BIG IDEA: Children build on their understanding of numbers from 0 to 5 to conceptualize the numbers 6 to 10. Modeling numbers from 6 to 10 helps children to build number relationships such as 3 is less than 10. Children's understanding includes both identifying the cardinal numbers of a set and relating a given number to other numbers. Ten is the first number children learn that has place value. Children build their understanding of 10 by first modeling 10 on 2 five frames and then on a ten frame. Understanding 10 as 10 single things and also as 1 group of 10 is fundamental to understanding place value and multi-digit numbers.

Adapted from Go Math: Teaching for Depth, pg. 129E

Professional Development Videos
Number Sense, Grades K-2, Segment 2
Number Sense, Grades K-2, Segment 4

Additional Quarter 2 Resources
Building Fluency Through Number Talks – Q2
Building Fluency Through Story Problems – Q2
Building Fluency Through Story Problems (Spanish) - Q2

ESSENTIAL QUESTION: How can you show and compare numbers to 10?
STANDARDS: K.CC.2, K.CC.3, K.OA.4, K.CC.5, K.CC.6

ELD STANDARDS:
ELD.PI.K.1-Exchanging information/ideas via oral communication and conversations.
ELD.PI.K.3-Offering opinions and negotiating with/persuading others.
ELD.PI.K.5-Listening actively and asking/answering questions about what was heard.

ELD.PI.K.9- Expressing information and ideas in oral presentations.
ELD.PI.K.11- Supporting opinions or justifying arguments and evaluating others' opinions or arguments.
ELD.PI.K.12-Selecting and applying varied and precise vocabulary.

LITERACY CONNECTIONS: Go Math! Math Readers (The actual books can be found in your Grab-and-Go Kits)
I Know Numbers Children will read the book and count to 10.   Curious about Math with Curious George Students will read the book and count how many seeds are in an apple.

Lessons	Focus	Standards & Math Practices	Essential Question	Math Content and Strategies	Models/Tools& Resources Go Math Teacher Resources GK	Vocabulary	Connections (ENGAGE prior knowledge)	Academic Language Support	Talk & Share
4.1 Hands On: Model and Count 10

4.2 Count and Write to 10 | Model and Count 10 with objects

Represent 10 objects with a number name and a written numeral | K.CC.5 Companion p. 10 MP 4 MP 5

K.CC.3 Companion pg. 7 MP 2 | How can you show and count 10 objects?

How can you count and write up to 10 with words and numbers? | We are finally ready to begin formally exploring with children that important "anchor" number, 10! Since 10 is the foundation of our number system, it is vitally important for children to be able to picture 10 and relate other numbers to 10. This will be the basis for learning about place value in the future. Children will learn next year that our place value system uses the base number 10. They will need to know and understand 10 to be able to understand that the number 34 is made from 3 tens and 4 ones. In building toward that understanding, seeing, counting, and making groups of ten are important experiences for children. | Go Math! Grab and Go Kit

Ten Frame

Linking Cube Template

Number Line/Counters/ Number Sentence Template

Storyboards | ten, match, and, pairs, one, two, three, four, five, six, seven, eight, nine, ten, | Place 9 counters on a ten frame. Ask students how many dots do they see and how do they see them? Place another dot on the ten frame and again ask students how many dots they see and how do they see them? Ask students what they know about the number 10. | **ELD Standards** ELD Standards ELA/ELD Framework ELPD Framework Integrating the ELD Standards into Math

Access Strategies Organizing Learning for Student Access to Challenging Content | Have students count out 10 objects from a collection. Use the Multiple Representation graphic organizer for them to model, count, and write the number 10. |
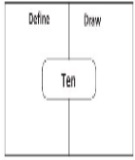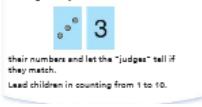
DRAFT

4.3 Hands On: Algebra Ways to Make 10 **AC Option: Skip and do this lesson with 5.5*	Use a drawing to make 10 from a given number	K.OA.4 Companion pg. 29 MP 4 MP 7	How can you use a drawing to make 10 from a given number?	In this lesson, children will compose numbers using two colors of connecting cubes. Composing a number means using two or more sets to make it. Ten can be composed in 11 different ways with red and blue cubes as shown. Duplicate the cube trains shown on this page with connecting cubes. Practice with composing ten will set the stage for addition. Seeing ten cubes as eight red and two blue prepares children for thinking about 8+2 = 10.	Count and Circle Two-color counters to represent numbers Counting Game Linking Cubes to represent numbers Number Anchor Charts Have students make all about numbers posters. About Number 3 Posters	and, pairs, one, two, three, four, five, six, seven, eight, nine, ten	Use the Fluency Number Talks Using Five-and Ten-Frames (6-10) for the number ten. Ask students how many more dots they need to make ten? Have students share their strategies for finding the answer.	Student Engagement Strategies Problem Solving Steps and Approaches **Equitable Talk** Accountable Talk Simply Stated Equitable Talk Conversation Prompts Accountable Talk Posters Five Talk Moves Bookmark	Have students use counter, cube trains, or drawings to answer the following question: Lacy has 10 flowers. Three of them are yellow and the rest are red. How many of her flowers are red? Have students share their models and drawings and how they solved the problem.
4.4 Count and Order to 10	Count forward to 10 from a given number	K.CC.2 Companion pg. 6 MP 2	How can you count forward to 10 from a given number?	Knowing the sequence of a number helps children count accurately and automatically. Counting gives them a way to judge whether a number is greater or less than another. If a child knows that 7 follows 6, for example, then she or he knows that 7 is greater than 6. Practicing the counting sequence from a given number, instead of beginning at 1, sets the stage for addition and subtraction strategies. Given a set of six objects and two more, a child can easily find the sum by counting the six objects, and then counting forward two more, 7, 8. This is more efficient than counting every object. In a similar way, knowing that 5 is two less than 7 helps children with subtraction facts such as 7-2.	Subitizing Activities Set up a game center using the Spin and Count game.	one, two, three, four, five, six, seven, eight, nine, ten	This standard focuses on rote counting, not writing numerals. Have students count to 10 starting with 1, then 2, then 3, etc. Variations: • flip a card over from a deck of cards and have students count on from that number • count up 5 from any given number • pick 2 numbers and have students count from one to the other	Effective Math Talks **Cooperative Learning** Cooperative Learning Role Cards Collaborative Learning Table Mats Seating Chart Suggestions	In partners or groups have 1 student flip over a numeral card and count up to 10 from that number. Repeat as needed. For a challenge some students can count backwards from 10 to that number.
4.5 Problem Solving: Compare by Matching Sets to 10 4.6 Compare by Counting Sets to 10	Solve problems by using the strategy *make a model* Use counting strategies to compare sets of objects	K.CC.6 Companion pg. 12-13 MP 4 MP 5 MP 8 K.CC.6 Companion pg. 12-13 MP 6 MP 8	How can you solve problems using the strategy *make a model*? How can you use counting strategies to compare sets of objects?	In this lesson students make models to solve problems. They are given experience comparing sets of cubes and start with concrete objects to understand terms like *same, more,* and *fewer.* They compare numbers using terms like *greater than, less than,* and *equal to.* Students use matching strategies to compare their models. They place cube trains one above the other. If the cube trains match, children can see that the sets have the same number. If one cube train is longer than the other, that set has more cubes. The other set has fewer cubes. In addition, children count and match precisely to ensure that their results are accurate. They use precise language	Comparing Numbers to 10 Use the ways to make template and counters to represent different numbers in many ways. Ways to Make 10 Multiple Representation	compare, greater, less, match, one, two, three, four, five, six, seven, eight, nine, ten.	Split students into 2 groups and ask students which group has more or less? Start first with one group being much larger than the other and progressively move towards two equal groups. Have students share their reasoning and strategies for comparing their two groups. Highlight the strategy you'd like to focus on for the day (make a model, matching, counting, etc.).	Use concept maps to represent numbers.	Display 2 groups of objects and have students identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in the other group. Have students share their reasoning and strategy for finding their answer. For 4.7 use two numerals instead of objects for students to compare.

4.7 Compare Two Numbers	Compare two numbers between 1 and 10	K.CC.7 Companion pg. 14 MP 6 MP 8	How can you compare numbers between 1 and 10?	so that they are easily and accurately understood by classmates. Children who understand the counting sequence can more easily make the transition to comparing two numbers. In lesson 4.7 children compare numbers 1 to 10 written as numerals. They have multiple experiences in which they recognize that the next number in the counting sequence is always one larger than the number just named. They learn that the previous number in the sequence is always one less than the one just named.					Provide manipulatives for students who want to make a model as a strategy for comparing.

Assessments:

Go Math Ch. 4 Test

Go Math Ch.4 Performance Task: Ella's Art Project

BIG IDEA: Children explore addition through situations that require a joining action. Making cube trains of two colors to model addition is one way to show joining sets. Children use pictures of two sets to record the addition sentence using both symbols and words. They circle the two sets to reinforce the concepts of addition as joining. Children also, create their own problems and record the number sentences. This activity helps to evaluate their understanding of addition and their ability to correctly record a number sentence. Children make sense of composing and decomposing numbers when they make number pairs. Given a number like 3, they find the number that makes 10 when added to 3. This experience will lead to addition strategies like "make a 10" in later grades. Children explore number pairs by representing a number such as 8 with two different colors of cubes. They might use three red cubes and five blue cubes or six red cubes and two blue cubes (3+5 = 8; 6 + 2 = 8). Students begin to record their thinking using number sentences making connections to the concrete models and story problems they have been working on.

Adapted from Go Math: Teaching for Depth, pg. 165E.

Professional Development Videos

Addition and Subtraction, K-2, Segment 2

Additional Quarter 2 Resources

Building Fluency Through Number Talks – Q2

Building Fluency Through Story Problems – Q2

Building Fluency Through Story Problems (Spanish) - Q2

ESSENTIAL QUESTION: How can you show addition?

STANDARDS: K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.OA.5,

ELD STANDARDS:

ELD.PI.K.1-Exchanging information/ideas via oral communication and conversations

ELD.PI.K.3-Offering opinions and negotiating with/persuading others.

ELD.PI.K.5-Listening actively and asking/answering questions about what was heard.

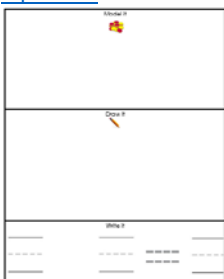ELD.PI.K.9- Expressing information and ideas in oral presentations.
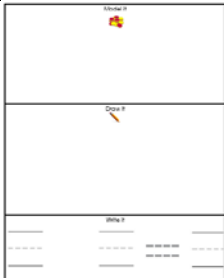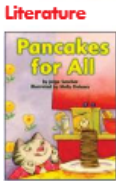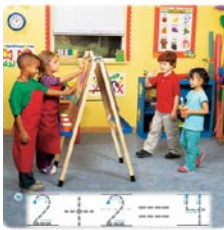
ELD.PI.K.11-Supporting opinions or justifying arguments and evaluating others' opinions or arguments

ELD.PI.K.12-Selecting and applying varied and precise vocabulary.
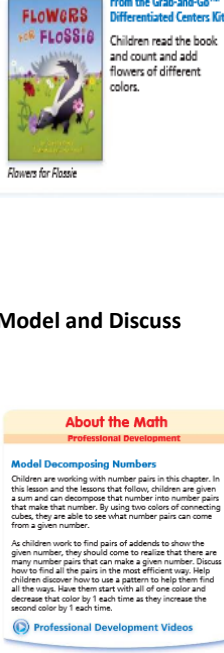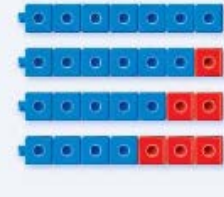
LITERACY CONNECTIONS: Go Math! Math Readers (The actual books can be found in your Grab-and-Go Kits)
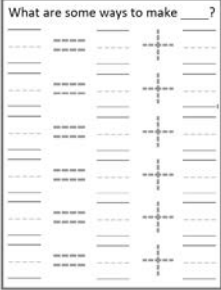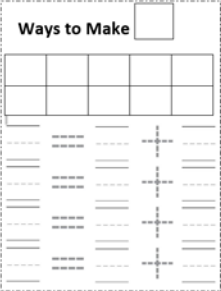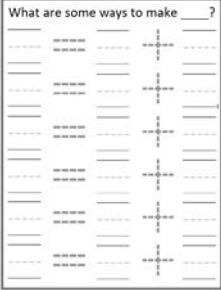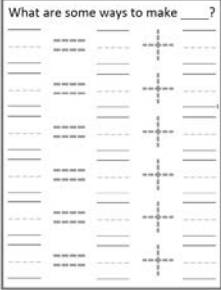
Mabel's Place (pg. 29) - Students compare numbers through 5.

Lessons	Focus	Standards & Math Practices	Essential Question	Math Content and Strategies	Models/Tools& Resources Go Math Teacher Resources GK	Vocabulary	Connections (ENGAGE prior knowledge)	Academic Language Support	Talk & Share
5.1 Addition Add To	Use expressions to represent addition within 5	K.OA.1 Companion pg. 26 MP 1 MP 2	How can you show addition as adding to?	Addition is the first operation children encounter in school. In this chapter, we present addition situations that represent adding to and combining sets to find the sum. Addition is easy for children to model and understand because it can be represented by physical actions: two children can join three others to make a group of five. Children can join two red cubes and three blue cubes to make a train of five cubes. Children can place two plates on a table, and then add three, to have five in all, when "company" comes. Children should also be given sets that cannot be physically joined. We are not likely to be able to move two trees in a front yard and three trees in a back yard, yet we can add to find how many there are in all.	Go Math! Grab and Go Kit Storyboards Making Sense of numbers - Rekenrek Model Draw Write Equations	Add, put together	Guide children to begin thinking about how to add. Have 2 students come stand at the front of the room and ask, "How many students are standing with me? Count aloud all together. Then have one more students stand at the front of the room but slightly apart from the others. Ask, "How many students are at the front of the room now? How did the number change?" Have children	**Vocabulary Strategy** Graphic Organizer	There are four children playing tag on the yard. One more child comes. How many children are playing tag now? How many children are being added to the group? Write the number. What will you have to do to find how many children are there now? Have students count all of the children. What is 4 and 1? Write the number.

							repeat the following sentence as you point to each group of children separately and then make a circle to gesture to indicate the whole group: 2 and 1 is 3. This is a phrase that will be repeated throughout the lesson	Literature — Pancakes for All, From the Grab-and-Go Differentiated Center: Children will read the book and count the kittens. Pancakes for All	How do you know to add?
5.2 Hands On: Addition Put Together	Use expressions to represent addition	K.OA.1 Companion pg. 26 MP 2 MP 4 MP 5	How can you show addition as putting together?	In this lesson, children will compose several numbers by placing two-color counters in a ten frame. For example, 7 can be composed with six counters showing the yellow side and one counter showing the red side, or 10 can be composed with two counters showing the red side. These models for composing numbers will give children the background for addition facts, such as 6 + 1 = 7 and 8 + 2 = 10. Children are making models for expressions, and later in the chapter they will be introduced to equations. Children will also find many ways to compose a number in the coming lessons. For example, they will see that 5 can be made from the number pairs: 0 and 5, 1 and 4, 2 and 3, 3 and 2, 4 and 1, and 5 and 0.	Number Line/Counters/ Number Sentence Template Linking Cube Template **Games Spin to Add** Children use connecting cubes to model addition problems.	Plus	Show students 2 objects (pencils, markers, cubes, etc.) in one hand and 1 object in your other hand. What happens when I put 2 and 1 together? When I add these objects together I can say 2 and 1 is 3. I can also say 2 **plus** 1 is 3. What do you think **plus** means?	**Act It Out or Use a Picture**	Students should have whiteboards, counters, and a ten frame. Have children listen to the problem. I have 4 books sitting on my desk. I put one more book on my desk. How many books are there now? Show me with your counters. Is there a way that you can show me with your numbers? Look for students who used a plus sign to share their representations or students who used 4 counters in one color and one counter in another to make the connection to the expression.
5.3 Problem Solving: Act Out Addition Problems	Solve problems by using the strategy *act it out*	K.OA.1 Companion pg. 26 MP 1 MP 2 MP 4	How can you solve problems using the strategy *act it out?*	Have children read the equal symbol as is equal to. Is equal to means having the same quantity on both sides of the symbol. Thus, 2 + 3 = 5 means 2 + 3 is the same quantity as 5. Likewise, 5 is the same quantity as 2 + 3, and 5 = 2 + 3. This is the first lesson where students are introduced to the equal sign and its meaning. It will be helpful to do the Vocabulary Builder to help students understand that the equal sign means the same as or is equal to.	Model Draw Write Equations	Is equal to	Draw one object on the left side of the board and one on the right. Ask students, "How many are there? How would we show that in numbers?" Put a 1 underneath each object. "What goes between the numbers to show adding? Does anyone know what symbol shows that 1+1 is the same as 2?"	Literature — Pancakes for All, From the Grab-and-Go Differentiated Center: Children will read the book and count the kittens. Pancakes for All **Literacy Connection** Grab N Go	Draw a picture to show this problem. There are 2 sticks lying on the ground. Peter sets 2 more sticks on the ground. How many sticks are there? How could you show this problem with numbers? If needed provide the scaffold __ + __ = __. Have students read the number sentence out loud together.

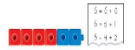|									
5.4 Hands On: Algebra Model and Draw Addition Problems	Use objects and drawings to solve addition problems within 5	K.OA.5 Companion pg. 30 MP 1 MP 2 MP 4	How can you use objects and drawing to solve addition word problems?	In this lesson, children physically put together cubes to model addition. This action lets them show addition in a very concrete way. As children work, you can ask the question, "How many do we have in all?" or "What is the total number?" You could even introduce the term sum when speaking of the answer to an addition word problem. Have children anticipate the sum before joining the cubes. Several times during the lesson, you might ask children to predict the sum and then verify it by counting the cubes after they are joined. Have children summarize what they have done.	Model Draw Write Equations	Plus, is equal to	Write "3 + 2 = __" on the board as you tell students that there are 3 dogs at the dog park. Two more came and joined them. How can you say this number sentence out loud? Point to the plus sign, "What does this symbol mean?" Point to the equal sign, "What does this symbol mean? How can you use objects or drawings to solve?"		Use the Model Draw Write Tool for students to solve the following problem. Lena has 1 flower in her garden. She plants 3 more plants in her garden. How many plants are there in her garden now? Show me how you solved with objects, pictures, and numbers. Have students share their different representations.
5.5 Algebra: Write Addition Sentences for 10	Use a drawing to find 10 from a given number and record the equation	K.OA.4 Companion pg. 29 MP 2 MP 7 MP 8	How can you use a drawing to find the number that makes a 10 from a given number?	Many different situations involve addition. In this lesson, children will be working with situations that involve putting together with an unknown addend. An example of this would be: There are five children. Four are wearing shorts. The rest are wearing jeans. How many children are wearing jeans? Children will need help recognizing which part needs to be found. Some children see a plus symbol and add the numbers given in the problem. In this example, they might add 5 and 4. Take time to walk through these problems step by step, pointing out that the number being added is unknown and that they have been given the number that tells how many in all.	Making Sense of numbers - Rekenrek Model Draw Write Equations Number Pairs – Equations (Ten Frame) Number Pairs - Equations	Plus, is equal to	Ask students to solve using their red and yellow counters. There are 5 counters sitting on the desk. 1 is red and the rest are yellow. How many counters are yellow? How many red counters do you have? How many yellow counters did you have to add to make 5? What number sentence could we write for this problem?	Model and Discuss	Solve the following problem with objects, pictures, and numbers. Sarah has 6 strawberries. How many more strawberries does she need to have 10 strawberries in all? Have students share their different representations.
5.6 Algebra: Write Addition Sentences	Solve addition problems within 5 and record the equation	K.OA.5 Companion pg. 30 MP 1 MP 2	How can you solve addition word problems and complete the addition sentence?	In this lesson, children will work with an addition situation that provides a starting number and has them find the number to add to arrive at a given sum. For example, three children were at the table. Some more children came and now there are five children. How many more children came over? Children need to understand what information is given and what information is unknown, missing, or needs to be found. When they are telling their addition word problems, they should look at the numbers provided in the addition sentence and use	Model Draw Write Equations	Plus, is equal to	Act out the following problem with your A/B partner. Partner A has 2 crayons. Partner B has 2 crayons. How many crayons do you have altogether? How can we find out how many there are altogether? Draw a picture to show what you did. Look for pictures that show items		There is 1 bird sitting in a tree. Some more birds land in the tree and now there are five birds sitting in the tree. How many birds landed in the tree? Show how you solved the problem with objects, pictures, and numbers.

Lesson	Objective	Standard	Essential Question	Teaching Notes	Model	Vocabulary		Grab & Go	Independent
				the first addend and the sum as the givens in their problems, make sure children understand how to create their own addition with an addend as the unknown or missing number.			drawn separately and then drawn grouped together and share with the whole group.		
5.7 Algebra: Write More Addition Sentences	Solve addition word problems within 10 and record the equation	K.OA.2 Companion pg. 27 MP 1 MP 2	How can you solve addition word problems and complete the addition sentence?	It is important for children to understand why they need to learn about addition. Explain that they use addition often and may not even realize it. Give examples, of everyday situations involving addition, such as: knowing how many plates to set if a friend comes over. Knowing how many toy cars children have if four are red and five are blue, or finding how many buttons they started with when two more buttons makes 7 in all. During this chapter, children have worked with different addition situations. In this lesson, they will work with adding to an unknown starting number.	Model Draw Write Equations	Plus, is equal to	Use objects, drawings, and numbers to solve. There are 3 cars in the parking lot. Some more cars drive over. Now there are 5 cars. How many cars drove over? What do we know? What do we need to find out? Where would each of these things be represented in my number sentence? (It's ok if students have difficult writing the number sentence. Continue to practice writing number sentences for all addition situations and thinking aloud.)		Use objects, drawings, and numbers to solve. There are some cans of soda in the refrigerator. I put 5 more cans in the refrigerator and now there are 9. How many cans of soda were there before?
5.8 Hands on: Algebra Number Pairs to 5	Decompose numbers within 5 into pairs in more than one way and record the decomposition with an equation	K.OA.3 Companion pg. 28 MP 2 MP 7	How can you model and write addition sentences for number pairs for sums to 5?	As children work with addition, guide them to get into the routine of checking their responses. Reread the problems. Then ask questions similar to these. Did you use the numbers that were used in the addition word problem? What kind of answer did you think you would get? Does your answer make sense? Help children explain how they solved the problems with prompts such as these: Explain how you found your answer. Why did you choose that way to solve? Is there another way you could have used to solve? As you go through these questions, help children correct any errors they find.	Number Pairs – Equations (Ten Frame) Number Pairs - Equations	Number pairs	For each lesson 5.8 – 5.12 give a scenario where the total number of objects is given, but made up of 2 unknown quantities. For example, "My mom has 4 plates. Some are red and some are yellow. Using your counters what is one way to show my mom's plates? Write a number sentence to match your counters." Use student representations to show the different number pairs. Ask students to explain the similarities and differences between their equations. For example, how is 1 + 3 = 4 similar to 3 + 1 = 4 and 4 = 3 + 1?		In groups have students model and write an addition sentence for a number (5-10). Each student must come up with a different number sentence. Have students share out with their representations until all ordered pairs have been shared.

For students who finish early, have them write a word problem that matches their equation. |
| 5.9 Hands On: Algebra Number Pairs for 6 & 7 | Decompose numbers within 6 and 7 into pairs in more than one way and record the | K.OA.3 Companion pg. 28 MP 2 MP 7 | How can you model and write addition sentences for number pairs for each sum 6 and 7? | Children are working with number pairs in this chapter. In this lesson and the lessons that follow, children are given a sum and can decompose that number into number pairs that make that number. By using two colors of connecting cubes, they are able to see what number pairs can come from a given number. As children work to find pairs of | | | | | |

	decomposition with an equation			addends to show the given number, they should come to realize that there are many number pairs that can make a given number. Discuss how to find all the pairs in the most efficient way. Help children discover how to use a pattern to help them find all the ways. Have them start with all of one color and decrease that color by 1 each time as they increase the second color by 1 each time.			This can also be done with cube trains of two different colors.
5.10 Hands On: Algebra Number Pairs for 8	Decompose numbers within 8 into pairs in more than one way and record the decomposition with an equation	K.OA.3 Companion pg. 28 MP 2 MP 7	How can you model and write addition sentences for number pairs for sums of 8?	As children become more mathematically proficient, they start to understand quantities and their relationships in problem situations. Children will be able to decontextualize. They will eventually represent the problems abstractly and symbolically without necessarily using the specific referents. They will also develop the ability to contextualize, to pause as needed while filling in the referents for the symbols involved. When using quantitative reasoning, children learn to create a coherent representation of the problem. They will be able to apply this in this lesson because they will manipulate numbers within the symbolic representation they are given.	Number Pairs – Equations (Ten Frame)		
5.11 Hands On: Algebra Number Pairs for 9	Decompose numbers within 9 into pairs in more than one way and record the decomposition with an equation	K.OA.3 Companion pg. 28 MP 2 MP 7	How can you model and write addition sentences for number pairs for sums of 9?	As children work though this chapter, they should become more familiar with strategies to find number pairs to make a given number, such as: reverse the pair order, trade cube colors one cube at a time, and use a pattern. Although children are not asked specifically to find all the combinations, they should realize that when they use a pattern to find the number pairs, rather than trial and error, they can be sure they have found all the possible pairs, you may wish to have a discussion on how the number of possible combinations relates to the given number.	Number Pairs - Equations		
5.12 Hands On: Algebra Number Pairs for 10	Decompose numbers within 10 into pairs in more than one way and record the decomposition with an equation	K.OA.3 Companion pg. 28 MP 2 MP 7	How can you model and write addition sentences for number pairs for sums of 10?	Teaching children how to make pairs for a given number helps them build a foundation for mathematics. It enables children to see how there can be more than one solution for a problem. It provides an opportunity for children to discover patterning and how it can help them solve problems. Each of these will be used as children learn more complex mathematical skills. For examples, they will use more than one solution when learning about how to represent the same amount of money. They			

				will also use patterning with numbers and shapes in upper grades to build a solid foundation for algebra.	**Advanced Learners** Kinesthetic Partners **Materials** seven red and seven blue connecting cubes Children will use a pattern to find all the number pairs for 6 and 7. Have partners start with six red cubes and write the matching addition sentence, $6 = 6 + 0$. Have them take away one red and add one blue cube to make a new number pair. Have them continue in the same way for each pair and write the addition sentence each time. Repeat for a sum of 7.				

Assessments:

Go Math **Chapter 5 Test**

Go Math Chapter 5 Performance Task**: Bees and Flowers**

Grade Kinder Go Math! Quarter 2 Planner   **10-12 Days**

CHAPTER 6 Subtraction

BIG IDEA: It is important for children to model and solve problems using a variety of contexts that support subtraction situations. There are three different types of subtraction situations that involve action: the result is unknown, the change is unknown, or the start is unknown. Examples along with number sentences for each follow: 1. Result Unknown: Five puppies were playing in a basket. Three of the puppies jumped out. How many puppies are in the basket now? (5-3 = __) 2. Change Unknown: Five puppies were playing in a basket. Some puppies jumped out. Then there were two puppies playing in the basket. How many puppies jumped out? (5 -__ = 2) 3. Start Unknown: Some puppies were playing in a basket. Three puppies jumped out. Then there were two puppies playing in the basket. How many puppies were playing in the basket at the start? (_ -3 =2). Children explore subtraction through situations that involve the action of taking away. They use problem situations, pictures, and models. Children model subtraction sentences, circle the objects that are taken away from the set, and then cross out the subtracted set. It is very important that children learn that not all subtraction problems involve the action of taking away.

Adapted from Go Math: Teaching for Depth, pg. 221E

Professional Development Videos   **Additional Quarter 2 Resources**

Addition and Subtraction, K-2, Segment 3   Fluency Resources in Go Math

Building Fluency Through Number Talks – Q2

Building Fluency Through Story Problems – Q2

Building Fluency Through Story Problems (Spanish) - Q2

ESSENTIAL QUESTION: How can you show subtraction?
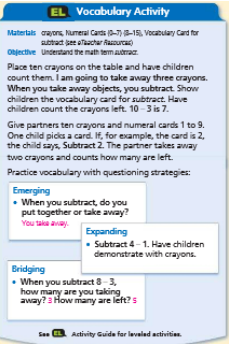
STANDARDS: K.OA.1, KOA.2, K.OA.5
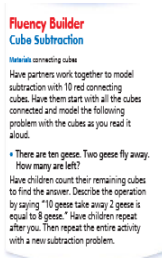
ELD STANDARDS:
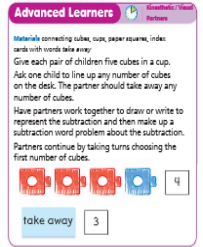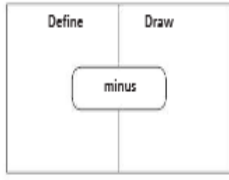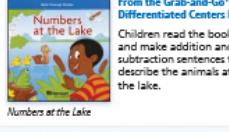
  ELD.PI.K.1-Exchanging information/ideas via oral communication and conversations.   ELD.PI.K.9- Expressing information and ideas in oral presentations.

  ELD.PI.K.3-Offering opinions and negotiating with/persuading others.   ELD.PI.K.11- Supporting opinions or justifying arguments and evaluating others' opinions or arguments.

  ELD.PI.K.5-Listening actively and asking/answering questions about what was heard.   ELD.PI.K.12-Selecting and applying varied and precise vocabulary.
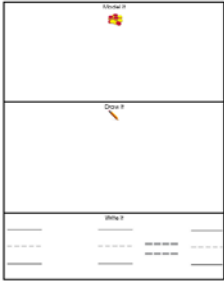
LITERACY CONNECTIONS: Go Math! Math Readers (The actual books can be found in your Grab-and-Go Kits)

A Nutty Story (pg. 29) – Students read the book and count the number of nuts Ed and Anna gather

Lessons	Focus	Standards & Math Practices	Essential Question	Math Content and Strategies	Models/Tools& Resources Go Math Teacher Resources GK	Vocabulary	Connections (ENGAGE prior knowledge)	Academic Language Support	Talk & Share
6.1 Subtraction: Take From	Use expressions to represent subtraction within 5	K.OA.1 Companion pg. 26 MP 1 MP 2	How can you show subtraction as taking from?	In this lesson, children represent subtraction within 5 with numbers and words, such as 5 take away 1. They learn that subtraction can be like taking away a number from the number in all. Children begin to find the number that is left but do not write the subtraction sentence. At the end of this lesson, children represent subtraction with an expression (2-1) for the first time. Although children do not learn the name for the *minus* symbol, they trace the symbol and learn that it means the same as "take away." This prepares them for writing subtraction sentences later in the chapter. As children determine the number in all, how many are taken away, and how many are left, they are	Storyboards Spin for More Games to build Number sense	Subtract, take away	Guide children as you contrast models of addition and subtraction as taking away. Have two students stand at the front of the classroom and then ask three more children to join them. Ask students to describe what just happened. How would we show that with a number sentence? Now let's have three children walk away.	**Literacy Connection** Grab N Go	Marco has 4 apples. He eats 1 apple for snack. How many apples does Marco have left? Draw a picture to show what happened? Look for different representations and have students share their thinking. Provide the sentence frame __ take away __is __.

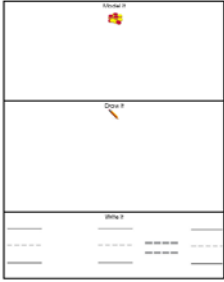|					developing an understanding of subtraction. This work helps them develop algebraic thinking.	Model Draw Write Equations		What happened? How were the two scenes different?	**Vocabulary Strategy** Graphic Organizer Vocabulary Activity	
6.2 Hands On: Subtraction Take Apart	Use expressions to represent subtraction	K.OA.1 Companion pg. 26 MP 2 MP 4 MP 5	How can you show subtraction as taking apart?		Expression Power- this is what a simple mathematical expression like 6 - 2 has! Children can create many different subtraction word problems to fit 6 - 2. Children may use counters to represent everyday uses for subtraction. Children might show six counters and take two away. They might picture six children playing and two leaving the group. Children might use six counters as a model for six cars in a row. They might then take away two models showing two cars driving away. They might also use six counters as coins and spend two coins. With subtraction word problems like these, children attach meaning to the minus symbol, and they may gain an intuitive idea that one expression may encompass a wide variety of subtraction situations.	Model Draw Write Equations	Minus, subtraction	Have students work in partners to model subtraction with 5 connecting cubes. Have them start with all the cubes connected and model the following problem, "There are 5 geese. Two geese fly away. How many are left? How many cubes did you take apart? How many cubes are left?	 **Literacy Connection**	Charlie has 8 toy cars. 5 cars are green and the rest are blue. How many cars are blue? Draw a picture to show how you solved this. How could you write what you did with numbers? Have students share their pictures and explain their thinking. Practice writing and saying the number sentence.
6.3 Problem Solving: Act Out Subtraction Problems	Solve problems by using the strategy *act it out*	K.OA.1 Companion pg. 26 MP 1 MP 2 MP 4	How can you solve problems using the strategy *act it out?*		You may remember the names for parts of a subtraction sentence. In 7 – 3 = 4, 7 is the minuend, or starting amount; 3 is the subtrahend, or quantity to be subtracted; and 4 is the difference. In this lesson, children continue to explore subtraction situations as taking from. They begin to see how many objects are left after some are taken from the set. This is physical action that is easy for children to participate in and see. Once a set of objects has been taken from a starting set, children are asked to tell the number that is left. Example: Seven boxes are on a shelf. Joe takes three boxes from the shelf. How many are on the shelf now?	Model Draw Write Equations	Is equal to, minus	Write 5 – 1 on the board as you read aloud the following problem, "5 frogs are sitting on a log. 1 frog jumped into the pond. How many frogs are left on the log?" Ask students how they would read the expression. What number do you start with? How do you know? What number do you take away? How do you know? Have students act out the problem to find the answer then complete the number sentence 5 – 1 = 4.	 **Model and Discuss**	In groups, have students act out the following problem. 4 students are standing behind their chairs. Three students left to sit on the rug. How many students are still standing? In your groups write a number sentence for this problem.
6.4 Hands On: Algebra Model	Use objects and drawings	K.OA.5	How can you use objects and		Subtraction is the inverse of addition, just as decomposing is the inverse of composing. In this	Model Draw Write Equations	Is equal to, minus	Have children make 5-cube trains with red and yellow		Use your counters to solve. Pam had 5 cakes. 2

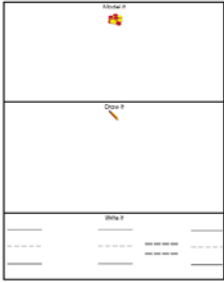|								
and Draw Subtraction Problems	to solve subtraction word problems within 5	Companion pg. 30 MP 1 MP 2 MP 4	drawings to solve subtraction word problems?	lesson, children will decompose several numbers within 5 by taking apart cube trains into two parts. The problems in this lesson give children experience with Take Apart Addend Unknown subtraction word problems. Example: Mia had five cubes. Two are red and the rest are blue. How many cubes are blue? It is not necessary or useful to use this terminology with the children. It is important to help them see that in these situations, a number is broken into two parts (or Addends). They know what one part is equal to and need to find out what the other part is.			cubes. Ask students, "How many cubes are there in all? How many cubes are red? How many cubes are yellow? Answers will vary based on their representations. If you know the number of red cubes, how does that help you know the number of yellow cubes?	**Fluency Builder** **Model Addition Facts** Materials two-color counters, Addition Fact Cards (within 5) (see a Teacher Resources) Use the addition fact cards and have children model each equation with two-color counters. For example, for 4 + 1 = ☐ children would make a set with four counters and a set with one counter. They would then count the total number of counters. Some children may learn to count the four counters and then count on one counter. Other children may still need more practice with combining the two sets to find how many in all. California Common Core Fluency Standard K.OA.5 Grab N Go	have red frosting and the rest have yellow frosting. How many cakes have yellow frosting? Draw to show what you did. How could you show this with numbers? Have students share their drawings and read the number sentence.
					End of 2nd Quarter		UNIVERSAL ACCESS INDEPENDENT ACTIVITIES Grab-Go! Differentiated Centers Kit	
6.5 Algebra: Write Subtraction Sentences	Solve subtraction word problems within 5 and record the equation	K.OA.5 Companion pg. 30 MP 1 MP 2	How can you solve subtraction word problems and complete the equation?	In this lesson, children experience another kind of subtraction problem situation-take from change unknown. An example of this kind of problem is the following: Five turtles were in the water. Some climbed onto the beach. Now there are three turtles in the water. How many climbed onto the beach? In this type of problem, the acting and ending quantities are known and the change is unknown. Throughout the chapter, children are exposed to several different types of subtraction structures. Do not give them the names of the structures, but help them recognize that subtraction is used to solve many different problems.	Advanced Learners Model Draw Write Equations	Is equal to, minus	Write the problem 4 – 1 on the board. Have students think of subtraction stories and share them in partners. Example: 4 butterflies landed in my yard. 1 butterfly flew away. How many butterflies are there now?	**Literature** Under the Umbrellas **From the Grab-and-Go™ Differentiated Centers Kit** Children read the book and subtract the number of umbrellas the turtle gives away. Under the Umbrellas	Have students solve with manipulatives. Carter has three slices of pizza. His brother ate some of his pizza and now there is only 1 slice left. How many slices did his brother eat? Have students share their answers and tell how their model helped them find the answer. How would you write a number sentence for this problem? Practice writing and reading the number sentence.
6.6 Algebra: Write More Subtraction Sentences	Solve subtraction word problems within 10 and	K.OA.2 Companion pg. 27 MP 1 MP 2	How can you solve subtraction word problems and complete the equation?	Skilled problem solvers look for ways to make sense of problems. In this chapter, children use different strategies to approach and solve subtraction problems. They act out problems, use manipulatives, analyze pictures, and tell subtraction word problems. As children work with	Model Draw Write Equations	Is equal to, Minus Taken away	Draw 4 apples on the board and cross one out. Have children identify a word problem that could go with the picture. How does the picture show the number in		Use manipulatives to model and solve. There were some lemons in a lemon tree. Two lemons fell to the ground. There are four lemons still in

Lesson	Objective	Standard	Essential Question	Explanation	Model	Vocabulary	Questions	Advanced Learners	Differentiation
record the equation				subtraction, ask then to explain what problems mean and what questions need to be answered. Help them develop routines to make sure their reasoning is sound. Use prompts such as: tell how you found the answer. Why did you do it that way? What are other ways to solve the problem?		How many in all

How many are left | the set? How does the picture show the number eaten or taken away? How does the picture show the number left? How would we show this problem as a number sentence? | | the tree. How many lemons were in the tree to start? How would you show this with pictures and numbers? |
| 6.7 Hands On: Algebra Addition and Subtraction | Understand addition as putting together or adding to and subtraction as taking apart or taking from to solve word problems | K.OA.2 Companion pg. 27 MP 2 MP 5 MP 8 | How can you solve word problems using addition and subtraction? | The operations of addition and subtraction are closely related. They are inverses: one operation undoes the other. We might think of adding 3 and 5 to have a sum of 8. If we then subtract 5 from 8, what number do we have? The original 3. Working with cube trains of three and five cubes, children can "see" and begin to understand these relationships. The idea of inverses and the order property of addition lead to discovering related facts in first grade. The related facts that include 3,5, and 8 contain these four interrelated facts: 3 + 5 = 8, 5 + 3 = 8, 8 − 3 = 5, and 8 − 5 = 3. | Model Draw Write Equations | Is equal to, Minus, plus | Have students write a number sentence for the following problem: Some students have 2 balloons. Another student comes and brings 5 more balloons. How many balloons are there now? Now there are __ balloons, 5 balloons pop. How many balloons are left? Write a number sentence. How are the sentences the same? How are they different? | | Have children build a cube train with 4 red and 5 blue cubes. What addition sentence could you write for this cube train? What subtraction sentence could you write for this cube train? Have children explain their answers in their group and have one student from each group share their thinking. |

Assessments:

Go Math Chapter 6 Test

**Common Assignment Go Math Chapter 6 Performance Task: Sharing Stickers