

KINDERGARTEN MATH CURRICULUM

Math Unit: Counting and Cardinality & Operations and Algebraic Thinking		Pacing Guide: September - November
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none"> ● How can I show, count, and write numbers 1-5 with objects, number names and numbers? ● How can you use two sets of objects to show 5 in more than one way? ● How do you know that the order of numbers is the same as a set of objects that is one larger? ● How can you solve problems using the strategy ‘make a model’? ● How can you identify and write ‘zero’ with words and numbers? ● How can building and comparing sets help you compare numbers? ● How can you show, count, and write numbers 6-9? ● How can you solve problems using the strategy ‘draw a picture’? ● How can you show and count 10 objects? ● How can you write up to 10 with words and numbers? ● How can you use drawings and count to 10 from a given number? ● How can you solve 	<ul style="list-style-type: none"> ● I can show, count, and write numbers 1-5 with objects, number names, and written numerals. ● I can use objects or drawings to break up the number 5 into pairs. ● I know that each successive number refers to a quantity that is one larger. ● I can solve problems by using the strategy ‘make a model’. ● I can represent ‘zero’ objects with a number name and written numeral. ● I can use matching and counting strategies to compare sets. ● I know when one set is the same, greater than, or less than another set. ● I can show, count, and write numbers 6-9. ● I can solve problems by using the strategy ‘draw a picture’. ● I can model and count 10 with objects. ● I can show up to 10 	<ul style="list-style-type: none"> ● Students will count objects up to 5 while pointing to one at a time (math manipulatives such as counting bears or blocks) and write that number on individual white boards during math center time. Teachers will use a checklist or other means of record keeping to record if and how the student has met this standard. (K.CC.A.3; K.CC.B.4.a; K.CC.B.4.b; K.CC.B.4.c) ● Students will use matching and counting strategies to compare sets on Chapter 2 Test p15-18. Teachers will observe students during tests and score afterwards. Students that score 7/10 or more display an understanding of the content for this standard. (K.CC.C.6) ● Students will count objects up to 9 while pointing to one at a time (math manipulatives such as counting bears or blocks) and write that number on individual white boards during math center time. Teachers will use a checklist or other means of record keeping to record if and how the student has met this standard. (K.CC.A.3; K.CC.B.5) ● Students will count objects up to 10 while pointing to one at a time (math manipulatives such as counting bears or blocks) and write that number on individual white boards during math center time. Teachers will use a checklist or other means of record keeping to record if and how the student has met this standard. (K.CC.A.3; K.CC.B.5) ● SWBAT count from a given number. During math centers, teachers can ask students to count from a given number. Teachers will use a checklist or other means of record keeping to record if and how the student has met this standard. (K.CC.A.2) ● Students will compare two written numbers on workbook page 218-219 and circle the number that is more on page 218 and less on page 219. Collect for student portfolios and score. Students that score 8/10 demonstrate an understanding of this standard.

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<p>problems using the strategy 'make a model'?</p> <ul style="list-style-type: none"> • How can you compare sets of objects using counting strategies? 	<p>objects with a number name and number.</p> <ul style="list-style-type: none"> • I can use a drawing to make 10 from a given number. • I can count forward from a given number. • I can use counting strategies to compare sets of objects. 	<p>(K.CC.C7)</p>
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Suggested Activities

Go Math! Chapter 1: Represent, Count, Write Numbers 0-5

- Complete Fluency Builder with numeral cards 1-5 (Teacher manual p61B)
- Math Center 5 frames: Students pull a number card, read that number, then place that amount of counters on their 5 frame
- Create a Number Storybook for numbers 1-5 (See Go Math Manual p8B)
- Sing songs about numbers from Dr. Jean's Totally Math CD
- Build cube towers using snap cubes based on a given number
- Play Bus Stop game where students roll a number cube and move that many spaces (See Go Math Teacher Manual p12)
- Have students go on a number hunt around the school searching number words and numerals.
- Count the days of school and represent them with objects such as straws, pennies, ten frames, base ten blocks. Etc.
- Write numbers on ipad using HWT app
- Introduce number sense by reading a book such as *How Many Bugs in the Box*. <https://www.youtube.com/watch?v=UCuCI58GLQw>
- Introduce the concept of 'zero' as a number by reading the book, *Zero* by Kathryn Otoshi or *Zero the Hero* by Joan Holub. <https://www.youtube.com/watch?v=Oly-CX-bi4s>

Go Math! Chapter 2: Compare Numbers to 5

- Have students place snap cubes on objects, then stack the snap cubes to compare the two sets.
- Have students roll the die, then build a tower with that many blocks, and repeat. Then students push the two towers together and compare.

Go Math! Chapter 3: Represent, Count, Write Numbers 6-9

- Partners collect objects from nature outside to show sets of a given number. Students then write that number on an index card. Sets can be displayed as a museum.
- Children use six cubes to build a cube train then students add one more cube to the train and verify the number of cubes. Repeat using a spinner to determine the starting number of cubes. Ask students to add more cubes to the cube train to make 7.
- Tell children about spiders (8 legs in pairs, eyes, spin silk, etc.) and have them draw one based on your oral description.
- Write numbers on ipad using HWT app
- Play Chutes and Ladders, Trouble, Sorry, or Candyland in as math center
- Introduce number sense by reading a book such as *How Many Bugs in the Box*. <https://www.youtube.com/watch?v=UCuCI58GLQw>

Go Math! Chapter 4: Represent & Compare Numbers to 10

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- Play Memory games with math words (p180 Go Math!)
- On the Smartboard, or using objects, have two dice for students to roll, record that number, and identify the number that is greater than or less than.
- Explain that many animals living in or near the ocean have 10 legs. Some of these animals are crabs, lobsters, and shrimp. Have children draw a picture of one of these animals and write 10 near the legs to show how many.
- Tell children that many people make “Top Ten Lists”. Give examples and have students work in small groups to create a Top 10 class list.
- Play Top-It (War)
- Have students make and play memory cards by writing numbers 0-10 on index cards and draw pictures or cut out magazine pictures of objects and glue on one card, 1 object on another card, 2 objects on another, etc. Then play memory with cards.
- Read aloud 10 Apples Up on Top and then have students glue apples in order on top of their cut out picture of their face.
- In a center, have students choose a number card from a face down pile. Then all other children write that number on the white boards to practice number formation and then fill in their 10 frames with that amount of counters. Rotate around the table.
- In a center, have students choose a number and have all other children build a block tower with that many blocks.
- Optional activity would be to read a book such as *Ten Black Dots*. <https://www.youtube.com/watch?v=Vl6KtYJp7m8>
- Go Math! Interactive Student Edition videos, Personal Math Trainer, On the Spot videos, Grab and Go Activities, Games, Activities, Number of the Day, Review Vocabulary, Fluency Builder within each chapter.

Reinforcement	Enrichment
<ul style="list-style-type: none"> ● Use Reteach page 1.1-1.10 ● Work one-on-one with student ● Provide a number line for the desk or for the floor ● Provide manipulatives ● Have the student continue to work on numbers 1 and 2 before moving on ● Have students use play doh, shaving cream or sand to form the numbers. ● Reteach pages 2.1-2.5 ● Have students write down the number in each set before comparing. ● Have students use pipe cleaners or other objects to match the objects in the sets as a better visual. ● Have students use two separate colors for each set to discriminate between the sets. ● Use Reteach page 3.1-3.9 ● Have the student continue to work on numbers 6 and 7 before 	<ul style="list-style-type: none"> ● Use 10 frames for students that are ready to move beyond numbers 0-5. ● Use Enrichment page 1.1-1.10 ● Model how to draw a simple scene that shows sets of one and two objects. Label the picture 1 and 2 (or more). Students draw and label their own pictures and have partners find examples of one and two in each other’s drawings ● Enrich pages 2.1-2.5 ● Have students use larger sets to compare. ● Have students try to do the matching strategy without manipulatives (just visually comparing objects) ● Use 10 frames for students that are ready to move beyond numbers 6-9. ● Use Enrichment page 3.1-3.9 ● Have children color in squares on grid paper to make different shapes. Each shape should contain six squares. Encourage children to make as many different shapes as possible. Have them discuss their shapes with partners

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<p>moving on</p> <ul style="list-style-type: none"> ● Reteach pages 4.1-4.7 ● Use hand-over-hand to practice counting using one-to-one correspondence. ● Have the student continue to work on numbers 1-9 before moving on. ● Screen and implement Tier 2 interventions ● Reteach worksheet pages (chapter resources book) ● Response to Intervention Activities (Think Central) ● ELL Activities ● Strategic Intervention Guide (Think Central) ● Intensive Intervention Guide (Think Central) 	<ul style="list-style-type: none"> ● Have the child count out and link eight cubes to form a cube train, then break it into 2 parts that have the same number of cubes. Pose questions throughout. ● Have the student shake and toss nine counters from a bag and put red counters in one set and yellow in another. Ask questions about counters. Child then draws the combination and writes how many of each color and how many in all. Repeat to show as many different combinations s/he can make for 9. ● Enrich pages 4.1-4.7 ● Children take turns tossing a number cube, tell the number and say how many more makes 10. One child models the number pair with red and yellow counters and the other child writes the two numbers. Then switch roles. ● Distribute 10 post-it notes to each child. Have children write the numbers 1-10 on them. Ask children to place the notes in counting order on a sheet of paper, then have students compare the placement of the post-its. ● Make a number target for each group and tape it to the floor. Invite one group member to toss two bean bags into the target and call out the numbers while the other members show the numbers with counters. Children tell which number is greater and less. Switch roles and repeat.
<p>Materials and Resources</p>	<p>Other Assessments</p>
<ul style="list-style-type: none"> ● Manipulatives to count (blocks, bears, etc.) ● White boards and markers ● Go Math student workbooks ● Chapter 2 Test page 14-18 ● Counters ● Snap Cubes ● 5 frames or 10 frames 	<ul style="list-style-type: none"> ● Go Math p43–46 Chapter 1 Test ● Teacher observations ● Class discussions ● Lesson workbook pages ● Show What You Know assessment (Background knowledge assessment from GoMath!) ● Personal Math Trainer questions and students answer on white boards ● Mid Chapter Checkpoint (GoMath!) ● Students workbook ● Math Center work

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Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> • www.brainpopjr.com • https://www.ixl.com/math/kindergarten/count-to-5 • http://www.funbrain.com/ • http://pbskids.org/sesame/ • https://www.abcmouse.com/home#abc/math • http://www.abcya.com/kindergarten_computers.htm#numbers-cat • http://sheppardsoftware.com/math.htm • http://www.coolmath4kids.com/ • https://www.mathabc.com/ • http://www.mathgametime.com/ • http://www.education.com/games/ • http://promotingsuccess.blogspot.com/2014/10/free-greater-than-or-less-than.html# • www.splashlearn.com 	<ul style="list-style-type: none"> • 5 frames and counters • Number lines • Number Cards • Vocabulary Cards • Variety of manipulatives • Play doh or sand for writing numbers • Board Games • White Boards • Blocks • 10 Frames and counters • Grab-and-Go Kits: Activities • Smartboard/Mimio/ipads • <u>Pancakes for All (GoMath!)</u> • <u>The Red Caboose (GoMath!)</u> • <u>Quack and Count</u> • <u>5 Little Ducks</u> • <u>How Dinosaurs Count to 10</u> • <u>Doggies</u> • <u>Mouse Count</u> • <u>1, 2, 3 to the Zoo</u> • <u>10 Red Apples</u> by Pat Hutchins • <u>One Fish, Two Fish, Red Fish, Blue Fish</u> • <u>Chicka Chicka 1, 2, 3</u> • <u>Pete the Cat and His Four Groovy Buttons</u> • <u>Each Orange Had 8 slices</u> • <u>Bears on Wheels</u> • <u>Zero the Hero</u> • <u>Zero</u> • <u>Mabel's Place (GoMath!)</u> • <u>Anno's Counting Book</u> • <u>10 Apples Up on Top</u> • <u>Counting Crocodiles</u> • <u>A Nutty Story (GoMath!)</u> • <u>I Know Numbers (Go Math!)</u> • <u>Raccoon's Playtime (Go Math!)</u> • <u>10 Little Fish</u>
Standards	

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- K.CC.A.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
- K.CC.A.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).
- K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality.
- 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.
 - Understand that the last number name stated, 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.
 - Understand that each successive number name refers to a quantity that is one larger.
- K.CC.B.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.
- K.CC.C.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.
- K.CC.C.7 Compare two numbers between 1 and 10 presented as written numerals.
- K.OA.A.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.

Cross-Curricular Connections

21st Century Skills CRP2. Apply appropriate academic and technical skills. (Number writing)
 CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
Technology 8.1.2.A.4 Demonstrate developmentally appropriate navigation skills in virtual environments. (i.e. games, museums) (Go Math virtual website)
SEL Self-Management- Recognize the skills needed to establish and achieve personal and educational goals.
Language Arts SL.K.3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
Art- Students will use pictures to represent numbers and assist in solving math problems.
Music- Students will use songs and rhymes to reinforce math skills.

Math Unit: Operations and Algebraic Thinking		Pacing Guide: December-January
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none"> How can you show addition using numbers 0-10? How can I solve ‘addition’ math stories? How can I find different ways to make the same number? How can you show subtraction as taking apart 	<ul style="list-style-type: none"> I can put things together and write down the numbers (0-10) I put together. I can solve ‘addition’ problems with numbers 0-10 by acting out. I can use objects and 	<ul style="list-style-type: none"> Students will use beads to show 10 in 3 different ways and record ‘addition’ sentences. Students will need a pipe cleaner with 10 beads on it with connected ends like a bracelet. In a math center, the teacher will work with a small group and ask them to divide the beads on the bracelet to each side, and write those two numbers in a number sentence such as $5+5=10$. The teacher will then ask the students to do the same task with different amounts of beads 2 more times so that the student has 3 number

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<p>using numbers 0-10?</p> <ul style="list-style-type: none"> • How can I solve subtraction math stories? 	<p>drawings to solve addition problems (with #s 0-10) and write the number sentence.</p> <ul style="list-style-type: none"> • I can use a drawing to find 10 from a given number and write the number sentence. • I can add number pairs and write the number sentence. (Example: $5=4+1$; $5=2+3$; $5=0+5$) • I can use objects and drawings to solve subtraction problems (with #s 0-10) and write the number sentence. • I can solve subtraction problems with numbers 0-10 by acting out. 	<p>sentences with the sum of 10 on their paper. Then tell students a number story such as (Three children sat at the table for lunch. Two more students sat down next to them. How many children are eating their lunches at the table altogether?) Encourage students to use drawings to help write their number sentence. Observe students working and collect papers for data. (K.OA.A.1; K.OA.A.2; K.OA.A.3; K.OA.A.4)</p> <ul style="list-style-type: none"> • SWBAT add using numbers 0-5. Teachers will give students 10 written problems on a worksheet and have them answer the problems using any strategy. Teacher will collect and score the worksheet. Students that score 7/10 have demonstrated mastery of this standard. (K.OA.A.5) • Students will subtract up to 10 with objects/drawings for equation and word stories on Chapter 6 Test p19-22. Teachers will observe students during tests and score afterwards. Students that score 10/13 or more display an understanding of the content for this standard. (K.OA.A.1; K.OA.A.2) • SWBAT subtract using numbers 0-5. Teachers will give students 10 written problems on a worksheet and have them answer the problems using any strategy. Teacher will collect and score the worksheet. Students that score 7/10 have demonstrated mastery of this standard. (K.OA.A.5)
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Suggested Activities

Go Math! Chapter 5: Addition

- Students can make a paper chain using two different colors on each end then write the number sentence for the color used. (Example: 4 green chain links and 3 red chain links would have the number sentences $4+3=7$)
- Play “Shake Ten and Spill”. Students put 10 counters in a cup, shake the cup and spill out the counters. Students show how many of each color by writing the corresponding number sentence. (Example: If 3 yellow and 7 red spill are shown, the student would write $3+7=10$)
- Make a class Number Story Book by having partners illustrate a number story and write the number sentence on the page.
- Students are given 10 counters, blocks, pennies, etc. Tell students to pick up a few of them, write that number on the white board, and count how many are left to complete the number sentence for 10.
- Use flashcards for partners to practice their math facts to 10
- Partners are given a cube train of 10. One partner breaks it into two parts and puts one part behind his/her back. The other partner needs to write how many blocks are behind the other student’s back using the whiteboard.
- Using 10 water bottles as pins, students use a ball to roll to knock down pins. Students record the number sentence to record how many are

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knocked down and how many are up. (Example: $3+7=10$)

- Give students a number within 0-10. Have students put that many counters on a ten frame and count the spaces needed to fill the 10 frame, and record that number sentence for 10.
- Make a ladybug craft for students to put some dots on one wing, and other dots on the other wing, then record the number sentence.
- Students make a 10 rainbow by painting a rainbow first using 6 colors. Students write the numbers on the bottom of the colors of the rainbow. Click on link to see the picture: <https://www.pinterest.com/pin/187180928234693994/>
- Teachers could read an 'addition' book such as *What's New At the Zoo?* to introduce the concept and new equations.
- Teachers could read a book such as *If you Were a Plus Sign* to introduce the concept of the plus symbol.

Go Math! Chapter 6: Subtraction

- Students play board games such as Shoots and Ladders, Trouble, Sorry
- Make a class Number Story Book by having partners illustrate a number story and write the number sentence on the page.
- Students are given 10 counters, blocks, pennies, etc. Tell students to pick up a few of them, write that number on the white board, and count how many are left to complete the number sentence for 10.
- Use flashcards for partners to practice their math facts to 10
- Partners are given a cube train of 10. One partner breaks it into two parts and puts one part behind his/her back. The other partner needs to write how many blocks are behind the other student's back using the whiteboard.
- Using 10 water bottles as pins, students use a ball to roll to knock down pins. Students record the number sentence to record how many bottles were there in the beginning, how many were knocked down and how many are left up. (Example: $10-5=5$)
- Students play the disappearing cube game. Students start with a 10 cube train, roll a die, and subtract that amount. If working in partners, students see which partner's train disappears first, then starts over.
- Sing Songs such as 5 Little Monkeys Jumping on the Bed, 5 Little Monkeys Swinging from a Tree, 6 Little Ducks Went Out One Day, 5 Green and Speckled Frogs
- Teachers could read a book such as *If You Were a Minus Sign* to introduce the concept of the minus symbol.
- Teachers could read a book such as *Ten Sly Piranhas* or *Monster Musical Chairs* to reinforce the concept of subtraction and model equations.
- Go Math! Interactive Student Edition videos, Personal Math Trainer, On the Spot videos, Grab and Go Activities, Games, Activities, Number of the Day, Review Vocabulary, Fluency Builder within each chapter.

Reinforcement	Enrichment
<ul style="list-style-type: none"> ● Provide student with a number line, manipulatives, a paper plate divided into two small sections and one large section to place the manipulatives ● Have more able students explain the same task to the student and help- perhaps different phrasing in a child's language can help ● Allow children to observe the teacher and peers working on the 	<ul style="list-style-type: none"> ● Enrich pages 5.1-5.12 ● Use numbers 0-20 if the student has mastered addition with numbers 0-10. ● Challenge students to complete math problems mentally. ● Have students create number stories for peers to solve. ● Enrich pages 6.1-6.7 ● Have partners place 10 (or more if able) counters in a bag, shake it, and dump out the counters. Student writes the total amount

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<p>task before s/he begins.</p> <ul style="list-style-type: none"> ● Reteach pages 5.1-5.12 ● Reteach pages 6.1-6.7 ● Use a multitude of strategies to subtract using number lines, number grids, manipulatives, fingers, memorization with flashcards ● Provide student with a paper plate divided into two small sections and one large section to place the manipulatives ● Screen and implement Tier 2 interventions ● Reteach worksheet pages (chapter resources book) ● Response to Intervention Activities (Think Central) ● ELL Activities ● Strategic Intervention Guide (Think Central) ● Intensive Intervention Guide (Think Central) 	<p>on the whiteboard first, then yellow counters are taken away and recorded, and finally the child counts the red counters left and finishes the equation.</p>
<p>Materials and Resources</p>	<p>Other Assessments</p>
<ul style="list-style-type: none"> ● Beads, pipe cleaners ● Whiteboards and markers or paper ● Student workbooks ● Manipulatives (counting bears, blocks, counters, etc.) ● Addition assessment with 10 equations ● Subtraction assessment with 10 equations 	<ul style="list-style-type: none"> ● Show What You Know assessment ● Mid Chapter Checkpoint (GoMath!) ● Teacher observations ● Students workbook pages ● Class discussions ● Math Center work
<p>Suggested Websites</p>	<p>Suggested Materials</p>
<ul style="list-style-type: none"> ● www.brainpopjr.com ● https://www.ixl.com/math/kindergarten/count-to-5 ● http://www.funbrain.com/ ● http://pbskids.org/sesame/ ● https://www.abcmouse.com/home#abc/math ● http://www.abcya.com/kindergarten_computers.htm#numbers-cat ● http://sheppardsoftware.com/math.htm ● http://www.coolmath4kids.com/ ● https://www.mathabc.com/ ● http://www.mathgametime.com/ ● http://www.education.com/games/ 	<ul style="list-style-type: none"> ● Dominos ● Addition flashcards ● Number cards ● Snap Cubes ● Counters and cups ● Smartboard/Mimio/ipad ● Ten frames ● Water bottles and a ball for bowling ● <u>Ten Little Monkeys</u> ● <u>Ten Apples on Top</u> ● <u>Ten in Bed</u>

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- Splash Learn www.splashlearn.com

- [Hershey's Kisses Addition](#)
- [Mission Addition](#)
- [Adding Animals \(big book\)](#)
- [Pancakes for All \(Go Math!\)](#)
- [Flowers for Flossie \(Go Math!\)](#)
- Floor number line
- Number lines
- Manipulatives (counters, bears, blocks)
- Dice
- Flashcards
- Smartboard/Mimio/ipad
- [More or Less](#)
- [Numbers at the Lake \(Go Math!\)](#)
- [Under the Umbrellas \(Go Math!\)](#)
- [The Action of Subtraction](#)
- [Subtraction Action](#)
- [Oliver's Party](#)
- [Pete the Cat and His 4 Groovy Buttons](#)
- [The Doorbell Rang](#)
- [5 Green and Speckled Frogs](#)

Standards

- K.OA.A.1 Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
- K.OA.A.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
- K.OA.A.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 $5 = 4 + 1$).
- K.OA.A.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.
- K.OA.A.5 Demonstrate fluency for addition and subtraction within 5.

Cross-Curricular Connections

- 21st Century Skills:** CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- Technology** 8.1.2.A.4 Demonstrate developmentally appropriate navigation skills in virtual environments. (i.e. games, museums) (Go Math virtual website)
- SEL Self-Management-** Recognize the skills needed to establish and achieve personal and educational goals.
- Language Arts** SL.K.3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
- Art-** Students will use pictures to represent numbers and assist in solving math problems.
- Music-** Students will use songs and rhymes to reinforce math skills.

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Math Unit: Numbers in Base 10		Pacing Guide: February - March
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none"> • How can you show, count, and write numbers 11-19 with objects, number names, and numbers? • How can you show, count, and write numbers to 20 and beyond? 	<ul style="list-style-type: none"> • I can show, count, and write numbers 11-19 with objects, number names, and numbers. • I can use drawings to solve a problem. • I know that teen numbers have one group of 10 and some more. • I can represent 11-19 objects with a number name and number. • I can show, count, and write numbers 20 and 	<ul style="list-style-type: none"> • Students will use 10 frames booklet (carrots in 10 frames) to complete the sentence: _____ is _____ group(s) of ten and _____ more. Teacher will collect and score the booklet. Students that score 7/10 have demonstrated mastery of this standard. (K.NBT.A.1; K.CC.A.3) • Students will count as high as possible beginning at one. Teacher will listen to the student count while working one-on-one. Teacher will record the highest number the student counted without a mistake or prompt. Then the teacher will provide the students with a different number to begin with, such as 19, and record the starting number and ending number the student counted. By the end of Kindergarten students are expected to count to 100 from 1 and from another given number for mastery of this standard. (K.CC.A.1; K.CC.A.2) • Students will write numbers 0-20 on a grid-like paper. Teacher will provide the number orally for the class, and students will

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	<p>beyond with objects, number names, and numbers.</p> <ul style="list-style-type: none"> I can make a model to solve a problem. 	<p>record the number in the box. The teacher will collect this for the student portfolio and score. Students that write 18/20 numbers correctly with place value accuracy. (K.CC.A.3)</p>
<p>Suggested Activities</p>		
<p><u>Go Math! Chapter 7: Represent, Count and Write numbers 11-19</u></p> <ul style="list-style-type: none"> Students can make a paper chain with a 10 number using two different colors on each end then write the number sentence for the color used. (Example: 10 green chain links and 3 red chain links would have the number sentences $10+3=13$) I have Who has Cards with Teen Numbers Class Book of teen numbers- small groups are given a number, and illustrate that amount. Teacher combines them into a class story book. Small groups make teen number posters using stickers, drawings, and magazine clippings to create that amount in various ways. Teachers can use a book such as <i>Let's Count to 100!</i> to review numbers over 10. <p><u>Go Math! Chapter 8: Represent, Count and Write 20 & Beyond</u></p> <ul style="list-style-type: none"> Give students trays with post-its that have numbers on them such as (15, 19, 23, 57, 100, etc.) Students are asked to use base-10 blocks to put that many cubes in the tray. When finished, partners show another pair of students their work. This can be done in centers or as a whole-class. Play I have Who has with number cards Give children a group of number cards (0-20 or 10-30). Ask them to mix them up and then put them in order. Then pose questions such as "Find the number that comes after 20, and have the children hold up that card." Give children a number grid (0-20 or 0-50 depending on abilities). Tell children a number to color. Choose numbers that will create a picture when finished, such as a boat or present. Students choose a number card, read the number, then make that number using snap cubes. This can be done in a math center or as a whole class. Teachers can use a book such as <i>One Hundred Hungry Ants</i> to practice counting to 100. Go Math! Interactive Student Edition videos, Personal Math Trainer, On the Spot videos, Games, Activities, Number of the Day, Review Vocabulary, Fluency Builder within each chapter. 		
<p>Reinforcement</p>		<p>Enrichment</p>
<ul style="list-style-type: none"> Reteach pages 7.1-7.12 Work one-on-one with student Provide a number line for the desk or for the floor Use a number grid Provide manipulatives 		<ul style="list-style-type: none"> Enrich 7.1-7.12 Have students work in small groups-choose a number card, take that many pattern blocks and make a picture or geometric pattern with it and trace the shapes. Have children exchange paper, count the numbers of shapes, and write the number.

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<ul style="list-style-type: none"> • Have the student continue to work on numbers 0-10 before moving on to teen numbers • Have student use play doh or sand to form the numbers • Encourage students to say “one group of ten” when writing the 1, “and ____more” when writing the second digit in a teen number to help with place value. • Reteach 8.1-8.8 • Work one-on-one with student • Provide a number line for the desk or for the floor. • Encourage students to count real life things (snack crackers, crayons at the back table, coins, etc.) • Screen and implement Tier 2 interventions • Reteach worksheet pages (chapter resources book) • Response to Intervention Activities (Think Central) • ELL Activities • Strategic Intervention Guide (Think Central) • Intensive Intervention Guide (Think Central) 	<ul style="list-style-type: none"> • Add a place value to the teen numbers (112, 113, 114) and have students use base-10 blocks to represent the number • Enrich 8.1-8.8 • Encourage students to count beyond 100. • Encourage student to write and count numbers as high as possible on a chart paper or butcher paper with smelly markers or glitter pens
Materials and Resources	Other Assessments
<ul style="list-style-type: none"> • Student workbooks • Manipulatives (counting bears, blocks, counters, etc.) • 10 frame booklets • Writing Numbers 0-20 Assessment • Number Lines • Number Grids 	<ul style="list-style-type: none"> • Show What You Know assessment (Background knowledge assessment from GoMath!) • Teacher observations • Students workbook pages • Class discussions • Math Center work
Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> • www.brainpopjr.com • https://www.ixl.com/math/kindergarten/count-to-5 • http://www.funbrain.com/ • http://pbskids.org/sesame/ • https://www.abcmouse.com/home#abc/math • http://www.abcy.com/kindergarten_computers.htm#numbers-cat 	<ul style="list-style-type: none"> • 10 frames • Counters • Stop the Picnic! (GoMath!) • Summertime Math (GMath!) • Counting Birds • Meet the Teens

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- <http://sheppardsoftware.com/math.htm>
- <http://www.coolmath4kids.com/>
- Splash Learn www.splashlearn.com

- Number Rhymes tens and teens
- Number cards
- I Have Who Has card game
- Growing Number line in classroom
- Trays
- Snap Cubes
- Base-10 blocks
- Number line for the floor
- Smartboard/Mimio/ipad
- Chart paper
- Wheres the Party? (GoMath!)
- Summertime Math (GoMath!)
- Counting at Market (GoMath!)
- Counting Crocodiles
- Miss Bindergarten Celebrates the 100th Day of Kindergarten
- 100 Days of School
- The Right Number of Elephants
- Anno's Counting Book
- One Hundred Hungry Ants
- Numbers Everyday (big book)
- What Comes Next (Big book)
- Curious George Learns to Count to 100

Standards

- K.NBT.A.1 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 and 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.
- K.CC.A.1 Count to 100 by ones and by tens.
- K.CC.A.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
- K.CC.A.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).
- K.CC.B.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.
- K.CC.C.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.

Cross-Curricular Connections

- 21st Century Skills** CRP2. Apply appropriate academic and technical skills. (Number writing)
- 9.2.A.4. Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- Technology** 8.1.2.A.4 Demonstrate developmentally appropriate navigation skills in virtual environments. (i.e. games, museums) (Go Math virtual website)
- SEL Self-Management**- Recognize the skills needed to establish and achieve personal and educational goals.
- Language Arts**- SL.K.3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
- Art**- Students will use pictures to represent numbers and assist in solving math problems.

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Music- Students will use songs and rhymes to reinforce math skills.

Math Unit: Geometry		Pacing Guide: April-May
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none"> • How can you identify, name, and describe two-dimensional shapes? • How can you identify, name, and describe three-dimensional shapes? • How can you compare two-dimensional shapes? • How can you compare three-dimensional shapes? • How can I join small shapes to make a new bigger shape? 	<ul style="list-style-type: none"> • I can identify, name, and describe two-dimensional shapes? • I can identify, name, and describe three-dimensional shapes. • I know what is the same and what is different about two-dimensional shapes. • I know what is the same and what is different about three-dimensional shapes. • I can make a new bigger shape by joining smaller shapes. 	<ul style="list-style-type: none"> • Students will identify the correct 2D and 3D shape and glue it next to the correct number provided by the teacher. Students then identify the shape name and glue it next to the shape. On the last page, students join two smaller shapes to make one new larger shape. (K.G.A.2; K.G.B.6) • Students use toothpicks and Playdoh (or marshmallows) to create 3D shapes and name them. During a math center, teachers will observe children creating a shape and naming it correctly. (K.G.B.5) • Students will identify and describe shapes found in the classroom. During a math center, or as a whole-class, ask children to go find an object in the classroom, decide if it is 2D or 3D, name the shape, and its position in the classroom. Repeat with 2 different object shapes. Then have students compare the two shapes. (Example: 3D shape, cylinder, I found this on top of my desk.) Teacher will record if and how the student met this standard on a checklist. (K.G.A.1; K.G.A.2; K.G.A.3; K.G.B.4)

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Suggested Activities

- Go Math! Interactive Student Edition videos
- Go Math! Personal Math Trainer
- Go Math! On the Spot videos
- Complete Number of the Day question
- GoMath! Activities:
- Tip Top using card 9
- Get in Shape! Using card 12
- Find the Shapes using card 12
- GoMath! Games:
- Shapes Words
- Follow the Figures
- Number Picture
- Review vocabulary
- Complete Fluency Builder
- Students use a feely bag with shapes (Either foam shapes or real objects) in it to pull out a shape, describe it, and then name the shape.
- Use two hula hoops and label them as 2d and 3d. Students go through the room to find shapes and sort them into the two groups.
- Use three hula hoops and overlap them and label them slide, stack, roll. Have students find shapes in the room, or use shapes from your collection to sort 3D shapes according to their characteristics.
- Sing Dr. Jean Shapes Song
- Use a long rope or string and have small groups of students stand as the vertices to create a large rope shape.
- Students create Pete the Cat out of shapes and practice naming the shapes before gluing them.
- Put photographs of real world buildings in the math center so students can try to replicate them using wooden blocks.
- Students make pattern block pictures by placing blocks it a particular place to create an object or scene
- Students use pattern block templates to trace shapes and make a picture
- Have a puzzles center.
- Teachers can use books such as *Shape by Shape*, *The Greedy Triangle*, or *Icky Bug Shapes* to teach 2D shapes.
- Teachers can use books such as *Cubes, Cones, Cylinders & Spheres* or *Shapes that Roll* to teach 3D shapes.

Reinforcement

- Reteach pages 9.1-9.12
- Reteach pages 10.1-10.10
- Continue teaching 2D Shapes until mastery before beginning

Enrichment

- Enrich pages 9.1-9.12
- Enrich pages 10.1-10.12
- If a student has mastered identifying and discriminating shapes,

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<p>3D shapes</p> <ul style="list-style-type: none"> ● Use many tactile activities rather than workbook pages so children can fully understand the characteristics of the shapes ● Screen and implement Tier 2 interventions ● Reteach worksheet pages (chapter resources book) ● Response to Intervention Activities (Think Central) ● ELL Activities ● Strategic Intervention Guide (Think Central) ● Intensive Intervention Guide (Think Central) 	<p>provide the student with new shapes such as trapezoid, rhombus, oval, ellipse, pyramid, etc.</p> <ul style="list-style-type: none"> ● Encourage students to create real world buildings with blocks by looking at a photograph
<p>Materials and Resources</p>	<p>Other Assessments</p>
<ul style="list-style-type: none"> ● Toothpicks ● Play Doh or marshmallows or clay ● Shape Assessment booklet ● Student workbooks ● Foam Shapes from GoMath! 	<ul style="list-style-type: none"> ● Show What You Know assessment ● MidYear Checkpoint assessment ● Teacher observations ● Students workbook pages ● Class discussions ● Math Center work
<p>Suggested Websites</p>	<p>Suggested Materials</p>
<ul style="list-style-type: none"> ● www.brainpopjr.com ● https://www.ixl.com/math/kindergarten/count-to-5 ● http://www.funbrain.com/ ● http://pbskids.org/sesame/ ● https://www.abcmouse.com/home#abc/math ● http://www.abcya.com/kindergarten_computers.htm#numbers-cat ● http://sheppardsoftware.com/math.htm ● http://www.coolmath4kids.com/ ● www.discoveryeducation.com ● Splash Learn www.splashlearn.com 	<ul style="list-style-type: none"> ● Posters of shapes\Anchor Charts of shapes ● Wooden Blocks ● Attribute Blocks ● Rope/string ● Dr. Jean Totally Math Cd ● Feely Bag ● Real objects to show shapes ● Smartboard/Mimio/ipad ● <u>Shapes</u> big book ● <u>Mouse Shapes</u> ● <u>There's a Square</u> ● <u>Shape by Shape</u> ● <u>A Circle Here, A Square</u> ● <u>Shapes, Shapes, Shapes</u> ● <u>Greedy Triangle</u> ● <u>Adventures of DOT</u>

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- [Shapes that Roll](#)
- [And the Wheels Go Round \(Go Math!\)](#)
- [I Know Shapes \(GoMath!\)](#)
- [Up Up to the Top \(GoMath!\)](#)
- [I Know Big and Small \(GoMath!\)](#)
- [Curious George Goes to a Toy Store \(GoMath!\)](#)

Standards

K.G.A.1 Describe objects in the environment using names of shapes, and describe the relative position of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*.

K.G.A.2 Correctly name shapes regardless of their orientations or overall size.

K.G.A.3 Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).

K.G.B.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).

K.G.B.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

K.G.B.6 Compose simple shapes to form larger shapes. *For example, “Can you join these two triangles with full sides touching to make a rectangle?”*

Cross-Curricular Connections

21st Century Skills 9.2.A.4. *Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.*

Technology 8.1.2.A.4 *Demonstrate developmentally appropriate navigation skills in virtual environments. (i.e. games, museums) (Go Math virtual website)*

SEL Self-Management- *Recognize the skills needed to establish and achieve personal and educational goals.*

Language Arts SL.K.3. *Ask and answer questions in order to seek help, get information, or clarify something that is not understood.*

Art- *Students will use pictures to represent numbers and assist in solving math problems.*

Music- *Students will use songs and rhymes to reinforce math skills.*

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Math Unit: Measurement		Pacing Guide: May-June
Essential Questions	Enduring Understandings	Benchmark Assessment(s)
<ul style="list-style-type: none"> • How can I measure objects? • How can I compare the lengths, heights, and weights of two objects? • How does sorting help you display information? 	<ul style="list-style-type: none"> • I can measure the length, height, and weight of an object. • I can compare the lengths, heights, and weights of two objects. • I can classify and count objects by color, shape, and size. • I can organize the objects into a graph to read. 	<ul style="list-style-type: none"> • Students will describe measuring an object after selecting one from a set provided by the teacher (Glue stick, crayon box, book, etc.). The student will tell and show the teacher how s/he can measure it. (“I can see how many cubes tall it is, I can see how many cubes long it is,”) Repeat with another object. Students should demonstrate measuring by using a ruler or another uniform object such as snap cubes and describe measuring the object’s length, height. Teacher will record if and how the student met this standard. Students that describe 2 ways to measure each item have demonstrated an understanding of this standard. (K.MD.A.1) • Students will compare two objects using a balance scale and describe the conclusion. (K.MD.A.1; K.MD.A.2) • SWBAT compare two objects/drawings using Chapter 11 Test #1-6. Teachers will collect for student portfolios and score. Students that score 4/6 have demonstrated an understanding of this standard. (K.MD.A.2) • SWBAT sort attribute blocks or other sorting manipulatives in groups by color, shape, or size, then vertically or horizontally line up the items in each group side by side beginning at the same point to see a comparison. Using a large piece of 1”graph paper can be useful to help the students graph their sorted objects. The student will count the number of objects in each group and write the number on a post-it below the objects. (K.MD.B.3)

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Suggested Activities

Go Math! Chapter 11: Measurement

- Measure student height on a growth chart on the wall. Compare heights of different children.
- Add new vocabulary to the word wall.
- Students measure objects in the room and label them: (Example: This shelf is 5 markers long.)
- Have students use their feet to measure objects
- Have partners measure each others wingspan and height and compare
- Have partners measure foot length.
- Students order a group of objects by height, length, or weight, depending on the items. The teacher can put pre-selected items in a Ziploc bag or on a tray and tell the students to order them by a measurable attribute without telling them which one. (Example: Put a Feather, Snap cube, and rock in a bag to order).
- Teachers can use books such as *The Best Bug Parade*, *Mighty Maddie*, or *Super Sand Castle Saturday* to introduce and expose students to measurement, including height and weight.

Go Math! Chapter 12: Classify and Sort Data

- Make tally marks to record the types of daily weather
- Create class graphs by recording information about favorite foods, types of pets at home, types of transportation to school, etc.
- Have students work in math centers to use a spinner and graph the results.
- Give children a bin filled with different types of things (Example: One box has different types of buttons, one box has different types of seashells, one box has different types of blocks.) Small groups rotate through sorting the objects by color, size, or shape.
- Use divided sorting trays to have children place the sorted objects into.
- After children sort items, have them draw a picture of their sorted items, and write a sentence about it such as, “I sorted the blocks by color.”
- Show students how to line up items and compare them by height or length.
- After reading *Pete the Cat I Love My White Shoes*, have students take off their shoes and sort them by color, then write a label for the colors on a sentence strip.
- Take the children outside to collect flowers or leaves, put them all together in a pile, and then sort them based on different characteristics.
- Go Math! Interactive Student Edition videos, Personal Math Trainer, On the Spot videos, Games, Activities, Number of the Day, Review Vocabulary, Fluency Builder within each chapter.

Reinforcement

- Reteach 11.1-11.5
- Show the student the beginning point of measuring.
- Reteach p12.1.-12.5
- Provide the student with the type of sorting s/he should do. (Example: Sort by color.)

Enrichment

- Enrich 11.1-11.5
- Encourage student to use inches or centimeters to measure length and height rather than a uniform object
- Encourage student to compare three objects
- Enrich p 12.1-12.5

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<ul style="list-style-type: none"> ● Pair the struggling student up with a more confident and able student to complete a measuring task. ● Screen and implement Tier 2 interventions ● Reteach worksheet pages (chapter resources book) ● Response to Intervention Activities (Think Central) ● ELL Activities ● Strategic Intervention Guide (Think Central) ● Intensive Intervention Guide (Think Central) 	<ul style="list-style-type: none"> ● Encourage children to take a set of objects and sort them one way (color), then mix them up and sort them a different way (size), and mix them up and sort another way if possible. ● Have students sort classroom tools in caddies (markers, glue sticks, etc.) ● Have the student(s) sort coins. If available, use ice trays or sorting trays to keep the sorted coins.
Materials and Resources	Other Assessments
<ul style="list-style-type: none"> ● Rulers ● Snap Cubes or other small objects of uniform length (paper clips, erasers) ● Set of different objects ● Balance scale ● Student workbooks ● Items to sort (attribute blocks, seashells, buttons, etc.) 	<ul style="list-style-type: none"> ● Show What You Know assessment ● MidYear Checkpoint assessment ● Teacher observations ● Students workbook pages ● Class discussions ● Math Center work
Suggested Websites	Suggested Materials
<ul style="list-style-type: none"> ● www.brainpopjr.com ● https://www.ixl.com/math/kindergarten/count-to-5 ● http://www.funbrain.com/ ● http://pbskids.org/sesame/ ● https://www.abcmouse.com/home#abc/math ● http://www.abcya.com/kindergarten_computers.htm#numbers-cat ● http://sheppardsoftware.com/math.htm ● http://www.coolmath4kids.com/ ● Splash Learn www.splashlearn.com 	<ul style="list-style-type: none"> ● Measuring posters/Anchor charts ● Tape measures ● Rules ● Yard sticks ● Different types of scales ● <u>Measuring Penny</u> ● <u>How Long or How Wide?</u> ● <u>The Long and Short of It</u> ● <u>On the Scale, a Weighty Tale</u> ● <u>Inch by Inch</u> ● <u>Who am I? (GoMath!)</u> ● <u>Shortest and Longest Where I Live (GoMath!)</u> ● Sorting Trays such as ice cube trays ● Smartboard/mimio/ipad ● Graph paper ● Graphing worksheets

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- [Sorting Posters/Anchor charts](#)
- [Hippo and Fox Sort Socks \(GoMath!\)](#)
- [I Know Alike and Different \(GoMath!\)](#)
- [I Know Big and Small \(GoMath!\)](#)
- [Sort it Out!](#)
- [Grandma's Button Box](#)
- [A Pair of Socks](#)
- [Sorting at the Market](#)
- [Shells Shells! \(GoMath!\)](#)

Standards

- K.MD.A.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
- K.MD.A.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.*
- K.CC.A.1 Count to 100 by ones and by tens.
- K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality.
- 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.
 - Understand that the last number name said is the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
 - Understand that each successive number name refers to a quantity that is one larger.
- K.MD.B.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

Cross-Curricular Connections

- 21st Century Skills:** 9.2.A.4. *Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.*
- CRP2.** *Apply appropriate academic and technical skills. (Sorting objects)*
- Technology** 8.1.2.A.4 *Demonstrate developmentally appropriate navigation skills in virtual environments. (i.e. games, museums) (Go Math virtual website)*
- SEL Self-Management-** *Recognize the skills needed to establish and achieve personal and educational goals.*
- Language Arts** SL.K.3. *Ask and answer questions in order to seek help, get information, or clarify something that is not understood.*
- Art-** *Students will use pictures to represent numbers and assist in solving math problems.*
- Music-** *Students will use songs and rhymes to reinforce math skills.*