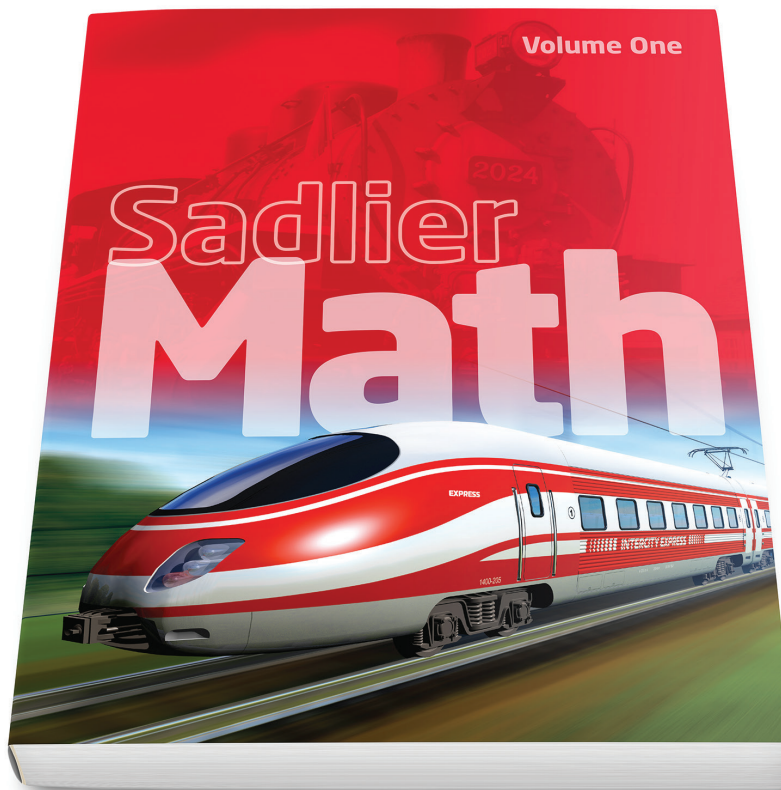# Sadlier Math™

Correlation to the Archdiocese of New York Mathematics Learning Standards

Grade 1

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OPERATIONS AND ALGEBRAIC THINKING — 1.OA

Grade 1 Content Standards	*Sadlier Math*, Grade 1

Represent and solve problems involving addition and subtraction.

Grade 1 Content Standards	*Sadlier Math*, Grade 1
1.OA.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together.	**Chapter 1: 1-1 through 1-4, 1-7** **Chapter 2: 2-5 through 2-7** **Chapter 3: 3-1 through 3-5** **Chapter 4: 4-6 through 4-9** **Chapter 8: 8-2 through 8-6, 8-8** **Chapter 9: 9-2 through 9-5, 9-7 & 9-9**
1.OA.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. Students can take three different numbers and add them together (as opposed to only two numbers added together).	**Chapter 2: 2-1 & 2-2** **Chapter 8: 8-7**

Understand and apply properties of operations and the relationship between addition and subtraction.

Grade 1 Content Standards	*Sadlier Math*, Grade 1
1.OA.3 Apply properties of operations as strategies to add and subtract. For example, if 8+3=11 is known, the 3+8=11 is also known. This is the commutative property of addition For example, if you want to add 2+6+4=2+10=12, this is the associative property of addition.	**Chapter 1: 1-5** **Chapter 2: 2-1** **Chapter 3: 3-7** **Chapter 4: 4-3** **Chapter 8: 8-2 through 8-7** **Chapter 9: 9-2 through 9-6**
1.OA.4 Understand subtraction as an unknown-addend problem. For example, subtract 10-8 by finding the number that makes 10 when added to 8. Add and subtract within 20.	**Chapter 3: 3-6** **Chapter 4: 4-2, 4-4 & 4-7**

Add and subtract within 20.

Grade 1 Content Standards	*Sadlier Math*, Grade 1
1.OA.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). Addition is just counting on (or counting up 2 is adding 2).	**Chapter 1: 1-6** **Chapter 3: 3-6**

OPERATIONS AND ALGEBRAIC THINKING	1.OA
Grade 1 Content Standards	*Sadlier Math*, Grade 1

Work with equal groups of objects to gain foundations for multiplication.

1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten; decomposing a number leading to a ten (e.g. 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9) using the relationship between addition and subtraction (e.g. knowing that 8 + 4 = 12, one knows 12 – 8 = 4) and creating equivalent but easier or known sums (e.g. adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

Fluency means speed and accuracy when doing the addition and subtraction. Students need a variety of strategies for solving addition and subtraction problems through 20. Students also need to be fluent with any sums or differences within 10. These strategies will provide students with a variety of choices when deciding the best way to solve problems. This standard brings together all of the previous strategies and operations to apply in any given addition or subtraction situation. Fluency within 10 allows sums and differences within 20 to be solved quickly, as students can decompose larger numbers as needed. For example, 13 – 4 can be thought of as 13 – 3 – 1 = 10 – 1 = 9. | **Chapter 3: 3-6**
Chapter 4: 4-1 through 4-5
Chapter 8: 8-1 through 8-6
Chapter 9: 9-1 through 9-6 |

Work with addition and subtraction equations.

1.OA.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.

The equal sign indicates more than just an answer to a math operations problem. The equal sign represents equality in equations. Clarification about the equal sign's true meaning and use will prevent confusion when students work through equations with unknown quantities. Students should be introduced to the terminology of the equal sign by interchanging the word "equals" with the phrase "is the same as." For example, 6 + 2 = 8 would be read, "six plus two is the same as eight." This will help students to recognize the concept that the quantity 6 + 2 has the same value as the number 8. In addition, students need to understand that the value for the entire expression on one side of the equal sign must be the same as the value for the entire expression on the other side of the equal sign. For

continued | **Chapter 1: 1-1**
Chapter 3: 3-1
Chapter 9: 9-8 |

OPERATIONS AND ALGEBRAIC THINKING 1.OA

Grade 1 Content Standards	*Sadlier Math*, Grade 1
example, in the equation 6 + 2 = 5 + ?, the missing number would be 3, because 6 + 2 = 8, so 5 + ? must also equal 8. Further understanding can be developed using equations that relate two sums on each side. For example, 2 + 6 = 3 + 5, which is a true equation.	
1.OA.8 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. Students are expected to solve for an unknown portion in an equation, regardless of its position in that equation. Additionally, students are to be familiar with that unknown portion being represented as a symbol, empty space, question mark, or shape. The students' previous understanding of the equal sign will enhance their ability to demonstrate an understanding of this missing portion.	**Chapter 2: 2-7** **Chapter 3: 3-1** **Chapter 4: 4-7** **Chapter 9: 9-9**

NUMBER AND OPERATIONS IN BASE TEN 1.NBT

Grade 1 Content Standards	*Sadlier Math*, Grade 1
Extend the counting sequence.	
1.NBT.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral. This particular standard expands on students' previous knowledge of basic counting skills. Students should recognize, read, and write numerals within 120 as well as count on in a variety of sequencing patterns starting anywhere in that range. Students should represent a given number of objects with a numeral within the 120 range.	**Chapter 6: 6-3 through 6-9** **Chapter 7: 7-4 through 7-7**
Understand place value.	
1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. 10s can be thought of as bundles of ten ones-called a "ten". Numbers from 11 to 19 are composed of a ten and one, two, *continued*	**Chapter 6: 6-1 through 6-8** **Chapter 7: 7-1 through 7-3** **Chapter 11: 11-2** **Chapter 12: 12-2**

NUMBER AND OPERATIONS IN BASE TEN — 1.NBT

Grade 1 Content Standards	*Sadlier Math*, Grade 1
three...nine ones. The numbers 10, 20, 30...90 refer to one, two, three...nine tens (and 0 ones).	
1.NBT.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <. The symbol < means less than. The symbol > means greater than . (the open part of the symbol is on the side of the larger number). So 5 < 6, 6 < 7, 9 > 8.	**Chapter 7: 7-6 through 7-8**

Use place value understanding and properties of operations to add and subtract.

1.NBT.4 Add within 100, including adding a two-digit number and a one digit number, and adding a two digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. Although this standard focuses on addition, showing students that addition and subtraction are closely related will help them "see" the reasoning in what they are doing. Once students have demonstrated a firm understanding of the place value of two-digit numbers, they are ready to add a two-digit number and a one-digit number, and two two-digit numbers (one of which is a multiple of ten (which avoids the process or regrouping) . Further, students understand that in addition digits in the ones place are added; digits in the tens place are added; and sometimes composing a ten is necessary. Further, students understand that in addition and subtraction, digits in the ones place are added and subtracted; and, digits in the tens place are added and subtracted. This fluency with addition and subtraction should be done through a variety of operation strategies. Additionally, students can explain their reasoning through verbal communication as well as a variety of representations including pictures, drawings and models.	**Chapter 11: 11-3 through 11-9**

NUMBER AND OPERATIONS IN BASE TEN   1.NBT

Grade 1 Content Standards	Sadlier Math, Grade 1
1.NBT.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. This standard asks students to compute (quickly and easily) throughout the range of numbers using the strategy of mental mathematics. Students' knowledge of the structure of tens will aid in their reasoning and demonstration of mentally adding and subtracting 10. Given a two-digit number, students should recognize that, when adding or subtracting 10, the only digit that is affected is the digit in the tens place. Further, their original understanding that addition means to "add on" will help them to identify that by adding 10, there will be an increase in the number of tens, but the number of ones will stay the same. Additionally, students must understand that subtraction means to "take away" and therefore, when subtracting 10, there will be a decrease in the number of tens in a two-digit number while the number of ones will stay the same.	**Chapter 11: 11-1** **Chapter 12: 12-1**
1.NBT.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/ or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. This standard asks students to compute fluently throughout the range of 10-90 by subtracting multiples of 10 (while maintaining positive or zero answers). Students' knowledge of the structure of tens will aid in their demonstration to subtract multiples of 10. Given multiples of ten in the range 10-90 (or in general, a two-digit number), students should recognize that, when subtracting multiples of 10 (in the range 10-90), the only digit that is effected is the digit in the tens place. Further, their original understanding that subtraction means to "take away" will be beneficial to students as they recognize that when subtracting a multiple of 10, there will be a decrease in the number of tens in a two-digit number while the number of ones will stay the same. Students will further use concrete models and drawings in reasoning through and explaining their chosen method in written form.	**Chapter 12: 12-2 through 12-5**

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MEASUREMENT AND DATA   1.MD

Grade 1 Content Standards	*Sadlier Math*, Grade 1
Measure lengths indirectly and by iterating length units.	
1.MD.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object. This standard emphasizes a student's ability to sort and order three objects according to their lengths. For example, a student might compare the height of a desk on one side of a room with the height of a table on the other side of the room by finding a rod and comparing each of the first two heights to the length of the rod.	**Chapter 5: 5-1 & 5-2**
1.MD.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps. This standard focuses on the student's ability to understand the concept of measuring the length of an object from end to end using objects. The student will measure lengths, which are a whole number of length units, where the length unit is some shorter object (e.g., using paper clips, unifix cubes, chain links, etc). Students need to have a wide variety of experiences with hands-on activities that allow them to manipulate the objects being measured.	**Chapter 5: 5-3 through 5-7**
Tell and write time.	
1.MD.3 Tell and write time in hours and half-hours using analog and digital clocks. Students should know how to read an analog and digital clock, to the hour and half-hour. Students should also know how to write the time for both hour and half-hour.	**Chapter 15: 15-1 through 15-5**

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MEASUREMENT AND DATA   1.MD

Grade 1 Content Standards	*Sadlier Math*, Grade 1

Represent and interpret data.

1.MD.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. This standard focuses on the student's ability to read and interpret sets of data that they have collected and displayed in an organized and categorical manner (i.e., bar graph or a pictograph, table, list of numbers), and that the data being "read" is data collected by the students themselves, and then put into a graphic representation themselves. Such a skill also incorporates a student's ability to collect data, generalize information, count data sets on a graph, and perform simple computation operations that will yield a greater variety of information about the data.	**Chapter 10: 10-1 through 10-5**

GEOMETRY   1.G

Grade 1 Content Standards	*Sadlier Math*, Grade 1

Reason with shapes and their attributes.

1.G.1 Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes. Early introductions to geometry include a basic understanding and ability to name shapes including triangles, squares, circles, and rectangles. In first grade, students need a more sophisticated vocabulary and understanding of the attributes of shapes. They should encounter a variety of shapes, which means that there should also be a variety of orientations, using different colors and sizes. Attention should be given to unfamiliar variants of shapes (i.e., obtuse triangles, rotated squares, etc.).	**Chapter 13: 13-1 through 13-8, 13-10**

GEOMETRY   1.G

Grade 1 Content Standards	*Sadlier Math*, Grade 1
1.G.2 Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. As students gain knowledge in the identification of geometric attributes, they are then introduced to other shapes such as trapezoids, half-circles and quarter-circles. With this introduction, students can begin to conclude that shapes may be put together to form new shapes or bigger shapes can be taken apart to show the smaller shapes that compose them. Additionally, students should have practice in creating these shapes through such methods as drawings, tracings and fashioning manipulatives together.	**Chapter 13: 13-3 & 13-9**
1.G.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares. Students will recognize the "part-whole" relationship in representations of basic fractions such as ½ and ¼ and be able to match the spoken, written, concrete, and pictorial representations of whole numbers, one- half, and one-fourth. Hexagons (and other easily partitioned shapes) provide a wonderful opportunity to introduce such fractional concepts. Mastery of this skill later prepares them for more sophisticated explorations with fractions.	**Chapter 14: 14-1 through 14-5**

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