

Counting and Cardinality

Know number names and the count sequence.

Count to tell the number of objects.

Compare numbers.

Operations and Algebraic Thinking

Understand addition, and understand subtraction.

Number and Operations in Base Ten

Work with numbers 11–19 to gain foundations for place value.

Measurement and Data

Describe and compare measurable attributes.

Classify objects and count the number of objects in each category.

Geometry

Identify and describe shapes.

Analyze, compare, create, and compose shapes.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.



Common Core State Standards	CCSSM Practices	Correlation to Navigations Activities	Navigations Books
Kindergarten » Counting and Cardinality	1, 2, 3, 7	Choose a Number Students explore a variety of representations for numbers.	No/Oper PK–2
Know number names and the count sequence.			
1. Count to 100 by ones and by tens.	1, 2, 3, 8	Follow the Number Roads Students identify and continue counting patterns shown on “roads” having squares containing numbers and arrows.	Algebra PK–2
2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).			
3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).	1, 2, 3, 7, 8	Jumping Rules Students follow rules and jump spaces on a number line on the floor to create number patterns.	Algebra PK–2
	1, 2, 3, 4, 8	Snakes and More Snakes Students explore growing patterns formed by increasing numbers of snakes, decide what will come next in a pattern, and use chips to show the appropriate number of snakes.	Algebra PK–2
Count to tell the number of objects.			
4. Understand the relationship between numbers and quantities; connect counting to cardinality.			
a. When counting objects, say 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.	1, 2, 3, 4, 6, 7, 8	Bucket of Buttons Students sort, organize, and count objects; use the addition principle of counting; list all possible counting situations; and use Venn diagrams to sort and organize data.	Discrete PK–5
b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.	1, 2, 3, 4, 6, 7, 8	Bears in the House and in the Park Students model, solve, and create story problems and reason about number relationships.	PS/Reas PK–K
c. Understand that each successive number name refers to a quantity that is one larger.			
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 to 20, count out that many objects.			
Compare numbers.			
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, e.g., by using matching and counting strategies.			
7. Compare two numbers between 1 and 10 presented as written numerals.			

Common Core State Standards	CCSSM Practices	Correlation to Navigations Activities	Navigations Books
Kindergarten » Operations and Algebraic Thinking Understand addition, and understand subtraction. <ol style="list-style-type: none"> 1. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. 2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. 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 (e.g., $5 = 2 + 3$ and $5 = 4 + 1$). 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. 5. Fluently add and subtract within 5. 	1, 2, 3, 4, 7, 8	Frump's Fashions Students learn the meaning and language of addition and subtraction as they use chips to represent objects in stories and join groups of objects to tell how many <i>in all</i> or <i>altogether</i> . They also compare groups of objects to tell <i>how many more</i> , and they remove subsets of objects to tell <i>how many are left</i> .	No/Oper PK–2
	1, 2, 3, 4, 6, 7	Frames Students are introduced to addition and subtraction on five- and ten-frames. They figure out the number of chips they must add or take away from a frame to produce a specific number.	No/Oper PK–2
	1, 2, 3, 7, 8	Jumping Rules Students follow rules and jump spaces on a number line on the floor to create number patterns.	Algebra PK–2
	1, 2, 3, 4, 6, 7, 8	How Many Are Under the Cup? Students count the number of chips placed under a cup and the number of chips removed and then determine the number of chips remaining under the cup.	Algebra PK–2
	1, 2, 3, 4, 6, 7, 8	Lots of Spots Using pictures of dogs with varying numbers of spots, students group dogs together to find specific sums, form equations, explore the commutative and identity (or zero) properties of addition of whole numbers, and solve for missing addends.	Algebra PK–2
	1, 2, 3, 4, 6, 7, 8	Fire Trucks and Hats Students analyze the elements of repeating patterns, make and test conjectures about hidden elements, and reason about algebraic relationships.	PS/Reas PK–K
	1, 2, 3, 4, 6, 7, 8	Picture after Picture Students describe, analyze, and create a variety of simple sequential patterns, including repeating and growing patterns, using pictorial representations. They learn terminology for describing sequential patterns, answer questions about terms in a sequence, make and test predictions, find missing terms, and solve a variety of problems about sequential patterns.	Discrete PK–5

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Kindergarten » Number and Operations in Base Ten Work with numbers 11–19 to gain foundations for place value. <ol style="list-style-type: none"> Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or an equation (such as $18 = 10 + 8$); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. 	1, 2, 3, 4, 7, 8	Flip Two A card game offers informal practice with sums to 18. Students find the total number of dots on two cards and compare their totals to determine the larger one. Ten-frames encourage the use of the fact strategy “make a 10.”	No/Oper PK–2
Kindergarten » Measurement and Data Describe and compare measurable attributes. <ol style="list-style-type: none"> Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. <i>For example, directly compare the heights of two children and describe one child as taller/shorter.</i> Classify objects and count the number of objects in each category. <ol style="list-style-type: none"> Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. 	1, 2, 3, 7, 8	Tall Towers Students explore taller-than and shorter-than relationships by building and comparing block or junk towers.	Algebra PK–2
	1, 2, 3, 4, 8	Who Jumped Farthest? Students create and interpret diagrams that depict the jumped-farther relation.	Algebra PK–2
	1, 2, 3, 4, 7	Body Balance Students use their bodies to indicate the relative weights of two different objects.	Measure PK–2
	1, 2, 3, 4, 7	Scavenger Hunt Students complete a scavenger hunt in which they must find objects that are longer, shorter, heavier, or lighter than other objects and objects that hold more or less than other objects.	Measure PK–2
	1, 2, 3, 4, 7	String Lengths Students estimate their heights and the lengths of common classroom objects. They mark the lengths on strings that they think will match their height or the object and then compare the estimates with the actual height or length.	Measure PK–2
	1, 2, 3, 4, 7	Fill It Up Students compare the capacities of containers and order the containers by capacity.	Measure PK–2
	1, 2, 3, 4, 6, 7, 8	Line Up Students solve logic problems involving the comparison of measurements and reason about measurement relationships.	PS/Reas PK–K

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Kindergarten » Measurement and Data (continued)	1, 2, 3, 4, 6, 7	Build a Graph Students sort cubes by color and construct three-dimensional, color-cube bar graphs. They use the graphs to compare the numbers of cubes of different colors and answer questions about the data displayed. They also construct two-dimensional bar graphs to show the same data.	Data/Prob PK–2
	1, 2, 3, 4, 6, 7	What’s Your Favorite? Students participate in surveys of their classmates to collect information about each person’s favorite pet, color, or fruit. Using photographs or drawings of themselves, they construct and interpret bar graphs of their “favorites.”	Data/Prob PK–2
	1, 2, 3, 4, 6, 7, 8	Junk Sort Students discuss how materials found in the classroom are alike and different and then sort the materials using attributes suggested in the discussion. They play the game “What’s My Rule?” and identify the secret rule or rules that the teacher or other students used to sort the materials. Venn diagrams are used to represent relationships between sets of objects.	Data/Prob PK–2
	1, 2, 3, 4, 6, 7	Back and Forth Students collect data about topics such as their favorite method of preparing potatoes or their favorite pizza toppings. They display their data and explore and compare different forms of display, such as tables, tally charts, picture graphs, or horizontal or vertical bar graphs.	Data/Prob PK–2
	1, 2, 3, 4, 6, 7, 8	Bucket of Buttons Students sort, organize, and count objects; use the addition principle of counting; list all possible counting situations; and use Venn diagrams to sort and organize data.	Discrete PK–5
	1, 2, 3, 4, 6, 7, 8	Glyph Gallery Students interpret and create pictorial representations of data and reason about data relationships.	PS/Reas PK–K

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Kindergarten » Geometry Identify and describe shapes. <ol style="list-style-type: none"> Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as <i>above</i>, <i>below</i>, <i>beside</i>, <i>in front of</i>, <i>behind</i>, and <i>next to</i>. 	1, 2, 3, 6	Name That Block The teacher describes one three-dimensional block in a set of displayed blocks, focusing on the distinguishing features of that block, and the students identify the block. Then the students take on the role of teacher, describing the blocks using words or dramatizations. The activity is extended to a scavenger hunt in which students hunt for objects that fit descriptions.	Geometry PK–2
<ol style="list-style-type: none"> Correctly name shapes regardless of their orientations or overall size. 	1, 2, 3, 6	Ins and Outs Students learn positional vocabulary by following and giving directions using positional terms.	Geometry PK–2
<ol style="list-style-type: none"> Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”). 	1, 2, 3, 4, 6	Match My Grid Students work in pairs; one student arranges three to five shapes on a piece of paper that has been separated into four sections. Using positional and directional vocabulary, the student describes the arrangement of the shapes to the partner who cannot see them. Using a set of the same shapes, the partner places the shapes in the arrangement described by the first student.	Geometry PK–2
Analyze, compare, create, and compose shapes. <ol style="list-style-type: none"> 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). 	1, 2, 3, 4, 6	From Here to There Students determine a variety of paths to get from one point to another on a grid, describing the moves using the words <i>up</i> , <i>down</i> , <i>right</i> , and <i>left</i> .	Geometry PK–2
<ol style="list-style-type: none"> Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. 	1, 2, 3, 4, 6	Map Maker Students make and interpret maps of familiar areas.	Geometry PK–2
<ol style="list-style-type: none"> Compose simple shapes to form larger shapes. <i>For example, “Can you join these two triangles with full sides touching to make a rectangle?”</i> 	1, 2, 3, 4, 6	Block Views Given one or more pictures of a simple block structure, students build a structure that matches the pictures.	Geometry PK–2

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Kindergarten » Geometry (continued)	1, 2, 3, 7, 8	How Does It Grow? Students investigate growing patterns composed of squares and triangles.	Algebra PK–2
	1, 2, 3, 4, 6, 7, 8	Fair Trades Students explore proportional relationships through the trading of pattern blocks and other objects.	Algebra PK–2
	1, 2, 3, 4, 6	Shapes from Shapes Students explore and draw different designs that can be created from the same shapes and look at how smaller shapes can be used to cover larger ones.	Geometry PK–2
	1, 2, 3, 4, 6	Alike and Different Students identify attributes of objects, such as shape, size, and number of edges, and play games in which they compare and sort objects by their attributes.	Geometry PK–2
	1, 2, 3, 4, 6	Mirror Monsters Students use mirrors to explore lines of symmetry. They challenge themselves and their classmates to predict and then test where to place a mirror to create a specific effect.	Geometry PK–2
	1, 2, 3, 4, 6	Mirror Pictures Students are given a pattern-block or other design and a mirror line and are directed to build the “other side,” or mirror image, of the design. They also predict and build designs according to different lines of symmetry, and they match given shapes by placing a mirror on a design to obtain the appropriate image.	Geometry PK–2
	1, 2, 3, 4, 6, 7, 8	Shape Families Students identify how shapes in a group are alike, identify a shape that does not belong and explain why it does not belong in the group, and reason about geometric relationships.	Geometry PK–2