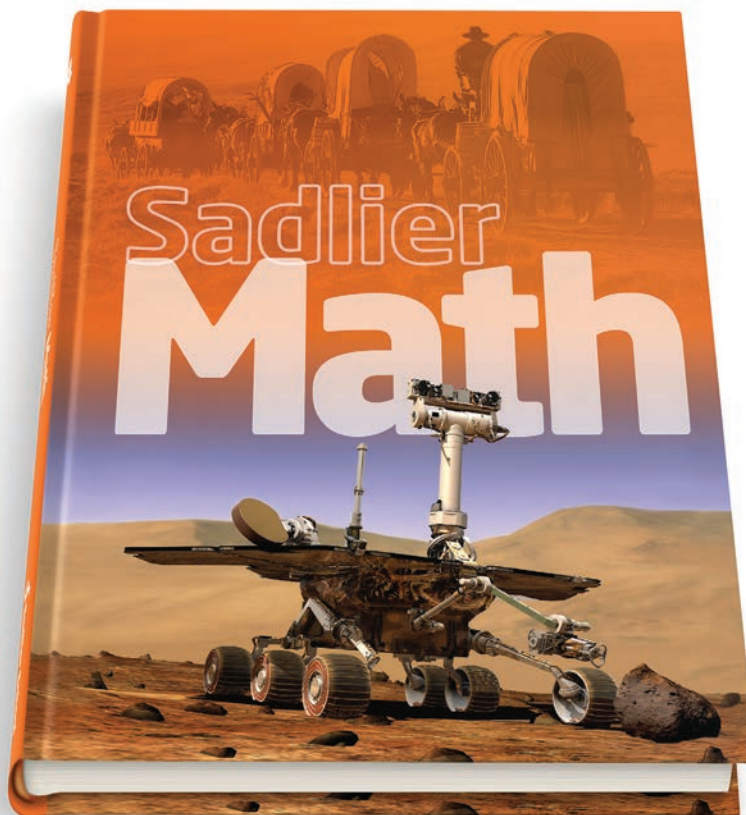


*Sadlier Math*TM

Correlation to the Archdiocese of Louisville
Mathematics Standards 2019

Grade 4



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OPERATIONS AND ALGEBRAIC THINKING (OA)

Grade 4 Content Standards	Sadlier Math, Grade 4
OCS.Math.4.1 Use the four operations with whole numbers to solve problems.	
<p>*OCS.Math.4.1a Interpret and express a multiplication equation as a comparison</p>	<p>Chapter 4 Multiplication Concepts</p> <ul style="list-style-type: none"> • 4-5 Multiply to Compare Numbers—pp. 78-79 <p>Chapter 5 Multiply by One-Digit Numbers</p> <ul style="list-style-type: none"> • 5-5 Multiplicative and Additive Comparisons—pp. 98-99
<p>OCS.Math.4.1b Multiply or divide to solve multiplicative comparison word problems using drawings and equations with symbols for the unknown</p>	<p>Chapter 4 Multiplication Concepts</p> <ul style="list-style-type: none"> • 4-5 Multiply to Compare Numbers—pp. 78-79 <p>Chapter 5 Multiply by One-Digit Numbers</p> <ul style="list-style-type: none"> • 5-5 Multiplicative and Additive Comparisons—pp. 98-99 <p>Chapter 7 Division Concepts</p> <ul style="list-style-type: none"> • 7-6 Problem Solving: Work Backward—pp. 140-141 <p>Chapter 8 Divide by One-Digit Numbers</p> <ul style="list-style-type: none"> • 8-8 Problem Solving: Use a Model—pp. 164-165
<p>OCS.Math.4.1c Distinguish between multiplicative comparison and additive comparison</p>	<p>Chapter 5 Multiply by One-Digit Numbers</p> <ul style="list-style-type: none"> • 5-5 Multiplicative and Additive Comparisons—pp. 98-99
<p>*OCS.Math.4.1d Solve equations with a letter standing for the unknown quantity to represent multi step word problems</p>	<p>Chapter 2 Addition</p> <ul style="list-style-type: none"> • 2-1 Mathematical Expressions—pp. 24-25 • 2-2 Addition Properties—pp. 26-27 • 2-3 Estimate Sums—pp. 28-29 <p>Chapter 3 Subtraction</p> <ul style="list-style-type: none"> • 3-1 Estimate Differences—pp. 46-47 • 3-6 Multistep Problems Using Addition and Subtraction—pp. 58-59 <p>Chapter 4 Multiplication Concepts</p> <ul style="list-style-type: none"> • 4-4 Estimate Products—pp. 76-77 <p>Chapter 7 Division Concepts</p> <ul style="list-style-type: none"> • 7-3 Estimate Quotients—pp. 132-133 <p>Chapter 8 Divide by One-Digit Numbers</p> <ul style="list-style-type: none"> • 8-1 One-Digit Quotients—pp. 148-149 • 8-3 Two-Digit Quotients—pp. 152-153
<p>*OCS.Math.4.1e Solve multistep word problems</p>	<p>Chapter 3 Subtraction</p> <ul style="list-style-type: none"> • 3-6 Multistep Problems Using Addition and Subtraction—pp. 58-59 <p>Chapter 8 Divide by One-Digit Numbers</p> <ul style="list-style-type: none"> • 8-7 Multistep Problems Using Multiplication and Division—pp. 162-163 <p style="text-align: right;"><i>continued</i></p>

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OPERATIONS AND ALGEBRAIC THINKING (OA)	
Grade 4 Content Standards	Sadlier Math, Grade 4
<p>*OCS.Math.4.If Assess the reasonableness of an answer to multistep word problems using estimation, rounding skills and mental computation</p>	<p><i>See also</i> Grade 4 Skills Update and Practice</p> <ul style="list-style-type: none"> Solve Two-Step Problems—online—online <p>Problem Solving Strategies</p> <ul style="list-style-type: none"> Four-Step Process: Look Back: (Is your answer reasonable?/ Estimate to check for errors)—p. xxii <p>Problem Solving Math Practices</p> <ul style="list-style-type: none"> MP 6: Be precise (exact answer or estimate?)—p. xxx <p>Chapter 1 Place Value</p> <ul style="list-style-type: none"> 1-5 Round Whole Numbers—pp. 12-13 <p>Chapter 2 Addition</p> <ul style="list-style-type: none"> 2-3 Estimate Sums (rounding/reasonable estimate)—pp. 28-29 2-4 Add Thousands (rounding/reasonable answer)—pp. 30-31 2-5 Add Millions—pp. 34-35 <p>Chapter 3 Subtraction</p> <ul style="list-style-type: none"> 3-1 Estimate Differences—pp. 46-47 3-3 Subtract with Two Regrouping (reasonable answer/ mental math)—pp. 50-51 3-6 Multistep Problems Using Addition and Subtraction (rounding/reasonable answer/mental math)—pp. 58-59 3-7 Problem Solving: Use a Model—pp. 60-61 <p>Chapter 4 Multiplication Concepts</p> <ul style="list-style-type: none"> 4-3 Multiply Tens, Hundreds, and Thousands—pp. 74-75 4-4 Estimate Products—pp. 76-77 <p>Chapter 6 Multiply by Two-Digit Numbers</p> <ul style="list-style-type: none"> 6-3 Multiply by Two-Digit Numbers: No Regrouping (estimate/reasonable answer)—pp. 114-115 6-4 Multiply by Two-Digit Numbers: Regrouping (reasonable answer)—pp. 116-117 <p>Chapter 7 Division Concepts</p> <ul style="list-style-type: none"> 7-3 Estimate Quotients (reasonable answer)—pp. 132-133 7-4 Use Models to Divide—pp. 136-137 <p>Chapter 8 Divide by One-Digit Numbers</p> <ul style="list-style-type: none"> 8-1 One-Digit Quotients—pp. 148-149 8-3 Two-Digit Quotients—pp. 152-153 <p>Chapter 10 Fraction Concepts</p> <ul style="list-style-type: none"> 10-12 Problem Solving: Use a Model (reasonable answer)—pp. 216-217 <p><i>See also</i> Grade 4 Skills Update and Practice</p> <ul style="list-style-type: none"> Round Numbers to the Nearest Ten and Hundred—online

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OPERATIONS AND ALGEBRAIC THINKING (OA)

Grade 4 Content Standards	Sadlier Math, Grade 4
OCS.Math.4.2 Gain familiarity with factors and multiples.	
*OCS.Math.4.2a Find factor pairs for whole numbers	Chapter 9 Factors and Multiples <ul style="list-style-type: none"> 9-1 Factors—pp. 172-173 9-2 Factor Pairs—pp. 174-175
OCS.Math.4.2b Recognize that a whole number is a multiple of each of its factors	Chapter 9 Factors and Multiples <ul style="list-style-type: none"> 9-1 Factors—pp. 172-173 9-4 Multiples—pp. 180-181 9-5 Common Multiples—pp. 182-183
OCS.Math.4.2c Determine whether a number is a multiple of a given one digit number	Chapter 9 Factors and Multiples <ul style="list-style-type: none"> 9-4 Multiples—pp. 180-181 9-5 Common Multiples—pp. 182-183 9-6 Problem Solving: Make an Organized List (find the multiples)—pp. 184-185
*OCS.Math.4.2d Determine whether a number is prime or composite	Chapter 9 Factors and Multiples <ul style="list-style-type: none"> 9-3 Prime and Composite Numbers—pp. 176-177

OCS.Math.4.3 Generate and analyze patterns.

OCS.Math.4.3a Generate patterns that follow a given rule	Chapter 7 Division Concepts <ul style="list-style-type: none"> 7-5 Number Patterns—pp. 138-139 Chapter 17 Polygons <ul style="list-style-type: none"> 17-5 Shape Patterns—pp. 380-381 <i>See also</i> <ul style="list-style-type: none"> Grade 4 Skills Update and Practice <ul style="list-style-type: none"> Find Patterns in the Multiplication Table—online
OCS.Math.4.3b Determine the rule of a given pattern	Chapter 7 Division Concepts <ul style="list-style-type: none"> 7-5 Number Patterns (rule for the pattern)—pp. 138-139 Chapter 17 Polygons <ul style="list-style-type: none"> 17-5 Shape Patterns (rule for the pattern)—pp. 380-381

NUMBER AND OPERATIONS IN BASE TEN (NBT)

Grade 4 Content Standards	Sadlier Math, Grade 4
OCS.Math.4.4 Generalize place value understanding for multi-digit whole numbers.	
*OCS.Math.4.4a Recognize the relationship of same digits located in different places in a whole number	Chapter 1 Place Value <ul style="list-style-type: none"> 1-2 What Is One Million?—pp. 4-5 1-3 Millions—pp. 6-7

*Essential Standard

NUMBER AND OPERATIONS IN BASE TEN (NBT)	
Grade 4 Content Standards	Sadlier Math, Grade 4
* OCS.Math.4.4b Identify and write multi-digit whole numbers using base-ten numerals, word form and expanded form	Chapter 1 Place Value <ul style="list-style-type: none"> 1-1 Thousands—pp. 2-3 1-2 What Is One Million?—pp. 4-5 1-3 Millions—pp. 6-7 1-4 Expanded Form—pp. 8-9
* OCS.Math.4.4c Round multi-digit whole numbers to any place value	Chapter 1 Place Value <ul style="list-style-type: none"> 1-5 Round Whole Numbers—pp. 12-13 <i>See also</i> Grade 4 Skills Update and Practice <ul style="list-style-type: none"> Round Numbers to the Nearest Ten and Hundred—online
OCS.Math.4.5 Use place value understanding and properties of operations to perform multi-digit arithmetic.	
* OCS.Math.4.5a Fluently add and subtract multi-digit whole numbers	Chapter 2 Addition <ul style="list-style-type: none"> 2-2 Addition Properties—pp. 26-27 2-4 Add Thousands—pp. 30-31 2-5 Add Millions—pp. 34-35 2-6 Three or More Addends—pp. 36-37 2-7 Problem Solving: Make an Organized List—pp. 38-39 Chapter 3 Subtraction <ul style="list-style-type: none"> 3-2 Subtract with One Regrouping—pp. 48-49 3-3 Subtract with Two Regrouping—pp. 50-51 3-4 Subtract Greater Numbers—pp. 54-55 3-5 Zeros in Subtraction—pp. 56-57 <i>See also</i> Grade 4 Skills Update and Practice <ul style="list-style-type: none"> Use Place Value to Add: Regroup Twice—online
* OCS.Math.4.5b Apply properties of operations to multiplication and division	Chapter 4 Multiplication Concepts <ul style="list-style-type: none"> 4-1 Multiplication Properties—pp. 68-69 Chapter 5 Multiply by One-Digit Numbers <ul style="list-style-type: none"> 5-2 Use Properties to Multiply by One-Digit Numbers—pp. 90-91 <i>See also</i> Grade 4 Skills Update and Practice <ul style="list-style-type: none"> Properties of Operations—online
* OCS.Math.4.5c Use and explain a variety of strategies to multiply up to four digits by one digit	Chapter 4 Multiplication Concepts <ul style="list-style-type: none"> 4-1 Multiplication Properties—pp. 68-69 4-2 Use Place-Value Models—pp. 70-71 4-3 Multiply Tens, Hundreds, and Thousands—pp. 74-75 Chapter 5 Multiply by One-Digit Numbers <ul style="list-style-type: none"> 5-1 Multiply with Regrouping—pp. 88-89 <p style="text-align: right;"><i>continued</i></p>

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NUMBER AND OPERATIONS IN BASE TEN (NBT)	
Grade 4 Content Standards	Sadlier Math, Grade 4
	<ul style="list-style-type: none"> • 5-2 Use Properties to Multiply by One-Digit Numbers—pp. 90–91 • 5-3 Use Area Models to Multiply by One-Digit Numbers—pp. 92–93 • 5-4 Multiply Three- and Four-Digit Numbers—pp. 96–97 • 5-5 Multiplicative and Additive Comparisons—pp. 98–99
OCS.Math.4.5d Use and explain a variety of strategies to multiply two digits by two digits	Chapter 6 Multiply by Two-Digit Numbers <ul style="list-style-type: none"> • 6-1 Use Area Models to Multiply by Two-Digit Numbers—pp. 108–109 • 6-2 Break Apart Numbers to Multiply—pp. 110–111 • 6-3 Multiply by Two-Digit Numbers: No Regrouping—pp. 114–115 • 6-4 Multiply by Two-Digit Numbers: Regrouping—pp. 116–117 • 6-5 Multiplication Patterns—pp. 118–119
*OCS.Math.4.5e Use and explain a variety of strategies to find whole number quotients and remainders with up to four digit dividends with one digit divisors	Chapter 7 Division Concepts <ul style="list-style-type: none"> • 7-1 Division Rules—pp. 128–129 • 7-2 Relate Multiplication and Division—pp. 130–131 • 7-4 Use Models to Divide—pp. 136–137 Chapter 8 Divide by One-Digit Numbers <ul style="list-style-type: none"> • 8-1 One-Digit Quotients—pp. 148–149 • 8-2 Divisibility—pp. 150–151 • 8-3 Two-Digit Quotients—pp. 152–153 • 8-4 Zeros in Quotients—pp. 154–155 • 8-5 More Quotients—pp. 158–159 • 8-6 Order of Operations—pp. 160–161 • 8-7 Multistep Problems Using Multiplication and Division—pp. 162–163
OCS.Math.4.5f Interpret a remainder as a fraction that represents part of the next whole	Chapter 8 Divide by One-Digit Numbers <ul style="list-style-type: none"> • 8-1 One-Digit Quotients (remainder)—pp. 148–149 • 8-5 More Quotients (remainder)—pp. 158–159 <i>See also Grade 5</i> Chapter 5 Number Theory and Fractions <ul style="list-style-type: none"> • 5-8 Interpret a Remainder (remainder as a fraction)—pp. 114–115

NUMBER AND OPERATIONS—FRACTIONS (NF)	
Grade 4 Content Standards	Sadlier Math, Grade 4
OCS.Math.4.6 Extend understanding of fraction equivalence and ordering.	
*OCS.Math.4.6a Use visual models to describe the relationship between two equivalent fractions	Chapter 10 Fraction Concepts <ul style="list-style-type: none"> • 10-2 Equivalent Fractions: Number Line Diagrams—pp. 194–195 <p style="text-align: right;"><i>continued</i></p>

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NUMBER AND OPERATIONS—FRACTIONS (NF)	
Grade 4 Content Standards	Sadlier Math, Grade 4
	<ul style="list-style-type: none"> • 10-3 Write Equivalent Fractions: Use Models—pp. 196-197 • 10-4 Write Equivalent Fractions: Use Multiplication and Division—pp. 198-199 <p>See also</p> <p>Grade 4 Skills Update and Practice</p> <ul style="list-style-type: none"> • Find Fractions on a Number Line—online
<p>*OCS.Math.4.6b Generate an equivalent fraction by multiplying the numerator and denominator by the same number</p>	<p>Chapter 10 Fraction Concepts</p> <ul style="list-style-type: none"> • 10-2 Equivalent Fractions: Number Line Diagrams—pp. 194-195 • 10-3 Write Equivalent Fractions: Use Models—pp. 196-197 • 10-4 Write Equivalent Fractions: Use Multiplication and Division—pp. 198-199 <p>See also</p> <p>Grade 4 Skills Update and Practice</p> <ul style="list-style-type: none"> • Find Equivalent Fractions—online • Find Equivalent Fractions on a Number Line—online
<p>*OCS.Math.4.6c Compare two fractions with different numerators and denominators using $<$, $>$ and $=$</p>	<p>Chapter 10 Fraction Concepts</p> <ul style="list-style-type: none"> • 10-8 Compare Fractions (different denominators)—pp. 208-209 • 10-10 Compare Mixed Numbers—pp. 212-213 • 10-11 Order Fractions and Mixed Numbers—pp. 214-215 <p>See also readiness</p> <p>Grade 4 Skills Update and Practice</p> <ul style="list-style-type: none"> • Compare Fractions with the Same Numerator—online • Compare Fractions with the Same Denominator—online <p>Chapter 10 Fraction Concepts</p> <ul style="list-style-type: none"> • 10-6 Compare Fractions: Use Benchmarks—pp. 204-205 • 10-7 Compare Fractions with the Same Denominator—pp. 206-207
<p>*OCS.Math.4.6d Recognize that the magnitude of a fraction or decimal is determined by the size of the whole to which it refers</p>	<p>Chapter 10 Fraction Concepts</p> <ul style="list-style-type: none"> • 10-1 Fractions of a Set—pp. 192-193 • 10-7 Compare Fractions with the Same Denominator—pp. 206-207 • 10-8 Compare Fractions—pp. 208-209 • 10-9 Mixed Numbers—pp. 210-211 • 10-10 Compare Mixed Numbers—pp. 212-213 • 10-11 Order Fractions and Mixed Numbers—pp. 214-215 <p>Chapter 13 Fractions and Decimals</p> <ul style="list-style-type: none"> • 13-1 Equivalent Fractions: Rename Tenths as Hundredths—pp. 272-273 • 13-2 Add and Subtract Fractions with Denominators of 10 and 100—pp. 274-275 • 13-3 Tenths and Hundredths as Fractions and Decimals—pp. 276-277 • 13-4 Decimals Greater Than One—pp. 278-279 • 13-5 Decimal Place Value—pp. 280-281

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NUMBER AND OPERATIONS—FRACTIONS (NF)

Grade 4 Content Standards	Sadlier Math, Grade 4
<p>OCS.Math.4.7 Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.</p>	
<p>*OCS.Math.4.7a Understand addition and subtraction of fractions as joining and separating parts referring to the same whole</p>	<p>Chapter 11 Fractions: Addition and Subtraction</p> <ul style="list-style-type: none"> • 11-1 Use Models to Add Fractions—pp. 224-225 • 11-2 Add Fractions: Like Denominators—pp. 226-227 • 11-3 Decompose Fractions as Sums of Unit Fractions—pp. 228-229 • 11-4 Use Models to Subtract Fractions—pp. 230-231 • 11-5 Subtract Fractions: Like Denominators—pp. 232-233 • 11-7 Add Mixed Numbers: Like Denominators—pp. 238-239 • 11-8 Subtract Mixed Numbers: Like Denominators—pp. 240-241
<p>*OCS.Math.4.7b Add fractions with common denominators</p>	<p>Chapter 11 Fractions: Addition and Subtraction</p> <ul style="list-style-type: none"> • 11-1 Use Models to Add Fractions—pp. 224-225 • 11-2 Add Fractions: Like Denominators—pp. 226-227
<p>*OCS.Math.4.7c Subtract fractions with common denominators</p>	<p>Chapter 11 Fractions: Addition and Subtraction</p> <ul style="list-style-type: none"> • 11-4 Use Models to Subtract Fractions—pp. 230-231 • 11-5 Subtract Fractions: Like Denominators—pp. 232-233
<p>OCS.Math.4.7d Decompose a fraction into a sum of fractions with the same denominator</p>	<p>Chapter 11 Fractions: Addition and Subtraction</p> <ul style="list-style-type: none"> • 11-2 Add Fractions: Like Denominators—pp. 226-227 • 11-3 Decompose Fractions as Sums of Unit Fractions—pp. 228-229 • 11-4 Use Models to Subtract Fractions—pp. 230-231
<p>OCS.Math.4.7e Demonstrate that a fraction a/b is a multiple of $1/b$</p>	<p>Chapter 12 Fractions: Multiply by a Whole Number</p> <ul style="list-style-type: none"> • 12-1 Add Unit Fractions to Multiply—pp. 250-251 • 12-2 Model Multiplying a Unit Fraction and a Whole Number—pp. 252-253 • 12-3 Multiply a Unit Fraction and a Whole Number—pp. 254-255 • 12-4 Model Multiplying a Fraction and a Whole Number—pp. 258-259
<p>OCS.Math.4.7f Add and subtract mixed numbers with like denominators</p>	<p>Chapter 11 Fractions: Addition and Subtraction</p> <ul style="list-style-type: none"> • 11-7 Add Mixed Numbers: Like Denominators—pp. 238-239 • 11-8 Subtract Mixed Numbers: Like Denominators—pp. 240-241
<p>OCS.Math.4.7g Solve word problems involving addition and subtraction of fractions with common denominators</p>	<p>Chapter 11 Fractions: Addition and Subtraction</p> <ul style="list-style-type: none"> • 11-1 Use Models to Add Fractions—pp. 224-225 • 11-2 Add Fractions: Like Denominators—pp. 226-227 • 11-4 Use Models to Subtract Fractions—pp. 230-231 • 11-5 Subtract Fractions: Like Denominators—pp. 232-233 • 11-9 Problem Solving: More Than One Way—pp. 242-243

NUMBER AND OPERATIONS—FRACTIONS (NF)	
Grade 4 Content Standards	Sadlier Math, Grade 4
* OCS.Math.4.7h Multiply a fraction by a whole number	<p>Chapter 12 Fractions: Multiply by a Whole Number</p> <ul style="list-style-type: none"> • 12-2 Model Multiplying a Unit Fraction and a Whole Number—pp. 252–253 • 12-3 Multiply a Unit Fraction and a Whole Number—pp. 254–255 • 12-4 Model Multiplying a Fraction and a Whole Number—pp. 258–259 • 12-5 Multiply a Fraction and a Whole Number—pp. 260–261 • 12-6 Represent Situations Involving Multiplying a Fraction and a Whole Number—pp. 262–263
OCS.Math.4.7i Solve word problems involving multiplication of a fraction by a whole number	<p>Chapter 12 Fractions: Multiply by a Whole Number</p> <ul style="list-style-type: none"> • 12-2 Model Multiplying a Unit Fraction and a Whole Number—pp. 252–253 • 12-3 Multiply a Unit Fraction and a Whole Number—pp. 254–255 • 12-4 Model Multiplying a Fraction and a Whole Number—pp. 258–259 • 12-5 Multiply a Fraction and a Whole Number—pp. 260–261 • 12-6 Represent Situations Involving Multiplying a Fraction and a Whole Number—pp. 262–263 • 12-7 Problem Solving: Write an Equation—pp. 264–265
OCS.Math.4.8 Understand decimal notation for fractions, and compare decimal fractions.	
* OCS.Math.4.8a Explain the relationship between fractions, decimals, and percents	<p>Chapter 13 Fractions and Decimals</p> <ul style="list-style-type: none"> • 13-1 Equivalent Fractions: Rename Tenths as Hundredths—pp. 272–273 • 13-3 Tenths and Hundredths as Fractions and Decimals—pp. 276–277 • 13-4 Decimals Greater Than One—pp. 278–279 • 13-5 Decimal Place Value—pp. 280–281 <p>See also <i>Grade 6</i></p> <p>Chapter 11 Percent</p> <ul style="list-style-type: none"> • 11-1 Percent—pp. 254–255 • 11-2 Relate Percents to Fractions—pp. 256–257 • 11-3 Relate Percents to Decimals—pp. 258–259 • 11-4 Relate Decimals, Fractions, and Percents—pp. 260–261
* OCS.Math.4.8b Translate fractions with denominators 10 or 100 into decimals	<p>Chapter 13 Fractions and Decimals</p> <ul style="list-style-type: none"> • 13-1 Equivalent Fractions: Rename Tenths as Hundredths—pp. 272–273 • 13-3 Tenths and Hundredths as Fractions and Decimals—pp. 276–277 • 13-4 Decimals Greater Than One—pp. 278–279 • 13-5 Decimal Place Value—pp. 280–281

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NUMBER AND OPERATIONS—FRACTIONS (NF)

Grade 4 Content Standards	Sadlier Math, Grade 4
OCS.Math.4.8c Compare two decimals to the hundredth place by reasoning about their size	Chapter 13 Fractions and Decimals <ul style="list-style-type: none"> 13-6 Compare Decimals with Models and Symbols—pp. 284-285 13-7 Order Decimals—pp. 286-287
OCS.Math.4.8d Compare two decimals to the hundredth place using $<$, $>$ and $=$	Chapter 13 Fractions and Decimals <ul style="list-style-type: none"> 13-6 Compare Decimals with Models and Symbols—pp. 284-285 13-7 Order Decimals—pp. 286-287
*OCS.Math.4.8e Add decimals	<i>See Grade 5</i> Chapter 10 Decimals: Addition <ul style="list-style-type: none"> 10-1 Use Models to Add Decimals—pp. 220-221 10-2 Use Properties to Add Decimals—pp. 222-223 10-3 Estimate Decimal Sums—pp. 224-225 10-4 Problem Solving: Draw a Picture—pp. 228-229 10-5 Add Decimals: Hundredths—pp. 230-231 10-6 Add Decimals: Thousandths—pp. 232-233
*OCS.Math.4.8f Subtract decimals	<i>See Grade 5</i> 11 Decimals: Subtraction <ul style="list-style-type: none"> 11-1 Use Models to Subtract Decimals—pp. 242-243 11-2 Estimate Decimal Differences—pp. 244-245 11-3 Subtract Decimals: Hundredths—pp. 248-249 11-4 Subtract Decimals: Thousandths—pp. 250-251

MEASUREMENT AND DATA (MD)

Grade 4 Content Standards	Sadlier Math, Grade 4
OCS.Math.4.9 Solve problems involving measurement and conversion of measurements.	
*OCS.Math.4.9a Know relative size of standard measurement units in customary and metric systems (mass, weight, liquid, volume, length, time)	Chapter 14 Measurement <ul style="list-style-type: none"> 14-1 Measure with Inches—pp. 296-297 14-2 Customary Units of Length—pp. 298-299 14-3 Customary Units of Capacity—pp. 300-301 14-4 Customary Units of Weight—pp. 302-303 14-6 Metric Units of Length—pp. 308-311 14-7 Metric Units of Capacity—pp. 310-313 Chapter 15 Measurement and Data <ul style="list-style-type: none"> 15-3 Elapsed Time—pp. 328-329 <i>See also Grade 5</i> Chapter 16 Volume <ul style="list-style-type: none"> 16-1 Solid Figures—pp. 360-361 16-2 Cubic Measure—pp. 362-363 <p style="text-align: right;"><i>continued</i></p>

*Essential Standard

MEASUREMENT AND DATA (MD)	
Grade 4 Content Standards	Sadlier Math, Grade 4
	<ul style="list-style-type: none"> • 16-3 Volume of Rectangular Prisms—pp. 364–365 • 16-4 Volume Formulas—pp. 368–369 • 16-5 Volume of Composite Figures—pp. 370–371
*OCS.Math.4.9b Describe relationship of measurement units within US customary system and metric system	<p>Chapter 14 Measurement</p> <ul style="list-style-type: none"> • 14-1 Measure with Inches—pp. 296–297 • 14-2 Customary Units of Length—pp. 298–299 • 14-3 Customary Units of Capacity—pp. 300–301 • 14-4 Customary Units of Weight—pp. 302–303 • 14-5 Operations with Customary Units—pp. 304–305 • 14-6 Metric Units of Length—pp. 308–311 • 14-7 Metric Units of Capacity—pp. 310–313 • 14-8 Metric Units of Mass—pp. 312–313 • 14-9 Operations with Metric Units—pp. 314–315 • 14-10 Problem Solving: Make a Table—pp. 316–317
OCS.Math.4.9c Record measurement equivalents in table	<p>Chapter 14 Measurement</p> <ul style="list-style-type: none"> • 14-3 Customary Units of Capacity—pp. 300–301 • 14-4 Customary Units of Weight—pp. 302–303 • 14-6 Metric Units of Length—pp. 308–311 • 14-7 Metric Units of Capacity—pp. 310–313 • 14-8 Metric Units of Mass—pp. 312–313 • 14-10 Problem Solving: Make a Table—pp. 316–317
OCS.Math.4.9d Use the four operations to solve measurement word problems involving simple fractions	<p>Chapter 14 Measurement</p> <ul style="list-style-type: none"> • 14-1 Measure with Inches—pp. 296–297 • 14-2 Customary Units of Length—pp. 298–299 • 14-3 Customary Units of Capacity—pp. 300–301 • 14-4 Customary Units of Weight—pp. 302–303 • 14-5 Operations with Customary Units—pp. 304–305
OCS.Math.4.9e Use the four operations to solve measurement word problems involving decimals	<p><i>See Grade 5</i></p> <p>Chapter 14 Measurement</p> <ul style="list-style-type: none"> • 14-5 Relate Metric Units of Length—pp. 326–327 • 14-6 Relate Metric Units of Capacity—pp. 328–329 • 14-7 Relate Metric Units of Mass—pp. 330–331 • 14-8 Compute with Metric Units—pp. 332–333
OCS.Math.4.9f Use the four operations to solve measurement word problems involving conversions from larger units to smaller units	<p>Chapter 14 Measurement</p> <ul style="list-style-type: none"> • 14-2 Customary Units of Length—pp. 298–299 • 14-3 Customary Units of Capacity—pp. 300–301 • 14-4 Customary Units of Weight—pp. 302–303 • 14-5 Operations with Customary Units—pp. 304–305 • 14-6 Metric Units of Length—pp. 308–311 • 14-7 Metric Units of Capacity—pp. 310–313 • 14-8 Metric Units of Mass—pp. 312–313 • 14-9 Operations with Metric Units—pp. 314–315 • 14-10 Problem Solving: Make a Table—pp. 316–317 <p style="text-align: right;"><i>continued</i></p>

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*Essential Standard

MEASUREMENT AND DATA (MD)	
Grade 4 Content Standards	Sadlier Math, Grade 4
	<p>Chapter 15 Measurement and Data</p> <ul style="list-style-type: none"> 15-2 Use Multiplication to Rename Measures—pp. 326–327 15-3 Elapsed Time—pp. 328–329
<p>OCS.Math.4.9g Use a diagram to represent measurement quantities to solve word problems</p>	<p>Chapter 14 Measurement</p> <ul style="list-style-type: none"> 14-1 Measure with Inches—pp. 296–297 14-5 Operations with Customary Units—pp. 304–305 14-6 Metric Units of Length—pp. 308–311 <p>Chapter 15 Measurement and Data</p> <ul style="list-style-type: none"> 15-1 Represent Measures on a Number Line—pp. 324–325 15-3 Elapsed Time—pp. 328–329 15-4 Temperature—pp. 330–331
<p>*OCS.Math.4.9h Apply the area formula for rectangles in real world and mathematical problems</p>	<p>Chapter 17 Polygons</p> <ul style="list-style-type: none"> 17-7 Use Area Formulas—pp. 384–385 <p>See also</p> <p>Grade 4 Skills Update and Practice</p> <ul style="list-style-type: none"> Find the Area of a Rectangle and a Square—online
<p>*OCS.Math.4.9i Apply the perimeter formula for rectangles in the real world and mathematical problems</p>	<p>Chapter 17 Polygons</p> <ul style="list-style-type: none"> 17-6 Use Perimeter Formulas—pp. 382–383 <p>See also</p> <p>Grade 4 Skills Update and Practice</p> <ul style="list-style-type: none"> Find Perimeter—online
<p>OCS.Math.4.10 Understand and apply the statistics process.</p>	
<p>OCS.Math.4.10a Generate and design an investigation for a statistical question based on numerical data</p>	<p>Chapter 15 Measurement and Data</p> <ul style="list-style-type: none"> 15-7 Surveys and Line Plots—pp. 338–339
<p>OCS.Math.4.10b Make a line plot to display a data set of measurement in fractions of a unit</p>	<p>Chapter 15 Measurement and Data</p> <ul style="list-style-type: none"> 15-6 Line Plots—pp. 336–337 15-7 Surveys and Line Plots—pp. 338–339
<p>OCS.Math.4.10c Use data from line plot to solve problems involving addition and subtraction of fractions</p>	<p>Chapter 15 Measurement and Data</p> <ul style="list-style-type: none"> 15-6 Line Plots—pp. 336–337 15-7 Surveys and Line Plots—pp. 338–339
<p>OCS.Math.4.10d Predict the frequency of an outcome in a simple probability experiment</p>	N/A
<p>OCS.Math.4.10e Determine how the number of repetitions of a probability experiment can affect conclusions drawn</p>	N/A

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MEASUREMENT AND DATA (MD)

Grade 4 Content Standards	<i>Sadlier Math, Grade 4</i>
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OCS.Math.4.11 Geometric measurement: understand concepts of angle and measure angles.

*OCS.Math.4.11a Show that an angle is measured with reference to a circle with the intersection of the rays at the center of the circle	Chapter 16 Lines and Angles • 16-2 Angle Measure—pp. 352-353
*OCS.Math.4.11b Measure and sketch angles in whole number degrees using protractors	Chapter 16 Lines and Angles • 16-3 Measure Angles (use a protractor)—pp. 356-357
OCS.Math.4.11c Recognize that a 1 degree angle is $\frac{1}{360}$ of a circle	Chapter 16 Lines and Angles • 16-2 Angle Measure—pp. 352-353
OCS.Math.4.11d Show that angle measure is additive	Chapter 16 Lines and Angles • 16-4 Unknown Angle Measures—pp. 358-359
*OCS.Math.4.11e Solve addition and subtraction problems to find the value of unknown angles on a diagram in real world and mathematical problems	Chapter 16 Lines and Angles • 16-4 Unknown Angle Measures—pp. 358-359

GEOMETRY (G)

Grade 4 Content Standards	<i>Sadlier Math, Grade 4</i>
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OCS.Math.4.12 Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

*OCS.Math.4.12a Define and draw point, lines, line segments, rays, angles, perpendicular lines and parallel lines	Chapter 16 Lines and Angles • 16-1 Points, Lines, Line Segments, Rays and Angles—pp. 350-351 • 16-2 Angle Measure—pp. 352-353 • 16-3 Measure Angles—pp. 356-357 • 16-4 Unknown Angle Measures—pp. 358-359 • 16-5 Parallel and Perpendicular Lines—pp. 360-361 • 16-6 Problem Solving: Use a Diagram—pp. 362-363
*OCS.Math.4.12b Identify right, acute, obtuse angle, parallel and perpendicular lines in two dimensional figures	Chapter 16 Lines and Angles • 16-2 Angle Measure—pp. 352-353 • 16-3 Measure Angles—pp. 356-357 • 16-4 Unknown Angle Measures—pp. 358-359 • 16-5 Parallel and Perpendicular Lines—pp. 360-361 Chapter 17 Polygons • 17-2 Quadrilaterals—pp. 372-373 • 17-3 Triangles—pp. 374-375

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GEOMETRY (G)	
Grade 4 Content Standards	Sadlier Math, Grade 4
OCS.Math.4.12c Classify two dimensional figures based on the presence or absence of parallel or perpendicular lines	Chapter 17 Polygons • 17-2 Quadrilaterals—pp. 372–373
OCS.Math.4.12d Classify two dimensional figures based on the presence or absence of angles of a specified size	Chapter 17 Polygons • 17-1 Polygons—pp. 370–371 • 17-2 Quadrilaterals—pp. 372–373 • 17-3 Triangles—pp. 374–375
*OCS.Math.4.12e Identify the attributes of a right triangle	Chapter 17 Polygons • 17-3 Triangles—pp. 374–375

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