

Kindergarten Math Course of Study

Module 1: Counting and Cardinality Students will explore counting experiences that integrate the four parts of the number core: number sequence, cardinality, one-to-one correspondence, and written number symbols. Students connect sorting a group into parts and decomposing numbers.

Essential Questions: What are numbers? How can numbers from 1-20 be counted, read, and written? How can numbers up to 100 be counted by ones? What number name can be given to a set of objects? How are numbers named and quantities related? What strategies can be used to compare numbers?How can the numbers from 0-5 be compared and ordered? How can the numbers from 6-10 be compared and ordered?

Big Idea: Know Number Names, the Count Sequence and Compare Numbers

Module 2: Two- and Three-Dimensional Shapes Students analyze and describe two- and three-dimensional shapes by considering their attributes. This allows students to identify shapes in the world and create their own examples through building and drawing.

Essential Questions: What words can be used to describe the position and location of shapes? How can shapes be named and described? What is the difference between "flat" (two-dimensional) shapes and "solid" (three-dimensional) shapes?

Big Idea: Identify and Describe Shapes (Squares, Circles, Triangles, Rectangles, Hexagons, Cubes, Cones, Cylinders, and Spheres)

Module 3: Comparison Students describe and compare measurable attributes (length, height, weight). Students compare sets and numbers to determine greater, less and equal.

Essential Questions: What are measurable attributes? What is height? What is height? What is not ered by length, height or weight? What strategies can be used to compare numbers? Which amount is more/greater? Which amount is less/fewer? Which amount is equal?

Big Idea: Objects have measurable attributes, such as length and weight that can be described and compared (i.e. height is similar to length). Attributes can be used to compare objects. Students use the terms greater, less, and equal to describe the relationship between numbers.

Module 4: Composition and Decomposition Students compose and decompose numbers less than or equal to 10.

Essential Questions: What happens when we combine groups? What happens when we take groups apart? What are the different ways to make 5? What are the different ways to make 10?

Big Idea: Compose (put a number together using its parts) and decompose break down a number into parts) numbers less than or equal to 10 and show understanding that there is more than one way to compose or decompose a number.

Module 5: Addition and Subtraction Students develop a conceptual understanding of addition and subtraction. They represent situations with number sentences and model story problems in various ways.

Essential Questions: What types of situations involve addition? What types of situations involve subtraction? What are different ways that addition and subtraction situations can be represented? How can addition and subtraction situations be recorded? What are the different ways to make a number? How can simple attributes be repeated to create patterns?

Big Idea: Understand Addition As Putting Together and Adding to, and Understanding Subtraction as Taking Apart and Taking From

Module 6: Place Value Foundations Students compose and decompose numbers 11 to 20 as 10 ones and some more ones in various contexts. As they count to 100 by tens and ones, students explore patterns in the number sequence. This prepares them for continued work with the base ten number system.

Essential Questions: What are the teen numbers? How can you add one ten and some ones to make the numbers from 11 to 19? What are different ways to represent and record the teen numbers?

• Big Idea: Work with Numbers 11-19 to Gain Foundations for Place Value





Connection to Vision of a Lakewood Ranger		Creative and Critical Thinking Growth Mindset Communication		
Assessment of Learning Options How will we know if they learned this skill?		 Module Pre-assessment Module Mid-unit assessment Module End of Unit Assessment Observations 		
Suggested Pacing	Content Standards	Learning and Performance Expectations What must students know and be able to do?	Resources Options	
Module:				
1, 6	K.CC.A.1 Count to 100 by ones and by tens.	Count forward by ones (within 100), starting at 1. Count by tens, starting at 10.	<u>Counting Books for Read Aloud</u> BrainPop Jr. Video: <u>One Hundred</u> <u>Bookflix:</u> Story - Chicka Chicka 1, 2, 3 Book - Everyone Uses Math	
5,6	K.CC.2 Count forward within 100 beginning from any given number other than 1.	Count forward by ones (within 100), beginning from a given number.	<u>Bookflix:</u> Story - Emily's First 100 Days Book - 100th Day of School	
1, 6	K.CC.3 Write numerals from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).	Identify numerals and their names (from 0 to 20). Write numerals (from 0 to 20). Write a numeral (from 0 to 20) to represent a quantity. Create a set of objects based on the number represented (from 0 to 20).	Race to Trace with Numerals 1-6 PDF Students need 1:1 correspondence to play with regular dice; consider using numeral dice until CC.4 is met. *Review advanced options when teaching KOA standards	
1, 6	 K.CC.4 Understand the relationship between numbers and quantities; connect counting to cardinality using a variety of objects including pennies. a. When counting objects, establish a one-to-one relationship by saying the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. b. Understand that the last number name said tells the number of objects counted and that the number of objects is the same regardless of their arrangement or the order in which they were counted. c. Understand that each successive number name refers to a quantity that is one larger. 	 Student understands that: a one-to-one relationship connects one object with one number name and one numeral. Each counted number stated includes all of the previous numbers in a counted set. The last number stated identifies the quantity in a set. When counting by ones, the next number in the sequence increases the quantity by one. 		
1, 6	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, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.	Use a strategy to count and tell how many objects are in a set regardless of arrangement, size, or type. Count a set of objects (up to 20) in an organized arrangement (line, rectangular array, or circle). Count a set of objects (up to 10) in a scattered arrangement .		
3, 6	K.CC.6 Orally identify (without using inequality symbols) whether the number of objects in one group is greater/more than, less/fewer than, or the same as the number of objects in another group, not to exceed 10 objects in each group.	Identify and compare quantities using objects and numerals. Use strategies such as matching or counting to determine which group is more, less, or the same as another group. Use the terms greater/more than , l ess/fewer than , and same as/equal when comparing objects and numerals.		





1	3	K.CC.7 Compare (without using inequality symbols) two numbers between 0 and 10 when	Compare two numbers from 0 to 10 when presented as written numerals.
		presented as written numerals.	





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Module:		
4, 5	K.OA.1 Represent addition and subtraction with objects, fingers, mental images, drawings, sounds such as claps, acting out situations, verbal explanations, expressions, or equations. Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards.)	Students apply their knowledge of counting and cardinality to addition and sul and use strategies including objects, drawings, and numbers (equations when appropriate) to solve problems within 10. Use objects, drawings, and strategies to show that addition is addition is puttir subtraction is taking apart, taking from, or comparing two quantities See link for common Addition and Subtraction Situations: <u>Table 1 ODE Model (</u>
4, 5, 6	K.OA.2 Solve addition and subtraction problems (written or oral), and add and subtract within 10 by using objects or drawings to represent the problem.	 Students solve addition and subtraction problems and show understanding that Adding 1 results in the next number in a counting sequence. Subtracting 1 results in the previous number in a counting sequence Adding or subtracting 0 results in the same number. 0 is the number of items left when all the objects in a set are taken
4, 5	K.OA.3 Decompose numbers and record compositions for numbers less than or equal to 10 into pairs in more than one way by using objects and, when appropriate, drawings or equations.	Students compose (put a number together using its parts) and decompose br into parts) numbers less than or equal to 10. Show understanding that there is more than one way to compose or decompose
5	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, when appropriate, an equation.	Compose and Decompose ways to make combinations of 10.
5	K.OA.5 Fluently add and subtract within 5.	Students will Add and Subtract math facts fluently within 5. *Fluency is the ability to use efficient, accurate, and flexible methods for comp <i>Fluency does not imply timed tests.</i>



	Resources Options
ptraction situations developmentally g together and	BrainPop Jr. Videos: Basic Adding Counting On Basic Subtraction
<u>urriculum</u>	* <u>Race to Trace Addition</u> with two dice (1-12)
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	BrainPop Jr. Video: <u>Making Ten</u> Seesaw Activities: Making 10
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Module:		
6	K.NBT.1 Compose and decompose numbers from 11 to 19 into a group of ten ones and some further ones by using objects and, when appropriate, drawings or equations; understand that these numbers are composed of a group of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	Use strategies including objects, drawings, and numbers (equations when developmentally appropriate) to compose and decompose numbers from 11 to 19. Understands that: the basic unit of the base-ten system is a one; a group of ten consists of ten "ones"; Teen numbers are composed of a group of ten ones and more ones. Explores the structure of teen numbers to recognize a pattern.



Resources Options

<u>Base Ten Blocks</u> <u>WODB</u>



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Module:				
3	K.MD.1 Identify and describe measurable attributes (length, weight, and height) of a single object using vocabulary terms such as long/short, heavy/light, or tall/short.	Students should identify and describe measurable attribute(s) of objects. Use grade-level appropriate vocabulary, e.g., longer, shorter, taller, heavier, lighter , to describe the differences between two objects.	BrainPop Jr. Video: <u>NonStandard Measurement</u>	
3	K.MD.2 Directly compare two objects with a measurable attribute in common to see which object has "more of" or "less of" the attribute, and describe the difference. For example, directly compare the heights of two children, and describe one child as taller/shorter	Students use observation to compare two objects using vocabulary to see which object has " more of" or " less of" the attribute, and describe the difference	Length STEM Challenge: Build a Marker Bridge p.18	
1,3	K.MD.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. The number of objects in each category should be less than or equal to ten. Counting and sorting coins should be limited to pennies.	 Students learn that groups of objects can be classified in multiple ways and counted. Classifying objects is the process of sorting objects into categories and naming those categories. Sort objects into categories based on a given attribute. Sort objects and explain the reasoning used. Accurately use one-to-one correspondence to find the number of objects (within 10) in each category. Classify objects into at least two groups. Gather and sort real-world information. 	Make a Paper Chain p.22 Bookflix: Story - Inch By Inch Book- How Long Is it? Weight Height Maker Station Activity: Tall Tower p.19-20	





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Module:				
2	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.	Students describe and name squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres. Students use positional words such as above, below, beside, in front of, behind , and next to when describing the location of objects in the environment	Maker Station Activity: Make a repeating pattern/tessellation (using pattern block shapes) p. 64-65	
2	K.G.2 Correctly name shapes regardless of their orientations or overall size.	Students can name shapes regardless of their orientation or overall size.	BrainPop Jr. Video <u>Plane Shapes</u>	
2	K.G.3 Identify shapes as two-dimensional (lying in a plane, "flat") or three- dimensional ("solid").	Students explore and identify the geometric shapes as two-dimensional (flat) or three dimensional (solid) shapes. Students will be able to compare and contrast two-dimensional shapes and describe how they are similar and different. Students will be able to compare two-dimensional and three-dimensional shapes of different sizes and describe their similarities and differences.	BrainPop Jr. Video: <u>Solid Shapes</u> <u>Maker Station Activity:</u> Make 3D shapes. p. 66-67	
2	K.G.4 Describe and compare two- or three-dimensional shapes, in different sizes and orientations, using informal language to describe their commonalities, differences, parts, and other attributes.			
2	K.G.5 Model shapes in the world by building shapes from components, e.g., sticks and clay balls, and drawing shapes.	Students will be able to build shapes using simple materials. Students will be able to create composite shapes by joining smaller shapes together.		
5	K.G.6 Combine simple shapes to form larger shapes.			

