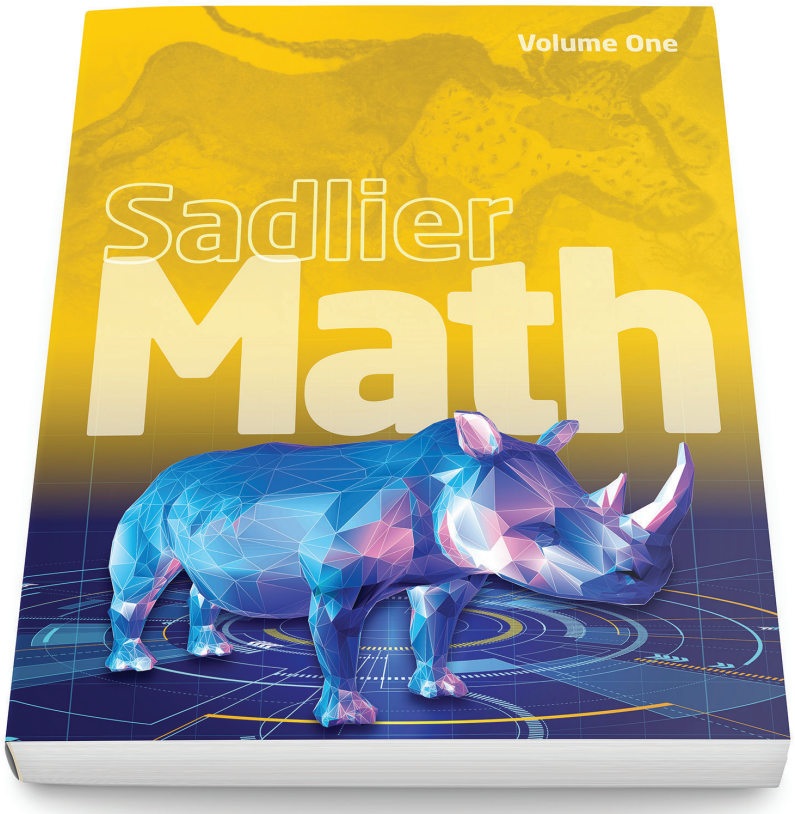
Sadlier Math™

Correlation to the Archdiocese of New York Mathematics Learning Standards

Grade K



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COUNTING AND CARDINALITY K.CC

Kindergarten Content Standards	*Sadlier Math*, Kindergarten
Know number names and the count sequence.	
K.CC.1 Count to 100 by 1s and by 10s. Kindergarteners are fascinated with counting, often before they know how to count. This enthusiasm provides an ideal environment for learning to count to 100. Students should learn to count by ones and by tens. Learning the sequence "ten, twenty, thirty, forty,...., ninety, one-hundred" provides structure that helps children remember the sequence "twenty-eight, twenty-nine, thirty, thirty one...).	**Chapter 16: 16-1 through 16-6**
K.CC.2 Count forward beginning from a given number within the known sequence (instead of beginning with 1). While the previous standard asks students to know the count sequence to 100 starting at one, this standard asks students to count on from any given starting number. Typically, this should be counting by 1s. This standard requires ensuring that students can recite the number names sequentially beginning at a number other than one.	**Chapter 16: 16-3 through 16-6**
K.CC.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing no objects). Students in kindergarten are ready to expand their knowledge of numbers to include representing the number of objects in writing. It is important for students to represent the size of a set of objects both by writing a numeral and by saying the name of the numeral. This should be done within the range of 0 to 20.	**Chapter 2: 2-4 through 2-7** **Chapter 3: 3-1** **Chapter 4: 4-1 through 4-3, 4-5** **Chapter 12: 12-1, 12-4 through 12-8** **Chapter 15: 15-1 through 15-5** **Chapter 16: 16-6**
Count to tell the number of objects.	
K.CC.4 Understand the relationship between numbers and quantities; connect counting to cardinality. Students should say number names and manipulate objects in order to count the number of objects in a set. Students should be encouraged to count sets of different types of objects to see that even if their contents are different, sets can have the same size. Students need practice in counting objects in a set by connecting each object to a number name, and in connecting the number of objects in a set to a specific number.	**Chapter 2: 2-4 through 2-7** **Chapter 3: 3-1, 3-2 & 3-8** **Chapter 4: 4-1 through 4-5** **Chapter 5: 5-2** **Chapter 12: 12-1, 12-3, 12-4 through 12-9** **Chapter 15: 15-4**

COUNTING AND CARDINALITY K.CC

Kindergarten Content Standards	*Sadlier Math*, Kindergarten
K.CC.5 Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle. Students should learn to count sets of up to 10 objects that are scattered or that are in easy-to-count arrangements. They should also learn to count out specific numbers of objects up to 20.	**Chapter 2: 2-4 through 2-6** **Chapter 3: 3-1 & 3-8** **Chapter 4: 4-1 through 4-3, 4-5** **Chapter 5: 5-1, 5-4 through 5-6** **Chapter 12: 12-1, 12-4 through 12-8** **Chapter 15: 15-1 through 15-3** **Chapter 18: 18-2 & 18-4**
Compare numbers.	
K.CC.6 Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group. Students should be able to use matching or counting strategies to make this determination.	**Chapter 2: 2-1 through 2-3** **Chapter 3: 3-3 through 3-5, 3-8** **Chapter 4: 4-5** **Chapter 5: 5-8**
K.CC.7 Compare two numbers between 1 and 10. Students have a natural interest in comparing quantities. This standard incorporates that into what they have learned about numbers (and how to write them). However, early learners need a firm foundation of how to represent quantities between 1 and 10 and that quantities grow bigger as they move forward in the sequence of numbers.	**Chapter 3: 3-6 & 3-8** **Chapter 4: 4-5** **Chapter 5: 5-3 & 5-8** **Chapter 12: 12-2 & 12-10**

OPERATIONS AND ALGEBRAIC THINKING K.OA

Kindergarten Content Standards	*Sadlier Math*, Kindergarten
Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.	
K.OA.1 Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. Students should represent the concepts of addition and subtraction by using visual images, making sounds to represent objects (such as with rhythm sticks), expressing situations verbally, or acting out situations in order to create a real-world model of an arithmetic fact.	**Chapter 10: 10-1 through 10-6, 10-8** **Chapter 11: 11-1 through 11-6, 11-8**

OPERATIONS AND ALGEBRAIC THINKING K.OA

Kindergarten Content Standards	*Sadlier Math*, Kindergarten
K.OA.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. Students should be introduced to word problems that depict real-life situations where they encounter the concepts of addition and subtraction within 10. Using word problems that involve real-life situations helps young learners see the relevance of mathematics in the world around them and allows for the natural use of objects or drawings in representing the problems.	**Chapter 10: 10-1 through 10-6, 10-8 & 10-9** **Chapter 11: 11-1 through 11-6, 11-8 & 11-9**
K.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way (e.g. by using objects or drawings, and record each decomposition by a drawing or equation). Decomposing (splitting) a number is a foundational skill in number sense. The mastery of this skill helps students understand that a quantity can be composed of two smaller quantities in different ways. Further, these sets can be arranged in a variety of ways and the sum total is always the same; for example, we can reorder addends and the sum will be the same (4 + 2 = 2 + 4). Students will begin to develop the ability to record the results of compositions and decompositions of sets using equations. This skill lays a firm foundation for understanding of operations and algebraic thinking.	**Chapter 9: 9-1 through 9-4**
K.OA.4 For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g. by using objects or drawings, and record the answer with a drawing or equation. This standard asks students to determine what number can be added to a given number to make 10. Objects such as counters, blocks, fingers, and other manipulatives can be used and then drawn on paper to represent this problem. Students who have mastered this skill can "make ten" as a strategy for adding; for example, to add 8 + 6, they can decompose the 6 into 2 + 4 (note that this also uses skills from K.OA.3), knowing that 8 + 2 makes ten. Then they can observe that 8 + 2 + 4 = 10 + 4 = 14.	**Chapter 10: 10-8** **Chapter 11: 11-8**
K.OA.5 Fluently add and subtract within 5. Children need to develop fluency (quickly and with accuracy) for solving addition and subtraction problems *continued*	**Chapter 10: 10-7** **Chapter 11: 11-7**

OPERATIONS AND ALGEBRAIC THINKING K.OA

Kindergarten Content Standards	*Sadlier Math*, Kindergarten
within 5. At this stage, students should be able to do problems like 3 + 2 or 5 - 1 without needing manipulatives, drawings, strategies, etc. Students should be familiar enough with the facts (or able to count quickly on fingers, for example) to solve problems like these quickly.	

NUMBER AND OPERATIONS IN BASE TEN K.NBT

Kindergarten Content Standards	*Sadlier Math*, Kindergarten
Work with numbers 11–19 to gain foundations for place value.	
K.NBT.1 Compose and decompose numbers from 11 to 19 into ten ones and some further ones. Students will use objects or drawings and record each composition or decomposition by a drawing or an equation (such as 18 = 10 + 8). They should understand that these numbers are composed of ten ones and one, two, three... nine.	**Chapter 13: 13-1 through 13-6**

MEASUREMENT AND DATA K.MD

Kindergarten Content Standards	*Sadlier Math*, Kindergarten
Describe and compare measurable attributes.	
K.MD.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. In kindergarten, students begin to understand the concept of "measurement" and the idea that all objects have attributes that can be measured. Length and weight are two attributes with which most kindergartners are familiar. Students should describe attributes (that can be measured) with vocabulary that supports description (taller, bigger, shorter, wider, smaller, heavier, etc.). A statement that any attribute that can be measured or compared is applicable with this standard (i.e., darker versus lighter color might come up in a discussion with children).	**Chapter 14: 14-1 through 14-6, 14-8**
K.MD.2 Directly compare two objects with a measurable attribute in common, to see which *continued*	**Chapter 14: 14-1 through 14-8**

MEASUREMENT AND DATA K.MD

Kindergarten Content Standards	*Sadlier Math*, Kindergarten
object has "more of"/"less of" the attribute, and describe the difference. Students need a great deal of exposure to comparative language that is used to make comparisons between two objects in a set.	
Classify objects and count the number of objects in each category.	
K.MD.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count (less than 10). Sorting objects and classifying them helps children to analyze commonalities and differences within sets. Students will be able to sort objects into given categories, as well as into their own categories, and be able to identify which category has the most objects, second-most objects, and so on.	**Chapter 1: 1-1 through 1-6** **Chapter 5: 5-4 through 5-6**

GEOMETRY K.G

Kindergarten Content Standards	*Sadlier Math*, Kindergarten
Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).	
K.G.1 Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. Early introductions to geometry include a basic understanding and ability to name shapes including triangles, squares, circles, and rectangles, and to be able to describe a physical object (door) using the name of a shape (rectangle). Another component of early geometry understanding is the ability to use words that describe spatial relationships, such as above, beyond, under, next to, etc., in terms of positions of objects in relation to other things (e.g., the rectangle door is beside the square window). Focus should be placed on understanding, such as in recognizing that a geometric shape is an abstraction; a rectangle is the shape that doors, windows, and the cover of a book have in common.	**Chapter 8: 8-1 through 8-7**

GEOMETRY K.G

Kindergarten Content Standards	*Sadlier Math*, Kindergarten
K.G.2 Correctly name shapes regardless of their orientations or overall size. Students understand that shapes are not defined by orientation (triangles cannot be "upside down" because orientation is not a defining characteristic of a triangle) or size, and can identify them by defining attributes such as number of sides.	**Chapter 6: 6-1 through 6-4, 6-6 through 6-9** **Chapter 7: 7-1, 7-2 & 7-6** **Chapter 8: 8-1 through 8-7**
K.G.3 Identify shapes as two-dimensional (lying in a plane, "flat") or three- dimensional ("solid"). Two-dimensional shapes are flat, like a drawing or tile, while three-dimensional shapes can be used as containers or building blocks. Students do not initially see any difference between flat and solid shapes, and that is the crux of this standard. Students need experience thinking about whether shapes are solid or flat while they interact with them.	**Chapter 6: 6-5** **Chapter 7: 7-3 & 7-5**
Analyze, compare, create, and compose shapes.	
K.G.4 Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length). Students should be pushed to describe differences and similarities between shapes by using the language referenced in the standard as opposed to just any wording. For instance, children should be encouraged to move past statements like "It has flat sides and is pointy" to more specific statements like "It has 3 sides and 3 corners".	**Chapter 1: 1-4 & 1-6** **Chapter 5: 5-6** **Chapter 6: 6-1 through 6-9** **Chapter 7: 7-1 through 7-6** **Chapter 8: 8-1 through 8-7**
K.G.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. Giving students opportunities to build, use computer graphic programs, and draw will allow them to deepen their understanding of the properties of two- and three-dimensional shapes.	**Chapter 7: 7-4 & 7-6**

GEOMETRY K.G

Kindergarten Content Standards	*Sadlier Math*, Kindergarten
K.G.6 Compose simple shapes to form larger shapes. Students need numerous experiences exploring with shapes in order to use them to compose other shapes. Materials such as pattern blocks and tangrams are ideal for practice composing shapes. Students can compose several different triangles using various pattern blocks. There are also many shape outlines for pattern blocks available online and commercially. Students use these shape outlines the same as they would use a puzzle frame to guide them in placing the pieces to form the shape. It is not necessary that students compose only geometric shapes. Students will benefit from using shapes to form houses, flowers, stars, animals, etc. as well.	**Chapter 6: 6-8** **Chapter 7: 7-4 & 7-6**