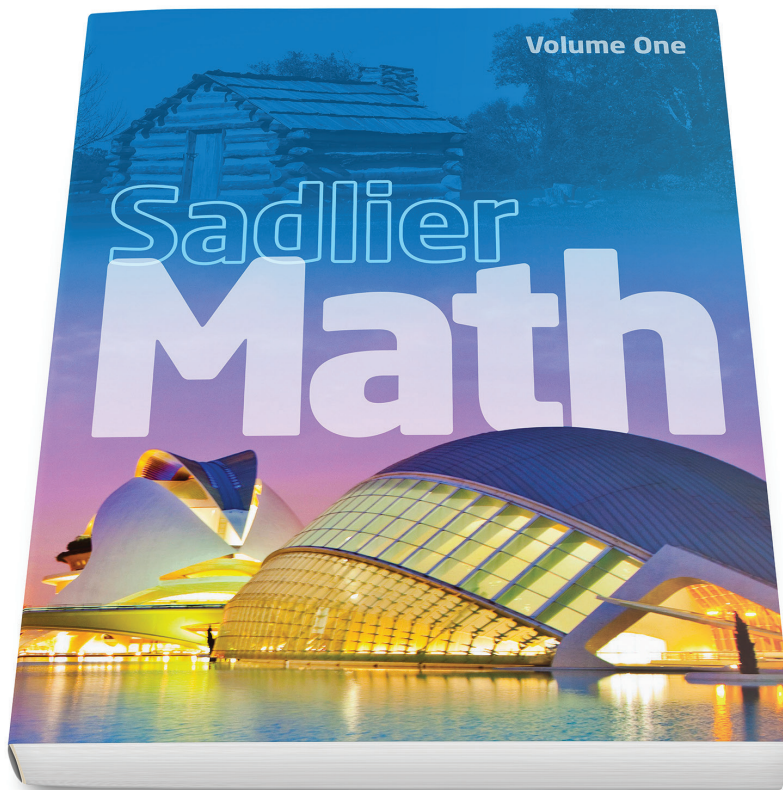# *Sadlier Math*™

Correlation to the Archdiocese of Hartford
Mathematics Standards-based Curriculum

Grade 2

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NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 2 Standards	*Sadlier Math*, Grade 2

NOA 2.1 Understand and apply place value, ways of representing numbers, properties of operations, and the relationship between addition and subtraction
 	
• To represent the result of counting, combining and separating sets of objects using number sentences (NOA 2.1, 2.2)
  ○ Model real-life situations that involve addition and subtraction of whole numbers, using objects, pictures and open sentences
  ○ Write related fact families for addition and subtraction
  ○ Relate the inverse relationship of addition and subtraction facts to 20
  ○ Memorize addition and related subtraction facts to 20
  ○ Solve problems and apply addition and subtraction facts to real world situations
 	
• To identify functional number relationships in real-world situations (NOA 2.1)
 	
• To represent the result of counting, combining and separating sets of objects using number sentences (NOA 2.1)
	Chapter 1: 1-1 through 1-10
	• 1-1 Addition Concepts—pp. 3–6
	• 1-2 Put Together—pp. 7–10
	• 1-3 Related Addition Facts—pp. 11–14
	• 1-4 Count On to Add—pp. 15–18
	• 1-5 Doubles and Near Doubles—pp. 19–22
	• 1-6 Make 10 to Add—pp. 23–26
	• 1-7 Three Addends—pp. 29–32
	• 1-8 Problem Solving: Make and Use a Plan—pp. 33–38
	• 1-9 Solve for Unknown Addends—pp. 39–42
	• 1-10 Patterns in Addition—pp. 43–46
	
	Chapter 2: 2-1 through 2-12
	• 2-1 Subtraction Concepts—pp. 53–56
	• 2-2 Take Apart—pp. 57–60
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	• 2-5 Related Subtraction Facts—pp. 69–72
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	• 2-10 Solve for Unknowns—pp. 91–94
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• To use prior understanding of addition and subtraction to develop strategies for multi-digit addition and subtraction (NOA 2.1, 2.2)
 	
• To develop, discuss, and use efficient, accurate, and various methods to add and subtract multi-digit whole numbers (NOA 2.1, 2.2)
  ○ Use estimation strategies that result in reasonable answers to a problem
  ○ Build fluency with addition and subtraction by applying standard algorithms to real world applications
 	
• To develops fluency with efficient procedures for adding and subtracting whole numbers, understand why the procedures work, and use them to solve problems (NOA 2.1, 2.2, 2.3)
 	
continued
	Chapter 4: 4-1 through 4-10
	• 4-1 Use Models: Add Tens and Ones—pp. 145–148
	• 4-2 Add Tens and Ones—pp. 149–152
	• 4-3 Regroup Ones as Tens—pp. 155–158
	• 4-4 Use Models: Two-Digit Addition with Regrouping—pp. 159–162
	• 4-5 Two-Digit Addition with Regrouping—pp. 163–166
	• 4-6 Rewrite Two-Digit Addition—pp. 167–170
	• 4-7 Break Apart to Add—pp. 171–174
	• 4-8 Three Addends—pp. 175–178
	• 4-9 Four Addends—pp. 179–182
	• 4-10 Problem Solving: Read and Understand—pp. 183–188
	
	Chapter 5: 5-1 through 5-9
	• 5-1 Use Models: Subtract Tens and Ones—pp. 195–198
	• 5-2 Subtract Tens and Ones—pp. 199–202
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	• 5-4 Use Models: Two-Digit Subtraction with Regrouping—pp. 209–212
	• 5-5 Two-Digit Subtraction with Regrouping—pp. 213–216
	• 5-6 Rewrite Two-Digit Subtraction—pp. 217–220
	• 5-7 Break Apart to Subtract—pp. 221–224
	• 5-8 Add to Check—pp. 225–228
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	continued

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NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 2 Standards	*Sadlier Math*, Grade 2
○ Add and subtract 2 digit numbers with regrouping ○ Add 1 and 2 digit numbers with 3 addends – column addition ○ Choose addition or subtraction to complete functions tables ○ Identify missing addends with 2 digit numbers ○ Choose & justify the correct operation in a word problem (+, -) ○ Check subtraction with addition ○ Round numbers to the nearest 10 ○ Round to estimate sums of two digit numbers ○ Use estimation strategies that result in reasonable answers to a problem ○ Build fluency with addition and subtraction by applying standard algorithms to real world applications	**Chapter 8: 8-1 through 8-8** • 8-1 Mental Math: Add 1, 10, or 100—pp. 341–344 • 8-2 Add Hundreds, Tens, and Ones—pp. 345–348 • 8-3 Add: Regroup Ones as Tens—pp. 349–352 • 8-4 Regroup Tens as Hundreds Using Models—pp. 353–356 • 8-5 Add: Regroup Tens as Hundreds—pp. 357–360 • 8-6 Add: Regroup Twice—pp. 363–366 • 8-7 Problem Solving: Make an Organized List—pp. 367–372 • 8-8 Use Properties to Add—pp. 373–376 **Chapter 9: 9-1 through 9-9** • 9-1 Mental Math: Subtract 1, 10, or 100—pp. 383–386 • 9-2 Subtract Hundreds, Tens, and Ones—pp. 387–390 • 9-3 Subtract: Regroup Tens as Ones—pp. 391–394 • 9-4 Regroup Hundreds as Tens Using Models—pp. 395–398 • 9-5 Subtract: Regroup Hundreds as Tens—pp. 399–402 • 9-6 Subtract: Regroup Twice—pp. 405–408 • 9-7 Subtract: Regroup with Zeros—pp. 409–412 • 9-8 Problem Solving: Represent the Situation—pp. 413–418 • 9-9 Use Addition to Check Subtraction: Three-Digit Numbers—pp. 419–422 See also Grade 3 **Chapter 1: 1-4 & 1-5** • 1-4 Round Numbers to the Nearest Ten—pp. 10–11 • 1-5 Round Numbers to the Nearest Hundred—pp. 12–13 **Chapter 2: 2-1** • 2-3 Estimate Sums—pp. 26–27 **Chapter 3: 3-1** • 3-1 Estimate Differences—pp. 46–47
• To represent three digit numbers as groups of hundreds, tens, and ones in the base ten number system (NOA 2.1) ○ Demonstrate place values using models ○ Write expanded numerals in standard form ○ Expand numerals by identifying the value of each digit in its place ○ Count, order, compare, and expand numerals to 999 ○ Identify and name place values to the thousands place	**Chapter 3: 3-1 through 3-5** • 3-1 Tens and Ones—pp. 111–114 • 3-2 Expanded Form—pp. 115–118 • 3-3 Compare Numbers—pp. 119–122 • 3-4 Order Numbers Within 100—pp. 125–128 • 3-5 Counting Patterns by 2s, 5s, and 10s—pp. 129–132 **Chapter 7: 7-1 through 7-8** • 7-1 Hundreds—pp. 299–302 • 7-2 Hundreds, Tens, and Ones—pp. 303–306 • 7-3 Place Value in Three-Digit Numbers—pp. 307–310 • 7-4 Expanded Form with Hundreds, Tens, and Ones—pp. 311–314 • 7-5 Skip Count Within 1000—pp. 317–320 • 7-6 Compare Numbers Within 1000—pp. 321–324 • 7-7 Order Numbers Within 1000—pp. 325–328 • 7-8 Problem Solving: Use a Table—pp. 329–334

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 2 Standards	*Sadlier Math*, Grade 2
• To describe the relationship between multiplication and division (NOA 2.1) ○ Relate skip counting and repeated addition to multiplication. ○ Draw arrays to model multiplication ○ Explore products to 25 ○ Use models to demonstrate division (Make equal groups and use repeated subtraction.) ○ Illustrate repeated addition and subtraction on a number line ○ Use arrays to relate multiplication and division	**Chapter 3: 3-5** • 3-5 Counting Patterns by 2s, 5s, and 10s—pp. 129–132 **Chapter 7: 7-5** • 7-5 Skip Count Within 1000—pp. 317–320 **Chapter 10: 10-1 through 10-4** • 10-1 Odd and Even Numbers—pp. 429–432 • 10-2 Represent Even Numbers—pp. 433–436 • 10-3 Arrays: Repeated Addition—pp. 439–442 • 10-4 Arrays: Show the Same Number—pp. 443–446 See also Grade 3 **Chapter 4: 4-1 through 4-6** • 4-1 Represent Multiplication as Repeated Addition—pp. 66–67 • 4-2 Represent Multiplication on a Number Line—pp. 68–69 • 4-3 Represent Multiplication as Arrays—pp. 70–71 • 4-4 Multiply with the Commutative Property—pp. 74–75 • 4-5 Represent Division by Sharing—pp. 76–77 • 4-6 Represent Division by Repeated Subtraction—pp. 78–79
NOA 2.2 Represent and solve problems involving addition and subtraction. • To represent the result of counting, combining and separating sets of objects using number sentences (NOA 2.1, 2.2) • To use prior understanding of addition and subtraction to develop strategies for multi-digit addition and subtraction (NOA 2.1, 2.2) • To develop, discuss, and use efficient, accurate, and various methods to add and subtract multi-digit whole numbers (NOA 2.1, 2.2) • To develops fluency with efficient procedures for adding and subtracting whole numbers, understand why the procedures work, and use them to solve problems (NOA 2.1, 2.2, 2.3)	**Chapter 1: 1-1 through 1-10** • 1-1 Addition Concepts—pp. 3–6 • 1-2 Put Together—pp. 7–10 • 1-3 Related Addition Facts—pp. 11–14 • 1-4 Count On to Add—pp. 15–18 • 1-5 Doubles and Near Doubles—pp. 19–22 • 1-6 Make 10 to Add—pp. 23–26 • 1-7 Three Addends—pp. 29–32 • 1-8 Problem Solving: Make and Use a Plan—pp. 33–38 • 1-9 Solve for Unknown Addends—pp. 39–42 • 1-10 Patterns in Addition—pp. 43–46 **Chapter 2: 2-1 through 2-12** • 2-1 Subtraction Concepts—pp. 53–56 • 2-2 Take Apart—pp. 57–60 • 2-3 Subtract to Compare—pp. 61–64 • 2-4 Count On to Subtract—pp. 65–68 • 2-5 Related Subtraction Facts—pp. 69–72 • 2-6 Relate Addition and Subtraction—pp. 73–76 • 2-7 Fact Families—pp. 77–80 • 2-8 Think Addition to Subtract—pp. 83–86 • 2-9 Use Addition to Check—pp. 87–90 • 2-10 Solve for Unknowns—pp. 91–94 • 2-11 Make 10 to Subtract—pp. 95–98 • 2-12 Problem Solving: Work Backward—pp. 99–104 **Chapter 4: 4-1 through 4-10** • 4-1 Use Models: Add Tens and Ones—pp. 145–148 • 4-2 Add Tens and Ones—pp. 149–152 • 4-3 Regroup Ones as Tens—pp. 155–158 • 4-4 Use Models: Two-Digit Addition with Regrouping—pp. 159–162 • 4-5 Two-Digit Addition with Regrouping—pp. 163–166 • 4-6 Rewrite Two-Digit Addition—pp. 167–170 • 4-7 Break Apart to Add—pp. 171–174 *continued*

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

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	• 4-8 Three Addends—pp. 175–178 • 4-9 Four Addends—pp. 179–182 • 4-10 Problem Solving: Read and Understand—pp. 183–188 **Chapter 5: 5-1 through 5-9** • 5-1 Use Models: Subtract Tens and Ones—pp. 195–198 • 5-2 Subtract Tens and Ones—pp. 199–202 • 5-3 Regroup Tens as Ones—pp. 205–208 • 5-4 Use Models: Two-Digit Subtraction with Regrouping—pp. 209–212 • 5-5 Two-Digit Subtraction with Regrouping—pp. 213–216 • 5-6 Rewrite Two-Digit Subtraction—pp. 217–220 • 5-7 Break Apart to Subtract—pp. 221–224 • 5-8 Add to Check—pp. 225–228 • 5-9 Problem Solving: Write and Solve an Equation—pp. 229–234 **Chapter 8: 8-1 through 8-8** • 8-1 Mental Math: Add 1, 10, or 100—pp. 341–344 • 8-2 Add Hundreds, Tens, and Ones—pp. 345–348 • 8-3 Add: Regroup Ones as Tens—pp. 349–352 • 8-4 Regroup Tens as Hundreds Using Models—pp. 353–356 • 8-5 Add: Regroup Tens as Hundreds—pp. 357–360 • 8-6 Add: Regroup Twice—pp. 363–366 • 8-7 Problem Solving: Make an Organized List—pp. 367–372 • 8-8 Use Properties to Add—pp. 373–376 **Chapter 9: 9-1 through 9-9** • 9-1 Mental Math: Subtract 1, 10, or 100—pp. 383–386 • 9-2 Subtract Hundreds, Tens, and Ones—pp. 387–390 • 9-3 Subtract: Regroup Tens as Ones—pp. 391–394 • 9-4 Regroup Hundreds as Tens Using Models—pp. 395–398 • 9-5 Subtract: Regroup Hundreds as Tens—pp. 399–402 • 9-6 Subtract: Regroup Twice—pp. 405–408 • 9-7 Subtract: Regroup with Zeros—pp. 409–412 • 9-8 Problem Solving: Represent the Situation—pp. 413–418 • 9-9 Use Addition to Check Subtraction: Three-Digit Numbers—pp. 419–422
NOA 2.3 Add and subtract fluently within 20 • To develop fact families using inverse relationships (NOA 2.8, 2.3, 2.4) • To build on previous understanding of addition and subtraction to develop quick recall of basic addition and subtraction facts (NOA 2.3) • To develops fluency with efficient procedures for adding and subtracting whole numbers, understand why the procedures work, and use them to solve problems (NOA 2.1, 2.2, 2.3)	**Chapter 1: 1-1 through 1-10** • 1-1 Addition Concepts—pp. 3–6 • 1-2 Put Together—pp. 7–10 • 1-3 Related Addition Facts—pp. 11–14 • 1-4 Count On to Add—pp. 15–18 • 1-5 Doubles and Near Doubles—pp. 19–22 • 1-6 Make 10 to Add—pp. 23–26 • 1-7 Three Addends—pp. 29–32 • 1-8 Problem Solving: Make and Use a Plan—pp. 33–38 • 1-9 Solve for Unknown Addends—pp. 39–42 • 1-10 Patterns in Addition—pp. 43–46 **Chapter 2: 2-1 through 2-12** • 2-1 Subtraction Concepts—pp. 53–56 • 2-2 Take Apart—pp. 57–60 • 2-3 Subtract to Compare—pp. 61–64 • 2-4 Count On to Subtract—pp. 65–68 *continued*

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Grade 2 Standards	*Sadlier Math*, Grade 2
	• 2-5 Related Subtraction Facts—pp. 69–72 • 2-6 Relate Addition and Subtraction—pp. 73–76 • 2-7 Fact Families—pp. 77–80 • 2-8 Think Addition to Subtract—pp. 83–86 • 2-9 Use Addition to Check—pp. 87–90 • 2-10 Solve for Unknowns—pp. 91–94 • 2-11 Make 10 to Subtract—pp. 95–98 • 2-12 Problem Solving: Work Backward—pp. 99–104
• To create portions of equal size to illustrate fractions (NOA 2.3)	**Chapter 14: 14-1 through 14-5** • 14-1 Partition Rectangles into Rows and Columns—pp. 585–588 • 14-2 Halves—pp. 589–592 • 14-3 Thirds—pp. 595–598 • 14-4 Fourths—pp. 599–602 • 14-5 Problem Solving: Compare Models—pp. 603–608

• To use concepts based on patterns and place values to add and subtract (NOA 2.3, 2.5, 2.7)
  ○ Read, write and identify halves, thirds and fourths
  ○ Identify more than one equal part of a region, area, or object
  ○ Describe the significance of a numerator and denominator
  ○ Compare parts of whole object and describe them as closer to zero, one half, or one whole
  ○ Identify fractions on a number line (halves, thirds and fourths)
  ○ Read, write and identify all fractions
  ○ Compare unit fractions
  ○ Compare fractions with like denominators
  ○ Use visual models to identify and compare fractions
  ○ Identify and model fractional parts of a set
	Chapter 14: 14-1 through 14-5
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	See also Grade 3
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	• 9 Fraction Concepts—pp. Concepts–186
	• 9-1 Understand Equal Parts—pp. 188–189
	• 9-2 Name Unit Fractions of a Whole—pp. 190–191
	• 9-3 Find Unit Fractions on a Number Line—pp. 192–193
	• 9-4 Name Fractions of a Whole—pp. 196–197
	• 9-5 Find Fractions on a Number Line—pp. 198–199
	• 9-6 Use a Fraction to Find the Whole—pp. 200–201
	Chapter 10: 10-1 through 10-5
	• 10-2 Find Equivalent Fractions—pp. 212–213
	• 10-3 Find Equivalent Fractions on a Number Line—pp. 214–215
	• 10-4 Compare Fractions with the Same Denominator—pp. 218–219
	• 10-5 Compare Fractions with the Same Numerator—pp. 220–221

• To use concepts based on patterns and place values to add and subtract (NOA 2.3, 2.5, 2.7)
  ○ Add and subtract 3 digit numbers without regrouping
  ○ Add and subtract 3 digit numbers with regrouping
  ○ Round numbers to the nearest hundred
  ○ Subtract 3 digit numbers with regrouping through zeroes
  ○ Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction
	Chapter 1: 1-10
	• 1-10 Patterns in Addition—pp. 43–46
	Chapter 3: 3-5
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Grade 2 Standards	*Sadlier Math*, Grade 2

	Chapter 5: 5-1 through 5-8
	• 5-1 Use Models: Subtract Tens and Ones—pp. 195–198
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	Chapter 7: 7-5
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	• 15-3 Time Patterns—pp. 573–576
	
	See also Grade 3
	    Chapter 1: 1-1 through 1-6
	    • 1-4 Round Numbers to the Nearest Ten—pp. 10–11
	    • 1-5 Round Numbers to the Nearest Hundred—pp. 12–13

NOA 2.4 Use fractions to draw conclusions about the fairness and equity of resources
 	
• To develop fact families using inverse relationships (NOA 2.8, 2.3, 2.4)
	Chapter 2: 2-6 through 2-10
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	• 2-7 Fact Families—pp. 77–80
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	    • 9-4 Name Fractions of a Whole—pp. 196–197
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Grade 2 Standards	*Sadlier Math*, Grade 2

NOA 2.5 Understand patterns; represent and analyze mathematical problems using algebraic properties of addition and subtraction
 	
• To identify, describe, create, and extend a number of patterns (NOA 2.5, 2.7)
 	
• Students will analyze change in quantity and quality using patterns. (NOA 2.5)
  ○ Determine whether a number is even or odd using manipulatives
  ○ Skip count by 3, 4, and 100
  ○ Identify numbers as odd or even
 	
• To use concepts based on patterns and place values to add and subtract (NOA 2.5)
 	
• To develop, discuss, and use efficient, accurate, and various methods to add and subtract multi-digit whole numbers (NOA 2.1, 2.2)
 	
• To use concepts based on patterns and place values to add and subtract (NOA 2.3, 2.5, 2.7)
	Chapter 1: 1-10
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	• 4-6 Rewrite Two-Digit Addition—pp. 167–170
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	Chapter 5: 5-1 through 5-9
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	• 5-6 Rewrite Two-Digit Subtraction—pp. 217–220
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	• 5-8 Add to Check—pp. 225–228
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	Chapter 7: 7-5
	• 7-5 Skip Count Within 1000—pp. 317–320
	Chapter 15: 15-3
	• 15-3 Time Patterns—pp. 573–576

• To use concepts based on patterns and place values to add and subtract (NOA 2.3, 2.5, 2.7)
  ○ Add and subtract 3 digit numbers without regrouping
  ○ Add and subtract 3 digit numbers with regrouping
  ○ Round numbers to the nearest hundred
  ○ Subtract 3 digit numbers with regrouping through zeroes
  ○ Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/ or the relationship between addition and subtraction
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	• 9-4 Regroup Hundreds as Tens Using Models—pp. 395–398
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	• 9-6 Subtract: Regroup Twice—pp. 405–408
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	See also Grade 3 **Chapter 1: 1-1 through 1-6** • 1-4 Round Numbers to the Nearest Ten—pp. 10–11 • 1-5 Round Numbers to the Nearest Hundred—pp. 12–13

NOA 2.6 Use mathematical models to represent and understand quantitative relationships
 	
• To analyze how both repeating and growing patterns are generated (NOA 2.6)
  ○ Describe attributes and relationships of objects
  ○ Sort, classify, and order objects and numbers based on one and two attributes and describe the rule used
  ○ Translate the same pattern from one representation (such as color) to another representation (such as shape)
  ○ Describe counting and number patterns
  ○ Explore and solve problems involving simple number patterns.
  ○ Identify objects with common or different attributes
  ○ Identify missing objects in a pattern
 	
• To recognize, describe, and extend patterns such as sequences of sounds and shapes or simple numeric patterns and translate from one representation to another (NOA 2.6)
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	Chapter 15: 15-3
	• 15-3 Time Patterns—pp. 573–576

• To develop, discuss, and use efficient, accurate, and various methods to add and subtract multi-digit whole numbers (NOA 2.1, 2.2)	**Chapter 4: 4-1 through 4-7** • 4-1 Use Models: Add Tens and Ones—pp. 145–148 • 4-2 Add Tens and Ones—pp. 149–152 • 4-3 Regroup Ones as Tens—pp. 155–158 • 4-4 Use Models: Two-Digit Addition with Regrouping—pp. 159–162 • 4-5 Two-Digit Addition with Regrouping—pp. 163–166 • 4-6 Rewrite Two-Digit Addition—pp. 167–170 • 4-7 Break Apart to Add—pp. 171–174 **Chapter 5: 5-1 through 5-9** • 5-1 Use Models: Subtract Tens and Ones—pp. 195–198 • 5-2 Subtract Tens and Ones—pp. 199–202 • 5-3 Regroup Tens as Ones—pp. 205–208 • 5-4 Use Models: Two-Digit Subtraction with Regrouping—pp. 209–212 • 5-5 Two-Digit Subtraction with Regrouping—pp. 213–216 • 5-6 Rewrite Two-Digit Subtraction—pp. 217–220 • 5-7 Break Apart to Subtract—pp. 221–224 • 5-8 Add to Check—pp. 225–228 • 5-9 Problem Solving: Write and Solve an Equation—pp. 229–234 *continued*

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 2 Standards	*Sadlier Math*, Grade 2
	Chapter 8: 8-1 through 8-8 • 8-1 Mental Math: Add 1, 10, or 100—pp. 341–344 • 8-2 Add Hundreds, Tens, and Ones—pp. 345–348 • 8-3 Add: Regroup Ones as Tens—pp. 349–352 • 8-4 Regroup Tens as Hundreds Using Models—pp. 353–356 • 8-5 Add: Regroup Tens as Hundreds—pp. 357–360 • 8-6 Add: Regroup Twice—pp. 363–366 • 8-7 Problem Solving: Make an Organized List—pp. 367–372 • 8-8 Use Properties to Add—pp. 373–376 **Chapter 9: 9-1, 9-2 & 9-6** • 9-1 Mental Math: Subtract 1, 10, or 100—pp. 383–386 • 9-2 Subtract Hundreds, Tens, and Ones—pp. 387–390 • 9-3 Subtract: Regroup Tens as Ones—pp. 391–394 • 9-4 Regroup Hundreds as Tens Using Models—pp. 395–398 • 9-5 Subtract: Regroup Hundreds as Tens—pp. 399–402 • 9-6 Subtract: Regroup Twice—pp. 405–408 • 9-7 Subtract: Regroup with Zeros—pp. 409–412 • 9-8 Problem Solving: Represent the Situation—pp. 413–418 • 9-9 Use Addition to Check Subtraction: Three-Digit Numbers—pp. 419–422
NOA 2.7 Analyze change of quantity and quality using patterns • To identify, describe, create, and extend a number of patterns (NOA 2.5, 2.7) • To use number sentences to represent quantitative relationships (NOA 2.7) • To use concepts based on patterns and place values to add and subtract (NOA 2.3, 2.5, 2.7) ○ Identify number words to one hundred ○ Identify and name place values: hundreds, tens and ones ○ Add and subtract 3 digit numbers without regrouping ○ Add and subtract 3 digit numbers with regrouping ○ Round numbers to the nearest hundred ○ Subtract 3 digit numbers with regrouping through zeroes ○ Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/ or the relationship between addition and subtraction	**Chapter 1: 1-10** • 1-10 Patterns in Addition—pp. 43–46 **Chapter 3: 3-5** • 3-5 Counting Patterns by 2s, 5s, and 10s—pp. 129–132 **Chapter 5: 5-9** • 5-9 Problem Solving: Write and Solve an Equation—pp. 229–234 **Chapter 7: 7-5** • 7-5 Skip Count Within 1000—pp. 317–320 **Chapter 8: 8-1 through 8-8** • 8-1 Mental Math: Add 1, 10, or 100—pp. 341–344 • 8-2 Add Hundreds, Tens, and Ones—pp. 345–348 • 8-3 Add: Regroup Ones as Tens—pp. 349–352 • 8-4 Regroup Tens as Hundreds Using Models—pp. 353–356 • 8-5 Add: Regroup Tens as Hundreds—pp. 357–360 • 8-6 Add: Regroup Twice—pp. 363–366 • 8-7 Problem Solving: Make an Organized List—pp. 367–372 • 8-8 Use Properties to Add—pp. 373–376 **Chapter 9: 9-1, 9-2 & 9-6** • 9-1 Mental Math: Subtract 1, 10, or 100—pp. 383–386 • 9-2 Subtract Hundreds, Tens, and Ones—pp. 387–390 • 9-3 Subtract: Regroup Tens as Ones—pp. 391–394 • 9-4 Regroup Hundreds as Tens Using Models—pp. 395–398 • 9-5 Subtract: Regroup Hundreds as Tens—pp. 399–402 • 9-6 Subtract: Regroup Twice—pp. 405–408 • 9-7 Subtract: Regroup with Zeros—pp. 409–412 • 9-8 Problem Solving: Represent the Situation—pp. 413–418 • 9-9 Use Addition to Check Subtraction: Three-Digit Numbers—pp. 419–422 **Chapter 15: 15-3** • 15-3 Time Patterns—pp. 573–576

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NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 2 Standards	*Sadlier Math*, Grade 2

NOA 2.8 Use addition and subtraction with commutative and associative properties to determine equivalence and solve
 	
• To develop fact families using inverse relationships (NOA 2.8, 2.3, 2.4)
 	
• To identify and represent quantities as equivalent or nonequivalent (NOA 2.8)
  ○ Read and write number words to one hundred or beyond; read and write numerals to 999
  ○ Identify and use symbols of inequality (<, >,)
  ○ Use concrete, pictorial, and verbal examples to demonstrate an understanding that = is a relationship that indicates equivalence
  ○ Demonstrate balance or equivalence using models
  ○ Identify and use symbols of inequality (‹, ›)
  ○ Identify and use symbol of inequality (≠)
	Chapter 1: 1-3
	• 1-3 Related Addition Facts—pp. 11–14 (equivalence)
	Chapter 3: 3-3 & 3-4
	• 3-3 Compare Numbers—pp. 119–122
	• 3-4 Order Numbers Within 100—pp. 125–128
	Chapter 8: 8-1 through 8-8
	• 8-1 Mental Math: Add 1, 10, or 100—pp. 341–344
	• 8-2 Add Hundreds, Tens, and Ones—pp. 345–348
	• 8-3 Add: Regroup Ones as Tens—pp. 349–352
	• 8-4 Regroup Tens as Hundreds Using Models—pp. 353–356
	• 8-5 Add: Regroup Tens as Hundreds—pp. 357–360
	• 8-6 Add: Regroup Twice—pp. 363–366
	• 8-7 Problem Solving: Make an Organized List—pp. 367–372
	• 8-8 Use Properties to Add—pp. 373–376
	Chapter 9: 9-1 through 9-9
	• 9-1 Mental Math: Subtract 1, 10, or 100—pp. 383–386
	• 9-2 Subtract Hundreds, Tens, and Ones—pp. 387–390
	• 9-3 Subtract: Regroup Tens as Ones—pp. 391–394
	• 9-4 Regroup Hundreds as Tens Using Models—pp. 395–398
	• 9-5 Subtract: Regroup Hundreds as Tens—pp. 399–402
	• 9-6 Subtract: Regroup Twice—pp. 405–408
	• 9-7 Subtract: Regroup with Zeros—pp. 409–412
	• 9-8 Problem Solving: Represent the Situation—pp. 413–418
	• 9-9 Use Addition to Check Subtraction: Three-Digit Numbers—pp. 419–422

• Students will identify and use equivalent representations of numbers to estimate and compute. (NOA 2.8)
  ○ Balance simple number sentences by finding the missing numbers
  ○ Identify missing numbers to 20 in addition and subtraction sentences and justify the answer
  ○ Determine and justify the missing addition/subtraction signs in addition and subtraction sentences
  ○ Identify and justify missing numbers in addition and subtraction sentences
	Chapter 1: 1-9 & 1-10
	• 1-9 Solve for Unknown Addends—pp. 39–42
	• 1-10 Patterns in Addition—pp. 43–46
	Chapter 2: 2-10
	• 2-10 Solve for Unknowns—pp. 91–94
	
	See also Grade 3
	  Chapter 1: 1-4 & 1-5
	  • 1-4 Round Numbers to the Nearest Ten—pp. 10–11
	  • 1-5 Round Numbers to the Nearest Hundred—pp. 12–13
	  Chapter 2: 2-1
	  • 2-3 Estimate Sums—pp. 26–27
	  Chapter 3: 3-1
	  • 3-1 Estimate Differences—pp. 46–47

NOA 2.9 Use fractions to draw conclusions about fairness and equity of resources
 	
• To apply fractions to draw conclusions about fairness of resources (NOA 2.9)
  ○ Model equivalent fractions (using manipulatives, pictures, graphics, etc.)
  ○ Place fractions (halves, thirds, and fourths) on a number line
	Chapter 14: 14-1 through 14-5
	• 14-1 Partition Rectangles into Rows and Columns—pp. 585–588
	• 14-2 Halves—pp. 589–592
	• 14-3 Thirds—pp. 595–598
	• 14-4 Fourths—pp. 599–602
	• 14-5 Problem Solving: Compare Models—pp. 603–608

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 2 Standards	*Sadlier Math*, Grade 2

Enrichment
 	
• To recognize and explore Roman numerals
  ○ Identify Roman numerals I, V, and X
  ○ Read and write Roman numerals to 30
	See Grade 3
	Chapter 3: Enrichment
	• Roman Numerals—online

MEASUREMENT (M)

Grade 2 Standards	*Sadlier Math*, Grade 2

M.2.1 Use appropriate tools to measure and estimate length, volume, and capacity in standard and nonstandard units.
  ○ Identify cup, pint, quart, liter and gallon and relate to their use in real life
  ○ Compare and order objects according to capacity and/or weight
  ○ Demonstrate balance or equivalence using models
  ○ Identify pound as a unit of measure and relate use in real life
  ○ Supplemental: Read Fahrenheit and Celsius thermometers
	Chapter 6: 6-1 through 6-9
	• 6-1 Inches—pp. 241–244
	• 6-2 Feet and Yards—pp. 245–248
	• 6-3 Customary: Choose Tools and Units of Measure—pp. 249–252
	• 6-4 Centimeters—pp. 253–256
	• 6-5 Meters—pp. 257–260
	• 6-6 Metric: Choose Tools and Units of Measure—pp. 261–264
	• 6-7 Measure Using Different Units—pp. 267–270
	• 6-8 Compare Lengths—pp. 271–274
	• 6-9 Add and Subtract Lengths—pp. 275–278
	
	See also Grade 3
	Chapter 11: 11-1, 11-3
	• 11-1 Measure Length—pp. 232–233
	• 11-2 Estimate and Measure Liquid Volume—pp. 234–235
	• 11-3 Operations with Liquid Volume—pp. 236–237
	• 11-4 Estimate and Measure Mass—pp. 240–241
	• 11-5 Operations with Mass—pp. 242–243
	
	See also Grade 4
	Chapter 15: 15-4
	• 15-4 Temperature—pp. 330–331 (Fahrenheit and Celsius)

M.2.2 Relate addition and subtraction to length, time, and/or money	**Chapter 6: 6-9 & 6-12** • 6-9 Add and Subtract Lengths—pp. 275–278 • 6-12 Add and Subtract on a Number Line Diagram—pp. 289–292 **Chapter 12: 12-6** • 12-6 Add and Subtract Money—pp. 517–520

MEASUREMENT (M)

Grade 2 Standards	*Sadlier Math*, Grade 2
M.2.3 Solve problems including measurement, time, and/or money • To recognize, identify and trade sets of equivalent coins (M 2.3) ○ Count and show money to one dollar ○ Find equivalent sets of coins ○ Use dollar sign ○ Use decimal point in writing money amounts ○ Make change up to $1.00 • To express monetary values in oral and written forms (M 2.3)	**Chapter 12: 12-1 & 12-4** • 12-1 Pennies, Nickels, and Dimes—pp. 497–500 • 12-2 Quarters—pp. 501–504 • 12-3 Equal Amounts—pp. 505–508 • 12-4 Compare Money—pp. 509–512 • 12-5 Make Change—pp. 513–516 • 12-6 Add and Subtract Money—pp. 517–520 • 12-7 One Dollar—pp. 521–524 • 12-8 Paper Money—pp. 525–528 • 12-9 Hour and Half Hour—pp. 531–534 • 12-10 Five Minutes—pp. 535–538 • 12-11 a.m. and p.m.—pp. 539–542 • 12-12 Problem Solving: Work Backward—pp. 543–548

GEOMETRY (G)

Grade 2 Standards	*Sadlier Math*, Grade 2
G 2.1 Analyze characteristics and properties of two and three dimensional geometric shapes and develop mathematical arguments about relationships • To classify and identify plane figures and solids by common characteristics (G 2.1) ○ Relate solid figures to common items ○ Recognize, name, compare, and sort: cube, cylinder, cone sphere, rectangular prism, and pyramid ○ Identify, model/construct geometric solids by the attributes: face, edge, and vertices ○ Describe the relationship between plane and solid figures ○ Describe plane and solid figures by number of sides and/or faces ○ Classify plane figures by size and shape ○ Identify corners, sides, and points inside and outside of a figure ○ Identify and create open and closed figures	**Chapter 13: 13-1 through 13-10** • 13-1 Identify Two-Dimensional Shapes—pp. 555–558 • 13-2 Draw Two-Dimensional Shapes—pp. 559–562 • 13-3 Identify Three-Dimensional Shapes—pp. 565–568 • 13-4 Faces, Edges, Vertices—pp. 569–572 • 13-5 Problem Solving: Use Logical Reasoning—pp. 573–578

GEOMETRY (G)

Grade 2 Standards	*Sadlier Math*, Grade 2

G 2.2 Apply transformations and use symmetry to analyze mathematical situations
 	
• To identify shapes as the same where there are changes in position (G 2.2)
  ○ Recognize, apply and manipulate slides, flips and turns
  ○ Explore, identify and draw lines of symmetry in simple shapes and forms
  ○ Recognize and create simple figures and drawings with symmetry
  ○ Identify translations, rotations, and reflections
	N/A

G 2.3 Use visualization, spatial reasoning, and geometric modeling to solve problems
  ○ Find the area of squares and rectangles by modeling and counting square units
  ○ Demonstrate ways to fill a region with different shapes
  ○ Model and identify the perimeter of a polygon
	See Grade 3
	Chapter 15: 15-1 through 15-5
	• 15-1 Understand Area—pp. 312–313
	• 15-2 Find Area Using Standard Units—pp. 314–315
	• 15-3 Find the Area of a Rectangle and a Square—pp. 316–317
	• 15-4 Find Area Using the Distributive Property—pp. 320–321
	• 15-5 Find Area of Composite Shapes—pp. 322–323
	Chapter 16: 16-1 through 16-6
	• 16-1 Understand Perimeter—pp. 332–333
	• 16-2 Find Perimeter—pp. 334–335
	• 16-3 Find Unknown Side Lengths—pp. 336–337
	• 16-4 Problem Solving: Compare Strategies—pp. 340–341
	• 16-5 Same Perimeter, Different Areas—pp. 342–343
	• 16-6 Same Area, Different Perimeters—pp. 344–345

DATA ANALYSIS, STATISTICS, & PROBABILITY (DSP)

Grade 2 Standards	*Sadlier Math*, Grade 2

DP 2.1 Select and use appropriate methods to collect, organize, and analyze data
 	
• To collect, organize, and describe data (DP 2.1)
  ○ Read and interpret vertical graphs, pictographs
  ○ Conduct simple surveys to gather data
  ○ Create a tally chart using given data
  ○ Create simple (picture, bar) graphs from given data
  ○ Use a Venn diagram and other graphic organizers to sort items
  ○ Demonstrate and explain survey findings
  ○ Use range and mode to explain data
  ○ Identify events as certain, possible or impossible, fair or unfair (If a bowl is filled with red M&M's, is it possible to pick a red M&M from the bowl? A green M&M?)
  ○ Predict sample data
	Chapter 11: 11-1, 11-3
	• 11-1 Read Line Plots—pp. 459–462
	• 11-2 Make Line Plots—pp. 463–466
	• 11-3 Read Picture Graphs—pp. 467–470
	• 11-4 Make Picture Graphs—pp. 471–474
	• 11-5 Read Bar Graphs—pp. 477–480
	• 11-6 Make Bar Graphs—pp. 481–484
	• 11-7 Problem Solving: Choose a Model—pp. 485–490
	
	See also Grade 3
	Chapter 12: 12-1 through 12-8
	• 12-1 Read Picture Graphs—pp. 252–253
	• 12-2 Make Picture Graphs—pp. 254–255
	• 12-3 Read Bar Graphs—pp. 256–257
	• 12-4 Make Bar Graphs—pp. 258–259
	• 12-5 Data and Two-Step Problems—pp. 260–261
	• 12-6 Problem Solving: Compare Models—pp. 264–265
	• 12-7 Read Line Plots—pp. 266–267
	• 12-8 Make Line Plots—pp. 268–269
	
	See also Grade 4
	Chapter 15: 15-5 through 15-7
	• 15-5 Line Graphs—pp. 334–335
	• 15-6 Line Plots—pp. 336–337
	• 15-7 Surveys and Line Plots—pp. 338–339

DP 2.2 Develop and evaluate inferences and predictions that are based on data • To pose questions to be answered through collection and analysis of data (DP 1.2) ○ Conduct simple surveys to gather data	See Grade 4 **Chapter 15: 15-5 through 15-7** • 15-5 Line Graphs—pp. 334–335 • 15-6 Line Plots—pp. 336–337 • 15-7 Surveys and Line Plots—pp. 338–339
DP 2.3 Understand and apply basic concepts of probability • To determine the likelihood of certain events through games and simple experiments (DP 1.3)	See Grade 6 **Chapter 18: 18-3 through 18-7** • 18-3 Probability and Likelihood—online • 18-4 Theoretical Probability—online • 18-5 Relative Frequency and Experimental Probability—online • 18-6 Uniform Probability Models—online • 18-7 Non-Uniform Probability Models—online

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