearest tenth, hundredth, thousandth, and cent? | Sadlier-Oxford Progress in Mathematics | Round | Chapter 3 test |
| Ch.4/Les.4 | 7.3.1 Use variables and appropriate operations…<br>7.3.2 Two-step linear equations and inequalities | How do you translate word sentences into equations and inequalities? How do you determine whether equation or inequality is true or false? How do you determine whether a given value is a solution of an equation or inequality? | Sadlier-Oxford Progress in Mathematics | Equation, solution, inequality, open sentence, closed sentence, true statement, false statement | Chapter 4 test |

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| Ch.4/Les. 5, 6 | 6.3.1 One-step linear equations and inequalities<br><br>6.AF.3: Define and use multiple variables when writing expressions to represent real-world and other mathematical problems, and evaluate them for given values.<br><br>6.AF.6: Write an inequality of the form $x > c$, $x \geq c$, $x < c$, or $x \leq c$, where c is a rational number, to represent a constraint or condition in a real-world or other mathematical problem. Recognize inequalities have infinitely many solutions and represent solutions on a number line diagram. | How do you solve addition equations using subtraction property of equality? How do you solve algebraic subtraction equations using addition property of equality when minuend is unknown? How do you solve algebraic subtraction equation using related sentence when subtrahend is unknown? | Sadlier-Oxford Progress in Mathematics | Inverse operation, addition equation, subtraction property of equality, subtraction equation, addition property of equality | Chapter 4 test |
| Ch.4/Les.7 | 6.3.1 One-step linear equations and inequalities<br><br>6.AF.3: Define and use multiple variables when writing expressions to represent real-world and other mathematical problems, and evaluate them for given values. | How do you solve algebraic multiplication equations using division property of equality? How do you solve algebraic division equation using multiplication property of equality when dividend is unknown? | Sadlier-Oxford Progress in Mathematics | Multiplication equation, division equation, multiplication property of equality, division property of equality | Chapter 4 test |

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| | 6.AF.6: Write an inequality of the form x > c, x ≥ c, x < c, or x ≤ c, where c is a rational number, to represent a constraint or condition in a real-world or other mathematical problem. Recognize inequalities have infinitely many solutions and represent solutions on a number line diagram. | | | | |
| Ch.5/Les.8 | 7.EE.3 Solve problems with rational numbers<br><br>6.AF.5: Solve equations of the form x + p = q, x - p = q, px = q, and x/p = q fluently for cases in which p, q and x are all nonnegative rational numbers. Represent real world problems using equations of these forms and solve such problems. | Can you evaluate algebraic expressions involving integers? Can you solve equations involving integers? | Sadlier-Oxford Progress in Mathematics | Replacement set | Chapter 5 test |
| Ch.5/Les.7 | 7.3.4 Numerical and algebraic expressions<br><br>6.AF.2: Apply the properties of operations (e.g., identity, inverse, commutative, | Can you evaluate algebraic expressions involving integers using order of operations? | Sadlier-Oxford Progress in Mathematics | None | Chapter 5 test |

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| | associative, distributive properties) to create equivalent linear expressions and to justify whether two linear expressions are equivalent when the two expressions name the same number regardless of which value is substituted into them. | | | | |
| Ch.6/Les.1 | 6.C.1: Divide multi-digit whole numbers fluently using a standard algorithmic approach. | How do you use divisibility rules for 2, 3, 4, 5, 6, 8, 9, and 10? | Sadlier-Oxford Progress in Mathematics | Divisible | Chapter 6 test |
| Ch.6/Les.2 | 5.1.6 Prime and composite numbers<br><br>6.NS.6: Identify and explain prime and composite numbers. | Can you identify prime and composite numbers? | Sadlier-Oxford Progress in Mathematics | Prime number, factor, composite number, perfect number | Chapter 6 test |
| Ch.6/Les.3 | 7.1.5 Prime factorization<br><br>6.NS.6: Identify and explain prime and composite numbers. | Can you find prime factorization of composite numbers? | Sadlier-Oxford Progress in Mathematics | Prime factor, prime factorization, factor tree, exponent | Chapter 6 test |
| Ch.6/Les.4 | 4.1.5 Fractions<br><br>6.NS.5: Know commonly used fractions (halves, thirds, fourths, fifths, eighths, tenths) and their decimal and percent equivalents. Convert between any two representations (fractions, decimals, percents) of positive rational numbers without the use of a calculator. | How do you find equivalent fractions? | Sadlier-Oxford Progress in Mathematics | Equivalent fractions | Chapter 6 test |
| Ch.6/Les.6 | | How do you express fractions in simplest form? | Sadlier-Oxford Progress in Mathematics | Simplest form, lowest terms | Chapter 6 test |

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| Ch.6/Les.7 | 4.1.6 Mixed numbers<br><br>4.1.7 Mixed numbers, improper fractions | Can you read and write mixed numbers? Can you rename a mixed number as an improper fraction and vice versa? | Sadlier-Oxford Progress in Mathematics | Mixed number, improper fraction | Chapter 6 test |
| Ch.6/Les. 15 | 7.1.7 Decimals and fractions | Can you express fractions and mixed numbers as terminating or repeating decimal? | Sadlier-Oxford Progress in Mathematics | Terminating decimal, repeating decimal | Chapter 6 test |
| Ch.6/Les. 17 | 7.1.2 Rational and irrational numbers<br><br>6.NS.3: Compare and order rational numbers and plot them on a number line. Write, interpret, and explain statements of order for rational numbers in real-world contexts. | Can you compare and order rational numbers? | Sadlier-Oxford Progress in Mathematics | None | Chapter 6 test |
| Ch.7/Les. 1 | 5.2.2 Fractions and mixed numbers<br><br>6.C.2: Compute with positive fractions and positive decimals fluently using a standard algorithmic approach. | Can you apply addition properties to computations with fractions? | Sadlier-Oxford Progress in Mathematics | Commutative, associative, identity, inverse properties of addition | Chapter 7 test |
| Ch.7/Les.2 | 5.NF.2 | How do you estimate sums and differences of fractions and mixed numbers? | Sadlier-Oxford Progress in Mathematics | None | Chapter 7 test |
| Ch.7/Les.8 | 5.NF.2 | How do you evaluate addition and subtraction expressions with fractions? | Sadlier-Oxford Progress in Mathematics | None | Chapter 7 test |
| Ch.7/Les.9 | 5.NF.2 | How do you solve addition and subtraction equations involving fractions? | Sadlier-Oxford Progress in Mathematics | None | Chapter 7 test |
| Ch.8/Les.3 | 6.NS.1 Interpret and compute quotients of fractions… | How do you use multiplication property with fractions? How do you find the reciprocal of a number? | Sadlier-Oxford Progress in Mathematics | Reciprocal, inverse property of multiplication, | Chapter 8 test |

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| | 6.C.2: Compute with positive fractions and positive decimals fluently using a standard algorithmic approach. | | | commutative property, associative property, identity property, zero property, distributive property of multiplication over addition | |
| Ch.8/Les.7 | 6.NS.1 Interpret and compute quotients of fractions…<br><br>6.C.2: Compute with positive fractions and positive decimals fluently using a standard algorithmic approach. | How do you estimate quotients of two fractions by comparing dividend and divisor? How do you estimate quotients of mixed numbers by rounding each mixed number to nearest compatible whole number? | Sadlier-Oxford Progress in Mathematics | None | Chapter 8 test |
| Ch.8/Les.9 | 6.NS.1 Interpret and compute quotients of fractions…<br><br>6.C.2: Compute with positive fractions and positive decimals fluently using a standard algorithmic approach. | How do you apply order of operations to fraction computation? How do you simplify using the distributive property over subtraction? | Sadlier-Oxford Progress in Mathematics | Distributive property over subtraction | Chapter 8 test |
| Ch.8/Les. 10 | 6.NS.1 Interpret and compute quotients of fractions…<br><br>6.C.2: Compute with positive fractions and positive decimals fluently using a standard algorithmic approach. | How do you multiply and divide money amounts by fractions?<br><br>**REAL LIFE APPLICATION.**<br>Find money amounts in your life or your parents; lives that needed to be divided by fractions and apply what you have learned to that real life money situation. | Sadlier-Oxford Progress in Mathematics | None | Chapter 8 test |
| Ch.8/Les. 11 | 6.NS.1 Interpret and compute quotients of fractions…<br><br>6.C.2: Compute with positive fractions and positive decimals fluently using a standard | How do you evaluate multiplication and division expressions with fractions? | Sadlier-Oxford Progress in Mathematics | None | Chapter 8 test |

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| | algorithmic approach. | | | | |
| Ch.8/Les. 12 | 6.5.9 Temperature<br><br>6.C.2: Compute with positive fractions and positive decimals fluently using a standard algorithmic approach. | How do you solve multiplication and division equations with fractions? How do you convert degrees Celsius to degrees Fahrenheit and vice versa? | Sadlier-Oxford Progress in Mathematics | Convert, temperature, conversion formulas | Chapter 8 test |
| Ch.8/Les. 13 | 6.6.4 Compound events, theoretical probability | How do you find the theoretical probability of an event and complement? How do you compare experimental probability of an event with theoretical probability? | Sadlier-Oxford Progress in Mathematics | Disjoint events, experimental probability, trial, probability, event, impossible, certain, theoretical probability, outcome, sample space, complementary event, mutually exclusive events | Chapter 8 test |
| Ch.8/Les. 15 | | How do you find all permutations and combinations for a set? | Sadlier-Oxford Progress in Mathematics | Order, permutations, combinations, factorial | Chapter 8 test |
| Ch.9/Les. 3 | 8.6.2 Samples and bias<br><br>6.DS.1: Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for the variability in the answers. 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. | Can you identify bias in a sample, question, or display?<br><br>**REAL LIFE APPLICATION.**<br>Find actual data displays in real life advertisements that have biased questions or displays. Explain how it is biased. Explain how it could be fixed. | Sadlier-Oxford Progress in Mathematics | Bias, sample, bias question, bias display | Chapter 9 test |
| Ch.9/Les. 7 | 8.6.4 Bar graphs, line graphs, | Can you interpret box and whisker | Sadlier-Oxford | Box and whisker | Chapter 9 test |

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| | circle graphs, stem-and-leaf plots, box and whisker plots<br><br>6.DS.2: Select, create, and interpret graphical representations of numerical data, including line plots, histograms, and box plots. | plots? Can you make box and whisker plots to show distribution of data? | Progress in Mathematics | plots, extremes, quartile, upper quartile, lower quartile, box, whiskers | |
| Ch.9/Les. 10 | 7.6.1 Bar graphs, line graphs, circle graphs, stem-and-leaf plots<br><br>6.DS.2: Select, create, and interpret graphical representations of numerical data, including line plots, histograms, and box plots. | Can you interpret and make double line graphs?<br><br>**REAL LIFE APPLICATION.**<br>Make a double line graph for all all your own math and science test grades compared to the average grade for the class. | Sadlier-Oxford Progress in Mathematics | Double line graph, key | Chapter 9 test |
| Ch.9/Les. 11 | 7.6.1 Bar graphs, line graphs, circle graphs, stem-and-leaf plots<br><br>6.DS.2: Select, create, and interpret graphical representations of numerical data, including line plots, histograms, and box plots. | Can you interpret and make double bar graphs? | Sadlier-Oxford Progress in Mathematics | Double bar graphs, key, scatter plot, positive correlation, negative correlation, no correlation | Chapter 9 test |
| Chapter 9/ Les. 14 | 7.6.1 Bar graphs, line graphs, circle graphs, stem-and-leaf plots<br><br>6.DS.2: Select, create, and interpret graphical representations of numerical data, including line plots, histograms, and box plots. | Can you interpret circle graphs? | Sadlier-Oxford Progress in Mathematics | Circle graph | Chapter 9 test |
| Ch.10/ | 6.4.1 Angles and relationships | Can you estimate and measure | Sadlier-Oxford | Angle, side, vertex, | Chapter 10 |

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| Les.1 | | angles? Can you draw an angle of given measures? | Progress in Mathematics | interior, exterior, degree, protractor | test |
| Ch.10/Les. 2 | 5.4.1 Measure, identify, and draw angles, lines, shapes using appropriate tools<br><br>5.4.2 Identify, describe, draw, and classify triangles<br><br>8.4.2 Constructing angles and segments | Can you identify parallel, perpendicular, and skew lines? Can you classify angles and acute, obtuse, right, straight? Can you identify midpoints of line segment, congruent segments and angles, perpendicular bisectors, and angle bisectors? | Sadlier-Oxford Progress in Mathematics | Parallel, skew, acute angle, right angle, obtuse angle, straight angle, perpendicular lines, midpoint, congruent segments, segment bisector, perpendicular bisector, congruent angles, angle bisector | Chapter 10 test |
| Ch.10/Les. 4 | 6.4.4 Interior angles | Can you identify interior angles, exterior angles, corresponding angles, alternate interior angles, and alternate exterior angles? | Sadlier-Oxford Progress in Mathematics | Transversal, interior angles, exterior angles, corresponding angles, alternate interior angles, alternate exterior angles | Chapter 10 test |
| Ch.10/Les. 5 | 8.4.2 Constructing angles and segments | Can you construct line segments congruent to a given line segment? Can you construct a perpendicular bisector of a line segment? Can you construct perpendicular to line at given point on line or from given point not on line? | Sadlier-Oxford Progress in Mathematics | Construct, straight edge, compass, arc | Chapter 10 test |
| Ch. 10/Les. 6 | 8.4.2 Constructing angles and segments | Can you construct congruent angles and angle bisectors? | Sadlier-Oxford Progress in Mathematics | Bisect, angle bisector construction | Chapter 10 test |
| Ch. 10/Les. 7 | 5.4.4 Identify, describe, draw, and classify polygons<br><br>6.GM.3: Draw polygons in the coordinate plane given coordinates for the vertices; use | How do you classify polygons as regular or not regular? How do you use diagonals to determine whether polygon is convex or concave? | Sadlier-Oxford Progress in Mathematics | Polygon, regular polygon, n-gon, diagonal, convex, concave | Chapter 10 test |

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| | coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate; apply these techniques to solve real-world and other mathematical problems. | | | | |
| Ch.10/Les. 15 | 5.4.6 Reflection and rotational symmetry | How do you identify reflection, symmetrical, rotational symmetry, and point symmetry? | Sadlier-Oxford Progress in Mathematics | Symmetry, reflective symmetry, line of symmetry, rotational symmetry, point symmetry | Chapter 10 test |
| Ch.10/Les. 16 | | How do you determine which figures can tessellate? Can you tessellate a plane using given figures? | Sadlier-Oxford Progress in Mathematics | Tessellate, plane, parallel, intersecting, perpendicular | Chapter 10 test |
| Ch. 10/Les. 17 | 7.4.4 Constructing 2D patterns for 3D objects | How do you classify solid figures? How do you identify nets for solid figures? | Sadlier-Oxford Progress in Mathematics | Pg. 362 | Chapter 10 test |
| Ch.11/Les. 3 | 6.RP.3b Unit rate problems… | Can you find unit rate or unit price? Can you write and use rates? | Sadlier-Oxford Progress in Mathematics | Rate, unit rate, unit price | Chapter 11 test |
| Ch.11/Les. 7 | 6.AF.9: 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.<br><br>6.AF.10: Use variables to represent two quantities in a proportional relationship in a real-world problem; write an equation to express one | Can you write proportions involving corresponding sides of similar figures? Can you use proportions to find missing side lengths of similar geometric figures? | Sadlier-Oxford Progress in Mathematics | Corresponding sides of similar figures | Chapter 11 test |

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| | quantity, the dependent variable, in terms of the other quantity, the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. | | | | |
| Ch.11/Les. 8 | 6.AF.9: 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.<br><br>6.AF.10: Use variables to represent two quantities in a proportional relationship in a real-world problem; write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. | Can you use proportions to solve indirect measurement problems? | Sadlier-Oxford Progress in Mathematics | Indirect measurement | Chapter 11 test |
| Ch.11/Les. 9 | 8.5.3 Scale factors, area, volume using ratio and proportions | Can you use proportions to solve problems involving scale drawings and maps? | Sadlier-Oxford Progress in Mathematics | Scale drawings, scale, scale length, actual length, | Chapter 11 test |

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| | 6.AF.9: 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.<br><br>6.AF.10: Use variables to represent two quantities in a proportional relationship in a real-world problem; write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. | | | enlarged model | |
| Ch.11/Les. 10, 11 | 8.2.4 Mental math for fractions, decimals, powers, and percents<br><br>6.AF.9: 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.<br><br>6.AF.10: Use variables to represent two quantities in a | Can you write percents as ratio, percents as fractions, and vice versa? Can you use a number line to relate percents to fractions? Can you write percents as decimals and vice versa? | Sadlier-Oxford Progress in Mathematics | Percent | Chapter 11 test |

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| | proportional relationship in a real-world problem; write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. | | | | |
| Ch.11/Les. 12 | 8.2.4 Mental math for fractions, decimals, powers, and percents<br><br>6.AF.9: 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.<br><br>6.AF.10: Use variables to represent two quantities in a proportional relationship in a real-world problem; write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the | Can you write decimal percents as decimals? Can you write fractions not factors of 100 as percents? Can you use a number line to relate and order decimals, fractions, and percents? | Sadlier-Oxford Progress in Mathematics | Decimal percents | Chapter 11 test |

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| | equation. | | | | |
| Ch.11/Les. 13, 14 | 8.2.4 Mental math for fractions, decimals, powers, and percents<br><br>6.AF.9: 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.<br><br>6.AF.10: Use variables to represent two quantities in a proportional relationship in a real-world problem; write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. | Can you write percents greater than 100% as decimal and mixed number? Can you write decimal and fractions less than .01 and 1/100 as percent and less than 1% in both decimal and fraction form? Can you write decimal and fraction percents less than 1% as decimal and fractions less than .01 and 1/100? | Sadlier-Oxford Progress in Mathematics | None | Chapter 11 test |
| Ch.12/Les. 1 | 8.2.4 Mental math for fractions, decimals, powers, and percents | How do you find percent of a number by mental computation? | Sadlier-Oxford Progress in Mathematics | Percent | Chapter 12 test |
| Ch.12/Les. 2 | 8.2.4 Mental math for fractions, decimals, powers, and percents | Can you mentally compute percent of a number? Can you estimate what percent one number is of another? | Sadlier-Oxford Progress in Mathematics | None | Chapter 12 test |
| Ch.12/Les. 3 | | How do you find percent of a number? | Sadlier-Oxford Progress in Mathematics | Benchmark percent, rate, base, percent, R x B = % | Chapter 12 test |

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| Ch. 12/Les.4 | | Can you find what percent or rate one number is of another? | Sadlier-Oxford Progress in Mathematics | Rate | Chapter 12 test |
| Ch.12/Les. 5 | | Can you find original number when percent of its known? | Sadlier-Oxford Progress in Mathematics | Base | Chapter 12 test |
| Ch.12/Les. 8 | | Can you find sales tax and total cost? | Sadlier-Oxford Progress in Mathematics | Sales tax, rate of sales tax, total cost | Chapter 12 test |
| Ch. 12/Les. 9 | | Can you determine the better buy? | Sadlier-Oxford Progress in Mathematics | Better buy, unit price, unit cost, unit rates, compatible number | Chapter 12 test |
| Ch.12/Les. 12 | 7.6.1 Bar graphs, line graphs, circle graphs, stem-and-leaf plots<br><br>6.DS.2: Select, create, and interpret graphical representations of numerical data, including line plots, histograms, and box plots. | Can you make circle graphs? | Sadlier-Oxford Progress in Mathematics | None | Chapter 12 test |
| Ch.13/Les. 2 | 5.5.5 Smaller and larger units for measuring weight and their relationship to pounds and kilograms<br><br>6.GM.1: Convert between measurement systems (English to metric and metric to English) given conversion factors, and use these conversions in solving real-world problems. | Can you rename and compare metric units of capacity and mass? | Sadlier-Oxford Progress in Mathematics | Capacity, L, mL, kL, mass, g, mg, kg, metric Ton | Chapter 13 test |
| Ch.13/Les. 5 | 5.5.5 Smaller and larger units for measuring weight and their relationship to pounds and | Can you compute with customary units of length, capacity, and weight? | Sadlier-Oxford Progress in Mathematics | None | Chapter 13 test |

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| | kilograms<br><br>6.GM.1: Convert between measurement systems (English to metric and metric to English) given conversion factors, and use these conversions in solving real-world problems. | | | | |
| Ch. 13/Les. 7 | 5.5.5 Smaller and larger units for measuring weight and their relationship to pounds and kilograms<br><br>6.GM.1: Convert between measurement systems (English to metric and metric to English) given conversion factors, and use these conversions in solving real-world problems. | Can you use approximate equivalents between customary and metric measurement systems? | Sadlier-Oxford Progress in Mathematics | None | Chapter 13 test |
| Ch. 13/Les. 15 | 8.5.4 Using formulas for perimeter and area, surface area and volume<br><br>6.GM.6: Construct right rectangular prisms from nets and use the nets to compute the surface area of prisms; apply this technique to solve real-world and other mathematical problems. | Can you find surface area of square pyramids and triangular prisms? | Sadlier-Oxford Progress in Mathematics | Models of square pyramids, models of triangular prisms, nets | Chapter 13 test |
| Ch. 13/Les. 18 | 8.5.4 Using formulas for perimeter and area, surface area and volume<br><br>6.GM.5: Find the volume of a | Can you use formulas to find the volume of a pyramid? | Sadlier-Oxford Progress in Mathematics | Volume of a pyramid | Chapter 13 test |

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| | right rectangular prism with fractional edge lengths using unit cubes of the appropriate unit fraction edge lengths (e.g., using technology or concrete materials), and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = lwh and V = Bh to find volumes of right rectangular prisms with fractional edge lengths to solve real-world and other mathematical problems. | | | | |
| Ch. 14/Les. 1 | 7.3.2 Two-step linear equations and inequalities<br><br>6.AF.5: Solve equations of the form x + p = q, x - p = q, px = q, and x/p = q fluently for cases in which p, q and x are all nonnegative rational numbers. Represent real world problems using equations of these forms and solve such problems. | Can you write and solve two step algebraic equations? | Sadlier-Oxford Progress in Mathematics | Two step equations | Chapter 14 test |
| Ch. 14/Les. 2 | 6.3.1 One-step linear equations and inequalities<br><br>6.AF.5: Solve equations of the form x + p = q, x - p = q, px = q, and x/p = q fluently for cases in which p, q and x are all nonnegative rational numbers. | Can you write and solve addition and subtraction equations involving integers? | Sadlier-Oxford Progress in Mathematics | None | Chapter 14 test |

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| | Represent real world problems using equations of these forms and solve such problems. | | | | |
| Ch. 14/Les. 3 | 6.3.1 One-step linear equations and inequalities<br><br>7.3.2 Two-step linear equations and inequalities<br><br>6.AF.5: Solve equations of the form x + p = q, x - p = q, px = q, and x/p = q fluently for cases in which p, q and x are all nonnegative rational numbers. Represent real world problems using equations of these forms and solve such problems. | Can you write and solve one and two step equations involving multiplication and division of integers? | Sadlier-Oxford Progress in Mathematics | None | Chapter 14 test |
| Ch. 14/Les. 9 | | Can you learn about sequence and terms in number patterns, including triangular and square numbers? Can you make conjectures about patterns in number sequence in order to find the next term(s)? | Sadlier-Oxford Progress in Mathematics | Sequence, term, conjecture, triangular numbers, square numbers | Chapter 14 test |

***Problem solving throughout year***
**Ch.12/Les. 6, 13, 14**

Problem Solving standards done on almost every lesson, with modeled strategies, problems of the day, Daily Oral Math, discussion of the textbook, and the homework from the workbook.

- **PS.1: Make sense of problems and persevere in solving them.**
- **PS.2: Reason abstractly and quantitatively.**
- **PS.3: Construct viable arguments and critique the reasoning of others.**
- **PS.4: Model with mathematics.**
- **PS.5: Use appropriate tools strategically.**
- **PS.6: Attend to precision.**
- **PS.7: Look for and make use of structure.**
- **PS.8: Look for and express regularity in repeated reasoning.**

Old Standards Site:

https://learningconnection.doe.in.gov/Standards/About.aspx?art=11

https://learningconnection.doe.in.gov/Standards/Standards.aspx

New Standards Site:

http://www.doe.in.gov/standards/mathematics