## Kindergarten

## Grade K Overview

## Counting and Cardinality (CC)

- Know number names and the count sequence.
- Count to tell the number of objects.
- Compare numbers.


## Operations and Algebraic Thinking (OA)

- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.


## Number and Operations in Base Ten (NBT)

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

Measurement and Data (MD)

- Describe and compare measurable attributes.
- Classify objects and count the number of objects in categories.


## Geometry (G)

- Identify and describe shapes.
- Analyze, compare, create, and compose shapes.


## Mathematical Practices (MP)

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.

In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.
(1) Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals; and modeling simple joining and separating situations with sets of objects, or eventually with equations such as $5+2=7$ and $7-2=5$. (Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.) Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.
(2) Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes or orientations), as well as three-dimensional shapes such as cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.


|  | K.CC.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). | KNOWLEDGE: <br> Write numerals 0 to 20 <br> Write the number that represents a given number of objects from 0-20. | Students should be given multiple opportunities to count objects and recognize that a number represents a specific quantity. Once this is established, students begin to read and write numerals (numerals are the symbols for the quantities). The emphasis should first be on quantity and then connecting quantities to the written symbols. <br> - A sample unit sequence might include: <br> 1. Counting up to 20 objects in many settings and situations over several weeks. <br> 2. Beginning to recognize, identify, and read the written numerals, and match the numerals to given sets of objects. <br> 3. Writing the numerals to represent counted objects. <br> - Since the teen numbers are not written as they are said, teaching the teen numbers as one group of ten and extra ones is foundational to understanding both the concept and the symbol that represents each teen number. <br> For example, when focusing on the number "14," students should count out fourteen objects using one-to-one correspondence and then use those objects to make one group of ten and four extra ones. Students should connect the representation to the symbol "14." | Go Math Harcourt Math Saxon Math unifix cubes counters number cards hundreds chart ten frames environmental items SmartBoard Document Camera www.quantiles.com http://illuminations.nctm.org/ www.ixl.com/Math www.brainpop.com www.sesamestreet.org http://www.jumpstart.com/ http://kids.aol.com/ www.khanacademy.org www.discoveryeducation.com/ video clips | Discovery Education <br> "Numbers 1-5" <br> "Numbers 6-10" <br> "Numbers 11-20" |
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| Week 11 | K.CC.7. Compare two numbers between 1 and 10 | KNOWLEDGE: Know the quantity of each numeral. | Given two numerals, students should determine which is greater or less than the other. | Go Math Harcourt Math Saxon Math | Discovery Education |


|  | presented as written numerals. | REASONING: <br> Determine whether a written number is greater than, less than, or equal to another written number. |  | unifix cubes counters <br> number cards <br> hundreds chart <br> ten frames <br> environmental items <br> SmartBoard <br> Document Camera <br> www.quantiles.com <br> http://illuminations.nctm.org/ <br> www.ixl.com/Math <br> www.brainpop.com <br> www.sesamestreet.org <br> http://www.jumpstart.com/ <br> http://kids.aol.com/ <br> www.khanacademy.org <br> www.discoveryeducation.com/ <br> video clips <br> www.internet4classrooms.com I | Comparing Numbers 1-10 |
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| Week 12 | 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 | KNOWLEDGE: Count up to 20 objects that have been arranged in a line, rectangular array, or circle <br> Count as many as 10 items in a scattered configuration <br> Given a number from 1-20 count out that many objects. | Students should develop counting strategies to help them organize the counting process to avoid re-counting or skipping objects. <br> Examples: <br> - If items are placed in a circle, the student may mark or identify the starting object. <br> - If items are in a scattered configuration, the student may move the objects into an organized pattern. <br> - Some students may choose to use grouping strategies such as placing objects | Go Math Harcourt Math Saxon Math unifix cubes counters number cards hundreds chart ten frames environmental items SmartBoard Document Camera $\qquad$ | Discovery Education <br> "How Many" |


|  | out that many objects. | REASONING: Match each object with one and only one number name and each number with one and only one object <br> Performance: <br> Given a number from 1-20, count out that many objects. | in twos, fives, or tens (note: this is not a kindergarten expectation). <br> - Counting up to 20 objects should be reinforced when collecting data to create charts and graphs. <br> A student may use a clicker (electronic response system) to communicate his/her count to the teacher. | http://illuminations.nctm.org/ www.ixl.com/Math www.brainpop.com www.sesamestreet.org http://www.jumpstart.com/ http://kids.aol.com/ www.khanacademy.org www.discoveryeducation.com/ video clips www.internet4classrooms.com I |  |
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| Week 13 | K.CC. 4 . <br> Understand the relationship between numbers and quantities; connect counting to cardinality. <br> 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. <br> b. Understand that the last | KNOWLEDGE: Write numerals 0 to 20 <br> Write the number that represents a given number of objects from 0-20. <br> REASONING: Match each object with one and only one number name and each number with one and only one object. <br> Understand the number of objects is the same regardless of their arrangement or the order in which they were counted. <br> Realize that the last | This standard focuses on one-to-one correspondence and how cardinality connects with quantity. <br> - For example, when counting three bears, the student should use the counting sequence, "1-2-3," to count the bears and recognize that "three" represents the group of bears, not just the third bear. A student may use an interactive whiteboard to count objects, cluster the objects, and state, "This is three". <br> In order to understand that each successive number name refers to a quantity that is one larger, students should have experience counting objects, placing one more object in the group at a time. <br> - For example, using cubes, the student should count the existing group, and then place another cube in the set. Some students may need to re-count from one, but the goal is that they would count on from the existing number of cubes. S/he should continue placing one more cube at | Go Math <br> Harcourt Math <br> Saxon Math <br> unifix cubes <br> counters <br> number cards <br> hundreds chart <br> ten frames <br> environmental items <br> SmartBoard <br> Document Camera <br> www.quantiles.com <br> http://illuminations.nctm.org/ <br> www.ixl.com/Math <br> www.brainpop.com <br> www.sesamestreet.org <br> http://www.jumpstart.com/ <br> http://kids.aol.com/ | Discovery Education <br> "Connect Counting to Cardinality" |


|  | 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. <br> c. Understand that each successive number name refers to a quantity that is one larger. | number name said tells the number of objects counted. <br> Generalizes that each successive number name refers to a quantity that is one larger. <br> PERFORMANCE: <br> When counting objects, say the number names in order while matching each object with a number. | a time and identify the total number in order to see that the counting sequence results in a quantity that is one larger each time one more cube is placed in the group. <br> A student may use a clicker (electronic response system) to communicate his/her count to the teacher. | www.khanacademy.org <br> www.discoveryeducation.com/ video clips <br> www.internet4classrooms.com ! |  |
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| Weeks 14-15 | 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, e.g., by using matching and counting strategies. (Include groups with up to ten objects | KNOWLEDGE: <br> Know how to count accurately to 10 . <br> Reasoning: Determine whether a group of 10 or fewer objects is greater than, less than, or equal to another group of 10 or fewer objects | Students should develop a strong sense of the relationship between quantities and numerals before they begin comparing numbers. <br> Other strategies: <br> - Matching: Students use one-to-one correspondence, repeatedly matching one object from one set with one object from the other set to determine which set has more objects. <br> - Counting: Students count the objects in each set, and then identify which set has more, less, or an equal number of objects. <br> - Observation: Students may use observation to compare two quantities (e.g., by looking at two sets of objects, they may be able to tell which set has more or less without counting). <br> - Observations in comparing two quantities can be accomplished through daily | Go Math Harcourt Math Saxon Math unifix cubes counters number cards hundreds chart ten frames environmental items SmartBoard Document Camera $\qquad$ <br> http://illuminations.nctm.org I <br> www.ixl.com/Math <br> www.brainpop.com | Discovery Education $\text { K.CC. } 6$ |
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|  |  |  | routines of collecting and organizing data in displays. Students create object graphs and pictographs using data relevant to their lives (e.g., favorite ice cream, eye color, pets, etc.). Graphs may be constructed by groups of students as well as by individual students. <br> - Benchmark Numbers: This would be the appropriate time to introduce the use of 0 , 5 and 10 as benchmark numbers to help students further develop their sense of quantity as well as their ability to compare numbers. <br> - Students state whether the number of objects in a set is more, less, or equal to a set that has to 0,5 , or 10 objects. | www.sesamestreet.org <br> http://www.jumpstart.com/ <br> http://kids.aol.com/ <br> www.khanacademy.org <br> www.discoveryeducation.co <br> m/ <br> video clips <br> www.internet4classrooms.c om/ |  |
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| Week 16 | K.CC.2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1). | KNOWLEDGE: <br> Count forward by 1's beginning with another number other than 1 . (verbal sequence only) | The emphasis of this standard is on the counting sequence to 100 . Students should be able to count forward from any number, 1-99. | Go Math Harcourt Math <br> Saxon Math unifix cubes counters number cards hundreds chart ten frames environmental items SmartBoard Document Camera www.quantiles.com <br> http://illuminations.nctm.org ! <br> www.ixl.com/Math <br> www.brainpop.com <br> www.sesamestreet.org | Discovery Education $\text { K.CC. } 2$ |


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| Week 17 | K.NBT.1. <br> 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 equation (e.g., 18 = $10+8$ ); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. | KNOWLEDGE: For any number from 1 to 9, find the number that makes 10 when added to the given number, record the answer with a drawing or equation. <br> REASONING: <br> Understand that numbers 11-19 are composed of 10 ones and one, two, three, four, five, six, seven, eight, or nine ones. <br> PERFORMANCE: <br> Compose numbers 11 19 into ten ones and some further ones. Decompose numbers 11-19 into ten ones and some further ones. | Special attention needs to be paid to this set of numbers as they do not follow a consistent pattern in the verbal counting sequence. <br> - Eleven and twelve are special number words. <br> - "Teen" means one "ten" plus ones. <br> - The verbal counting sequence for teen numbers is backwards - we say the ones digit before the tens digit. For example "27" reads tens to ones (twenty-seven), but 17 reads ones to tens (seven-teen). <br> In order for students to interpret the meaning of written teen numbers, they should read the number as well as describe the quantity. For example, for 15 , the students should read "fifteen" and state that it is one group of ten and five ones and record that $15=10+5$. <br> Teaching the teen numbers as one group of ten and extra ones is foundational to understanding both the concept and the symbol that represent each teen number. For example, when focusing on the number "14," students should count out fourteen objects using one-to-one correspondence and then use those objects to make one group of ten ones and four additional ones. Students should connect the representation to the symbol " 14 ." <br> Students should recognize the pattern that exists in | Go Math Harcourt Math Saxon Math unifix cubes counters number cards hundreds chart ten frames environmental items SmartBoard Document Camera www.quantiles.com <br> http://illuminations.nctm.org ! <br> www.ixl.com/Math <br> www.brainpop.com <br> www.sesamestreet.org <br> http://www.jumpstart.com/ <br> http://kids.aol.com/ <br> www.khanacademy.org | Discovery Education <br> K.NBT. 1 |


|  |  |  | the teen numbers; every teen number is written with a 1 (representing one ten) and ends with the digit that is first stated. | www.discoveryeducation.co m/ <br> video clips <br> www.internet4classrooms.c om/ |  |
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| $\begin{aligned} & \text { Weeks 18- } \\ & 19 \end{aligned}$ | K.0A.1. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. (Drawings need not show details, but should show the mathematics in the problems. This applies wherever drawings are mentioned in the Standards.) | KNOWLEDGE: <br> Know adding is putting together parts to make the whole. <br> Know subtracting is taking apart or taking away from the whole to find the other part. <br> Know the symbols (+, ,$-=$ ) and the words (plus, minus, equal) for adding and subtracting. <br> REASONING: <br> Analyze addition or subtraction problem to determine whether to 'put together' or 'take apart'. <br> Model an addition/subtraction problem given a reallife story. <br> Performance: Represent addition and subtraction with objects, fingers, mental images, drawings, sounds, | Using addition and subtraction in a word problem context allows students to develop their understanding of what it means to add and subtract. <br> Students should use objects, fingers, mental images, drawing, sounds, acting out situations and verbal explanations in order to develop the concepts of addition and subtraction. Then, they should be introduced to writing expressions and equations using appropriate terminology and symbols which include " + ," "-," and " $=$ ". <br> - Addition terminology: add, join, put together, plus, combine, sum <br> - Subtraction terminology: minus, take away, separate, difference, compare <br> Students may use document cameras or interactive whiteboards to represent the concept of addition or subtraction. This gives them the opportunity to communicate their thinking. | Go Math Harcourt Math Saxon Math unifix cubes counters Symbol Cards (Vocabulary) ten frames environmental items Number Balance SmartBoard Document Camera www.quantiles.com http://illuminations.nctm.org I www.khanacademy.org www.ixl.com/Math www.brainpop.com www.sesamestreet.org http://www.jumpstart.com/ http://kids.aol.com/ <br> www.discoveryeducation.co m/ video clips <br> www.internet4classrooms.c om/ | Discovery Education K.OA. 1 |


|  |  | acting out situations, verbal explanations, expressions, or equations in multiple ways, e.g., 2+3=5, $5=2+3,\|\|+\|\|\|=\|\|\|\| \|$, and vertically. <br> (Writing equations in kindergarten is not required but encouraged.) |  |  |  |
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| $\begin{gathered} \text { Weeks 20- } \\ 21 \end{gathered}$ | K.0A.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. | KNOWLEDGE: Know that two numbers can be added together to make ten <br> REASONING: For any number from 1 to 9 , find the number that makes 10 when added to the given number, record the answer with a drawing or equation. | The number pairs that total ten are foundational for students' ability to work fluently within base-ten numbers and operations. Different models, such as ten-frames, cubes, two-color counters, etc., assist students in visualizing these number pairs for ten. <br> Example 1: <br> Students place three objects on a ten frame and then determine how many more are needed to "make a ten." <br> Students may use electronic versions of ten frames to develop this skill. <br> Example 2: <br> The student snaps ten cubes together to make a "train." <br> - Student breaks the "train" into two parts. S/he counts how many are in each part and record the associated equation (10 = $\qquad$ $+$ $\qquad$ ). <br> - Student breaks the "train into two parts. S/he counts how many are in one part and | Go Math Harcourt Math <br> Saxon Math unifix cubes counters Symbol Cards (Vocabulary) ten frames environmental items Number Balance SmartBoard Document Camera <br> www.quantiles.com <br> http://illuminations.nctm.org ! <br> www.khanacademy.org <br> www.ixl.com/Math <br> www.brainpop.com <br> www.sesamestreet.org <br> http://www.jumpstart.com/ <br> http://kids.aol.com/ <br> www.discoveryeducation.co | Discovery Education $\text { K.OA. } 4$ |


|  |  |  | determines how many are in the other part without directly counting that part. Then s/he records the associated equation (if the counted part has 4 cubes, the equation would be $10=4+$ $\qquad$ <br> - Student covers up part of the train, without counting the covered part. S/he counts the cubes that are showing and determines how many are covered up. Then s/he records the associated equation (if the counted part has 7 cubes, the equation would be $10=7+$ $\qquad$ ). <br> Example 3: <br> The student tosses ten two-color counters on the table and records how many of each color is facing up. | m/ <br> video clips <br> www.internet4classrooms.c om/ |  |
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| Weeks 22-23 | K.0A.3. <br> 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 $5=4+1$ ). | KNOWLEDGE: <br> Solve addition number sentences within 10 . <br> REASONING: <br> Decompose numbers less than or equal to 10 into pairs in more than one way. <br> Use objects or drawings then record each composition by a drawing or writing an equation. | This standard focuses on number pairs which add to a specified total, 1-10. These number pairs may be examined either in or out of context. <br> Students may use objects such as cubes, two-color counters, square tiles, etc. to show different number pairs for a given number. For example, for the number 5 , students may split a set of 5 objects into 1 and 4,2 and 3 , etc. <br> Students may also use drawings to show different number pairs for a given number. For example, students may draw 5 objects, showing how to decompose in several ways. <br> Sample unit sequence: <br> - A contextual problem (word problem) is presented to the students such as, "Mia goes to Nan's house. Nan tells her she | Go Math Harcourt Math <br> Saxon Math unifix cubes counters Symbol Cards (Vocabulary) ten frames environmental items Number Balance SmartBoard Document Camera www.quantiles.com <br> http://illuminations.nctm.org ! <br> www.khanacademy.org <br> www.ixl.com/Math <br> www.brainpop.com <br> www.sesamestreet.org | Discovery Education <br> K.OA. 3 |


|  |  |  | may have 5 pieces of fruit to take home. There are lots of apples and bananas. How many of each can she take?" <br> - Students find related number pairs using objects (such as cubes or two-color counters), drawings, and/or equations. Students may use different representations based on their experiences, preferences, etc. <br> - Students write equations such as: <br> - Equations that equal 5: <br> - $5=4+1$ <br> - $3+2=5$ <br> - $2+3=4+1$ <br> This is a good opportunity for students to systematically list all the possible number pairs for a given number. For example, all the number pairs for 5 could be listed as $0+5,1+4,2+3,3+2,4+1$, and $5+0$. Students should describe the pattern that they see in the addends, e.g., each number is one less or one than the previous addend. | http://www.jumpstart.com/ <br> http://kids.aol.com/ <br> www.discoveryeducation.co m/ <br> video clips <br> www.internet4classrooms.c om/ |  |
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| Weeks 24-25 | K.0A.5. Fluently add and subtract within 5. | KNOWLEDGE: <br> Fluently with speed and accuracy add and subtract within 5. | This standard focuses on students being able to add and subtract numbers within 5. Adding and subtracting fluently refers to knowledge of procedures, knowledge of when and how to use them appropriately, and skill in performing them flexibly, accurately, and efficiently. <br> Strategies students may use to attain fluency include: <br> - Counting on (e.g., for $3+2$, students will state, "3," and then count on two more, "4, 5 ," and state the solution is " 5 ") <br> - Counting back (e.g., for $4-3$, students will state, "4," and then count back three, " 3,2 , 1 " and state the solution is " 1 ") <br> - Counting up to subtract (e.g., for 5-3, students will say, "3," and then count up until they get to 5 , keeping track of how many they counted up, stating that the solution is "2") | Go Math Harcourt Math unifix cubes counters Symbol Cards (Vocabulary) ten frames environmental items Number Balance SmartBoard Document Camera <br> www.quantiles.com <br> http://illuminations.nctm.org/ <br> www.khanacademy.org <br> www.ixl.com/Math <br> www.brainpop.com <br> www.sesamestreet.org | Discovery Education <br> K.OA. 5 |


|  |  |  | - Using doubles (e.g., for 2+3, students may say, "I know that $2+2$ is 4 , and 1 more is 5 ") <br> - Using commutative property (e.g., students may say, "I know that $2+1=3$, so $1+2=3$ ") <br> - Using fact families (e.g., students may say, "I know that $2+3=5$, so $5-3=2$ ") <br> Students may use electronic versions of five frames to develop fluency of these facts. | http://www.jumpstart.com/ <br> http://kids.aol.com/ <br> www.discoveryeducation.com/ video clips |  |
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| Weeks 26-27 | K.0A.2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. | KNOWLEDGE: <br> Add and subtract within 10 (Maximum sum and minuend is 10) <br> REASONING: <br> Solve addition and subtraction word problems within 10. <br> Use objects/drawings to represent an addition and subtraction word problem. | Using a word problem context allows students to develop their understanding about what it means to add and subtract. <br> Sample learning sequence: <br> - Students make sense of a word problem, such as, "Mia had 3 apples. Her friend gave her 2 more. How many does she have now?" <br> - A student's "think aloud" of this problem might be, "I know that Mia has some apples and she's getting some more. So she's going to end up with more apples than she started with." <br> - Students develop the concept of addition/subtraction by modeling the actions in the word problem using: <br> - objects, fingers, mental images, drawings, sounds, acting out situations, and/or verbal explanations. Students may use different representations based on their experiences, preferences, etc. <br> - Students connect their conceptual representations of the situation using symbols, expressions, and/or equations. <br> - Students may represent addition/subtraction equations with word problems. <br> - For example, given the equation 8 | Go Math Harcourt Math unifix cubes counters Symbol Cards (Vocabulary) ten frames environmental items Number Balance SmartBoard Document Camera www.quantiles.com <br> http://illuminations.nctm.org ! <br> www.khanacademy.org <br> www.ixl.com/Math <br> www.brainpop.com <br> www.sesamestreet.org <br> http://www.jumpstart.com/ <br> http://kids.aol.com/ <br> www.discoveryeducation.co <br> m/ <br> video clips <br> www.internet4classrooms.c | Discovery Education $\text { K.OA. } 2$ |


|  |  |  | $-2=6$, a student makes up a word problem such as, "José had 8 markers and he gave 2 away. How many does he have now?" <br> Note that in context, there are two types of subtraction problems: separate (take-away) and compare. These two types are very different when modeled. <br> - Example: 8-2 = 6 <br> Separate (take-away) example: "José had 8 markers and he gave 2 away. How many does he have now?" When modeled, a student would begin with 8 objects and remove two to get the result. <br> - Comparison example: "José had 8 marbles and Zia had 2. How many more marbles does José have than Zia?" When modeled, a student would make a set of 8 objects and a set of 2 objects and compare the two sets. <br> Students may use a document camera or interactive whiteboard to demonstrate addition or subtraction strategies. This gives them the opportunity to communicate and justify their thinking. | om/ |  |
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| Time Period | Standard | $\frac{\text { Deconstructed }}{\underline{\text { Standard }}}$ | Explanations and Examples | Resources | Formative Assessment |
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|  | Students are expected to: |  |  |  |  |
| Week 28 | K.MD.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (Limit category counts to be less than or equal to 10). |  | Possible objects to sort include buttons, shells, shapes, beans, etc. After sorting and counting, it is important for students to: <br> - explain how they sorted the objects; <br> - label each set with a category; <br> - answer a variety of counting questions that ask, "How many ..."; and <br> compare sorted groups using words such as, "most", "least", "alike" and "different". | Go Math <br> Harcourt Math <br> Shapes (different color, shape, sizes) <br> Attribute links <br> Pattern blocks <br> Cubes <br> Counters <br> SmartBoard <br> Document Camera <br> www.quantiles.com <br> http://illuminations.nctm.org/ <br> www.khanacademy.org <br> www.ixl.com/Math <br> www.brainpop.com <br> www.sesamestreet.org <br> http://www.jumpstart.com/ <br> http://kids.aol.com/ <br> www.discoveryeducation.com/ <br> video clips | Discovery Education <br> K.MD. 3 |


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|  | Students are expected to: |  |  |  |  |
| Week 29 | 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. |  | Examples of environments in which students would be encouraged to identify shapes would include nature, buildings, and the classroom using positional words in their descriptions. <br> Teachers should work with children and pose four mathematical questions: Which way? How far? Where? And what objects? To answer these questions, children develop a variety of important skills contributing to their spatial thinking. <br> Examples: <br> - Teacher holds up an object such as an ice cream cone, a number cube, ball, etc. and asks students to identify the shape. Teacher holds up a can of soup and asks," What shape is this can?" Students respond "cylinder!" <br> - Teacher places an object next to, behind, above, below, beside, or in front of another object and asks positional questions. Where is the water bottle? (water bottle is placed behind a book) Students say "The water bottle is behind the book." <br> Students should have multiple opportunities to identify shapes; these may be displayed as photographs, or pictures using the document camera or interactive whiteboard. | Go Math <br> Harcourt Math <br> Shapes (different color, shape, sizes) <br> Attribute links <br> Pattern blocks <br> Cubes <br> Counters <br> SmartBoard <br> Document Camera <br> www.quantiles.com <br> http://illuminations.nctm.org/ <br> www.khanacademy.org <br> www.ixl.com/Math <br> www.brainpop.com <br> www.sesamestreet.org <br> http://www.jumpstart.com/ <br> http://kids.aol.com/ | Discovery Education $\begin{aligned} & \text { K.G. } 1 \\ & \text { K.G. } 2 \end{aligned}$ |



| Time Period | Standard | $\frac{\text { Deconstructed }}{\text { Standard }}$ | Explanations and Examples | Resources | Formative Assessment |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Students are expected to: |  |  |  |  |
| Week 30 | K.G.3. Identify shapes as twodimensional (lying in a plane, "flat") or three-dimensional ("solid"). |  | Student should be able to differentiate between two dimensional and three dimensional shapes. <br> - Student identifies a picture of a shape as two dimensional because it is flat and can be measured in only two ways (length and width). <br> - Student identifies an object as three dimensional because it is not flat (it is a solid object/shape) and can be measured in three different ways (length, width, height/depth). | Go Math <br> Harcourt Math <br> Shapes (different color, shape, sizes) <br> Attribute links <br> Pattern blocks <br> Cubes <br> Counters <br> SmartBoard <br> Document Camera <br> www.quantiles.com <br> http://illuminations.nctm.org/ <br> www.khanacademy.org <br> www.ixl.com/Math <br> www.brainpop.com <br> www.sesamestreet.org <br> http://www.jumpstart.com/ <br> http://kids.aol.com/ <br> www.discoveryeducation.com/ video clips | Discovery Education $\text { K.G. } 3$ |


| Time Period | Standard | $\frac{\text { Deconstructed }}{\text { Standard }}$ | Explanations and Examples | Resources | Formative |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Students are expected to: |  |  |  |  |
| Week 31 | K.G.5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. |  | Because two-dimensional shapes are flat and three-dimensional shapes are solid, students should draw two-dimensional shapes and build three-dimensional shapes. Shapes may be built using materials such as clay, toothpicks, marshmallows, gumdrops, straws, etc. | Go Math <br> Harcourt Math <br> Geometry shapes (solid figures) <br> Environmental shapes/everyday objects <br> Two sided counters <br> SmartBoard <br> Document Camera <br> www.quantiles.com <br> http://illuminations.nctm.org/ <br> www.khanacademy.org <br> www.ixl.com/Math <br> www.brainpop.com <br> www.sesamestreet.org <br> http://www.jumpstart.com/ <br> http://kids.aol.com/ <br> www.discoveryeducation.com/ <br> video clips | Discovery Education $\text { K.G. } 5$ |


| Time Period | Standard | $\frac{\text { Deconstructed }}{\text { Standard }}$ | Explanations and Examples | Resources | Formative Assessment |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Students are expected to: |  |  |  |  |
| Weeks 32-33 | 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 analyze and compare two- and three-dimensional shapes by observations. Their visual thinking enables them to determine if things are like or different based on the appearance of the shape. Students sort objects based on appearance. Even in early explorations of geometric properties, they are introduced to how categories of shapes are subsumed within other categories. For instance, they will recognize that a square is a special type of rectangle. <br> Students should be exposed to triangles, rectangles, and hexagons whose sides are not all congruent. They first begin to describe these shapes using everyday language and then refine their vocabulary to include sides and vertices/corners. Opportunities to work with pictorial representations, concrete objects, as well as technology helps student develop their understanding and descriptive vocabulary for both two- and three- dimensional shapes. | Go Math <br> Harcourt Math <br> Geometry shapes (solid <br> figures) <br> Environmental <br> shapes/everyday objects <br> Two sided counters <br> SmartBoard <br> Document Camera <br> www.quantiles.com <br> http://illuminations.nctm.org/ <br> www.khanacademy.org <br> www.ixl.com/Math <br> www.brainpop.com <br> www.sesamestreet.org <br> http://www.jumpstart.com/ <br> http://kids.aol.com/ <br> www.discoveryeducation.com/ <br> video clips <br> www.internet4classrooms.com/ | Discovery Education $\text { K.G. } 4$ |
| Week 34 | K.G.6. Compose simple shapes to form larger shapes. For example, "Can you join these two triangles with full |  | Students use pattern blocks, tiles, or paper shapes and technology to make new two- and three-dimensional shapes. Their investigations allow them to determine what kinds of shapes they can | Go Math <br> Harcourt Math <br> Geometry shapes (solid <br> figures) <br> Environmental <br> shapes/everyday objects | Discovery Education $\text { K.G. } 6$ |


| sides touching to make a rectangle?" |  | join to create new shapes. They answer questions such as "What shapes can you use to make a square, rectangle, circle, triangle? ...etc." <br> Students may use a document camera to display shapes they have composed from other shapes. They may also use an interactive whiteboard to copy shapes and compose new shapes. They should describe and name the new shape. | Two sided counters SmartBoard Document Camera www.quantiles.com http://illuminations.nctm.org/ www.khanacademy.org www.ixl.com/Math www.brainpop.com www.sesamestreet.org http://www.jumpstart.com/ http://kids.aol.com/ www.discoveryeducation.com/ video clips <br> www.internet4classrooms.com/ |  |
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| Time Period | Standard | $\frac{\text { Deconstructed }}{\underline{\text { Standard }}}$ | Explanations and Examples | Resources | Formative Assessment |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Students are expected to: |  |  |  |  |
| Week 35 | K.MD.2. 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. For example, directly compare the heights of two children and describe one child as taller/shorter. |  | When making direct comparisons for length, students must attend to the "starting point" of each object. For example, the ends need to be lined up at the same point, or students need to compensate when the starting points are not lined up (conservation of length includes understanding that if an object is moved, its length does not change; an important concept when comparing the lengths of two objects). <br> Language plays an important role in this standard as students describe the similarities and differences of measurable attributes of objects (e.g., shorter than, taller than, lighter than, the same as, etc.). <br> An interactive whiteboard or document camera may be used to compare objects with measurable attributes. | Go Math <br> Harcourt Math <br> Cubes <br> Paper clips <br> Paper chains <br> Counters (animals) <br> Students <br> Pencils, crayons, etc. <br> Balances, scales <br> SmartBoard <br> Document Camera <br> www.quantiles.com <br> http://illuminations.nctm.org/ <br> www.khanacademy.org <br> www.ixl.com/Math <br> www.brainpop.com <br> www.sesamestreet.org <br> http://www.jumpstart.com/ <br> http://kids.aol.com/ <br> www.discoveryeducation.com/ video clips | Discovery Education <br> K.MD. 2 |
| Week 36 | K.MD.1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. | Knowledge: <br> Know that objects have measurable attributes and know what they are called, such as length and weight. <br> Describe an object by | In order to describe attributes such as length and weight, students must have many opportunities to informally explore these attributes. <br> - Students should compare objects verbally and then focus on specific attributes when making verbal comparisons for K.MD.2. They | Go Math <br> Harcourt Math <br> Cubes <br> Paper clips <br> Paper chains <br> Counters (animals) <br> Students <br> Pencils, crayons, etc. <br> Balances, scales | Discovery Education K.MD. 1 |



