Grade 2	Lesson: 9-6 Subtracting on a Number Line	Reference to English

Math Standard(s): 2.NBT.5 (also 2.NBT.9) — **Domain: Number and Operations in Base Ten**

Content Objective(s):	Language Objective(s):
Students will use number lines to model two-digit subtraction. *I can use a number line to do two-digit subtraction.*	Students will say, "___ minus ___ equals ____." *I can say, "___minus___ equals ___."*
Essential Understanding: Differences can be represented as lengths in a number line diagram of subtraction.	**Required Academic Vocabulary for Word Wall:** **Listen:** **Read:** **Write:** **Speak:** **Sentence Frame:**
Materials: • Large number line. • Whiteboards, erasers, and markers. • Subtracting on a Number Line (page 275) • Guided Practice (page 276)	**Additional Lesson Vocabulary:** Ten blocks, count, backwards, circle

Lesson:	Instructional Time: 30 minutes

Opening: (3 minutes)
• Have base ten blocks ready to show.
• Draw a number line on the board.

T: "In this topic, we've been working with two-digit subtraction and we've been using base ten blocks (show base ten blocks) **whenever we want to show how subtraction works. Today, we're going to use another model. We worked with number lines when we did addition** (show the number line on the board). **Now, we're going to subtract on a number line."**

Introduction to New Material (Direct Instruction): (3 minutes)
T: "Look at the number line on the board. We are going to use the number line as we subtract 23 minus 17."
• Write 23 – 17 on the board.
T: "When I subtract using a number line, I will start with the first number. So 23. Will someone please come up and circle the number 23 on the number line?"
• Teacher will choose a student.
S: *will come up and circle 23.*
T: "Good, I will draw a line from 0 to 23."
• Teacher will draw a line from 0-23.
T: "Now we need to subtract 17, so we will start at 23 and count 17 lines back to zero. Count with me.
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17. What number did we land on? Tell your neighbor."
S: *will count with the teacher and then tell their neighbor, "we landed on 6."*
T: "I will circle the number 6 and draw a line from 23 to 6."
• Teacher will circle 6 and draw a line from 23 to 6.
T: Please say the subtraction sentence with me. 23 minus 17 equals 6."
S: *will say, "23 – 17 = 6" with their teacher.*

Guided Practice: (10 minutes)
Use the modeling cycle:
Teacher Does:
T: "I am going to write 3 more problems on the board and I need you to work with a partner to solve. But before I do that I want to work with a partner."

1 Students Does with Teacher:
T: "I need a student to be my partner."
• Teacher will choose a student.
T: "I have written 28 minus 12 on the board. We need to solve this subtraction problem. What do we do first?"
S: *will respond, "first we circle 28."*
T: "Yes, we first circle the number 28. I will draw a line from 0 – 28."
• Teacher will circle 28 and draw a line from 0 – 28.

T: "What do we do next?"
S: *will respond, "next we count 12 lines backwards from 28."*
T: "Will you please do that for us."
S: *will count 12 lines backwards from 28. 1,2,3,4,5,6,7,8,9,10,11,12.*
T: "What number did you land on?"
S: *will respond, "I landed on 16."*
T: "Please circle 16 and draw a line from 28 to 16."
S: *will circle 16 and draw a line from 28 to 16.*
T: "Good job! Let's read the subtraction sentence together. 28 minus 12 equals 16. You may take your seat."

2 Students Do:
T: "Now I need 2 students to come up and demonstrate."
• Teacher will choose 2 students to come up and demonstrate.
T: "The problem is written on the board, please use the number line and work together to solve 24 minus 19."
S: *will solve the problem together using the number line.*
• Remind the students to say what they are doing as they do it.

All Students Do:
• Teacher will write 26 – 18 _____, 25 – 23 = _____ and 28 – 7 = _____ on the board.
T: "Now it is your turn to work with a partner. I will hand out your papers (page 275) **and you need to work with a partner to solve the 3 problems on the board. You will have 5 minutes."**
• Teacher will separate the groups and pass out the papers.
S: *will work together to solve the problems on the board.*
• Teacher will walk around the room helping the groups as needed.
• Teacher will remind the students to explain what they are doing to each other.
T: "10,9,8,7,6,5,4,3,2,1. Time is up! Please clean up, turn in your papers and come to the carpet."
S: *will clean up, turn in their papers and sit on the carpet.*

Independent Practice: (6 minutes)
T: "Now it is your turn to subtract using a number line all on your own. We will do the first one together and you will do the last two on your guided practice sheets by yourself."
T: "The problem is 19 – 7. I will write it on the board above the number line."
• Teacher will write 19 -7 = ___ on the board above the number line.
T: "What do I do first?"
S: *will respond, "find 19 and circle it."*
T: "Here is the number 19. I will circle it. Now what?"
S: *will respond, "count 7 lines back from 19."*
T: "Here is the number 19. I will do what you said and count 7 lines back from it. Count with me, 1,2,3,4,5,6,7."
S: *will count with the teacher.*
T: "What number did we land on?"
S: *will respond, "we landed on 12."*
T: "Yes, we landed on 12, so 19 minus 7 equals 12. Now it is your turn. Collect your papers and finish the next 2 problems. You will have 4 minutes."
S: *will collect their papers and get started.*
• Teacher will walk around helping students.
T: "10,9,8,7,6,5,4,3,2,1. Time is up! Turn in your papers and come sit on the carpet."
S: *will turn in their papers and sit on the carpet.*

Closing: (4 minutes)
• Give each student their whiteboards and a number line from 0 – 30.
T: "To finish off the day let's do one more story problem. You will need to use the number line to solve the problem."
T: "All 29 children in Grants class went to the school fair. 16 of them are girls. How many of them are boys."
T: "What do we know? How many students went to the fair?"
S: *will respond, "29 students went to the fair."*
T: "Correct, 29 students went to the fair. I will write that on the board."
• Teacher will write 29 on the board.
T: "How many students were girls?"
S: *will respond, "16 were girls."*

T: "I will write 29 minus 16 on the board because we are trying to figure out how many of the children were boys."

- Teacher will write 29 – 16 on the board.

T: "Now use your number line to solve the subtraction problem."

S: *will solve 29 – 16 by using their number line.*

T: "Show me you number lines."

- Teacher will check the student number lines to make sure they were done correctly.
- Teacher will visit with the students who did not use the number line correctly and help them learn how.

T: "Good job, 29 minus 16 equals 13. There were 13 boys that went to the fair."

Assessment:

Guided Practice