Grade 2	Lesson: 1-6	Reference to English

Math Standard(s): 2.OA.1 **Domain: Operations and Algebraic Thinking**

Content Objective(s):	Language Objective(s):
Students will write related addition and subtraction facts.. *I can write related addition and subtraction facts.*	Students will use the word related when talking about subtraction and addition sentences. *I can use the word related when talking about subtraction and addition sentences.*
Essential Understanding: Addition and Subtraction have an inverse relationship, which can be used to find subtraction facts. Every subtraction fact has a related addition fact.	**Academic Vocabulary for Word Wall:** **Listen: related** **Read:** **Write:** **Speak: related** **Sentence Frame:** **_____is the related sentence to _____.**
Materials: • **Number cards 0-11 (Teaching tool 2)** • **Two color counters (teaching tool1)** • **Guided Practice Sheets**	**Additional Lesson Vocabulary:**

Lesson: Connecting Addition and Subtraction **Instructional Time: 45 mins**

Opening: (8 minutes)

Prepare a bag with counting cubes of tow different colors.

T: You have been doing so well with subtraction these past few days! Today we are going to look at how subtraction and addition number sentences are *related."*

"Look at this bag I'm holding. Quickly turn to your partner and tell them what you think is inside this bag."

S: turn to partner and tell them what they imagine could be in the bag.

T: "I'm going to close my eyes, reach into this bag, and grab whatever's inside it. Are you ready?"

Reach inside the bag and grab a handful of counting cubes.

"Wow! Magic counting cubes! I'm going to put all the cubes that are the same color together."

Make two sticks with the two different colors.

"Look at these cubes. I'm going to give you 30 seconds to think of a math story that could go along with these cubes."

S: Will think for 30 seconds

T: "Tell your story to the person sitting across from you."

S: will tell their story

T" Raise your hand if you want to tell me the story you heard"

S: will raise hand and share with the class the story their partner just told them

T: "Those were some really great stories! I heard some about joining, some about separating, some about comparing. I'm going to use my workmat (projected large)." Place cubes in the spaces on the workmat and write the whole in the square above

T: "Now let's figure out what number sentence we could use to match these cubes. You have 30 seconds to think. Go!"

S: will think of sentences

T: " Let's hear what you came up with. Everyone stand up. When someone writes the sentence you had, sit down. If you still have another way to write it, keep standing." Choose a few students to come up and write their sentence on the board, until no more students are standing.

S: will stand up, sit down when they see the sentence they thought of up on the board

T: (Will depend on what students write) "I see there are four different number sentences up here! Can they all be right? Thumbs up if you think all four of these are correct, down if you don't."

S: will use thumbs to show response

T: Today we are going to learn why <u>all four of these</u> are correct. Each addition sentence has a *related* subtraction sentence.

Introduction to New Material (Direct Instruction): (7 minutes)

Each student should have two-colored counters and number cards.

T: "Using your counters, your number cards, and the workmat on the top of page 23, show me this number sentence: 5-2=3"

S: will use their workmats and counters and number cards to make that sentence.

On the workmat being projected, place the number card 5 at the top and counters in the correct space

T: "Check to see if yours looks like mine. Sit on your hands. Now don't move anything. Use just you eyes to look and see if you can see an addition sentence. Stick your tongue out when you do.'

Choose someone to share the addition sentence.

T: "Yes. It could be 2+3=5. Could it also be 3+2=5? Thumbs up if you agree."

S: will use thumbs to agree/disagree

T: "Sit on your hands again and use eyes only to see if you can find another *subtraction* sentence."
S: will sit on hands and look
T: "Great! Yes. It can also be 5-3=2. Notice how the whole never changes. The number card on top stayed 5. We're going to write these sentences in the spaces given us on page 23."
S write down the addition and subtraction sentences.

Guided Practice: (15 minutes)
T: "Now you'll work in partners to do numbers 2 and 3. Choose a number card. Place the card in the square at the top to show the whole. Work together to decide which parts to use, and put counters on your page to model them. Then write the sentences. If you finish before I clap my hands, you can make up stories to go with the sentences you wrote."
S: will work in partners

Use the modeling cycle:
Teacher Does:
T: " You can see this page (24) is like what you've just been doing, but they put the counters and the number card on the page for you already. All you have to do is write the number sentences to match. Let's do number 1 together."
"Point t the whole and say it aloud on 3. 1,2,3 :
S: say 9
T: "Good. Now first I see an addition sign, so we need to find the addition sentences. Count with me how many counters are in our first part :
S will count 1,2,3,4.
T: "Good. And now how many in the second part?"
S: 1,2,3,4,5
T: "Okay so we have 4 and 5. Let's write in, 4 +5=9. If we switch the order of the parts, so it's 5+4 does that still equal 9? Whisper count to see."
S: will quietly count to check if it's 9
T: "It is! So our second addition sentence is 5+4=9. Please write that in."
S: will write in the sentence
T: "For the subtraction sentences, we have to start with the whole, 9, and then take away a part. So write with me 9-5=4 and the other would be 9-4=5."
S: will write in the sentences
T: And that's it!

2 Students Do with Teacher:
T: "Now we're going to number 6 together. " Ask two students to come lead the class in doing number 6**. "Raise your hand, like this. Point to number 6."**
S: "Read with us."
S: the two students will lead the class in reading, Teacher will help with words they can't read. Have students in the class write in the sentences on their papers as you go.

Independent Practice: (10 minutes)
T: "Now it's your turn to practice by yourself. You will do number 2,3,4, and 5. You will have 10 minutes. I'll be walking around to see how you're doing."
S: will independently work

Closing: (5 minutes)
- Gather students at the rug

T: "Great work today! We learned that addition and subtraction are *related*. When you add two parts, you get the whole. When you subtract one part from the whole, you get the other part.
"I'm going to tell you two more stories. If you think it's a subtraction story, make the subtraction sign with your arm, like this. If you think it's a adding story, make the plus sign with your arms, like this. You have to close your eye, no peeking!"
Tell two math stories, watch for student's response. Write the math sentence for each on the board.
S: will listen and with eyes closed, use arms to answer.
T: "Open your eyes. Look at these sentences I've written, and see if you were right."
S: will look at what is written on the board to check their understanding
T: "Now let's think of the *related* subtraction/addition sentence for each. Turn to your partner and tell them the first one."
S: turn and tell the related sentence to a partner
T: "And the last one. Turn to your partner and tell them."

S: will turn and tell **T: Great job! We will keep practicing these.**
Assessment:
Page 26 as Homework in English