

Grade 2	Lesson: 8-6 Adding on a Number Line	Reference to English
Math Standard(s): 2.MD. (also 2.NBT.6 and 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 addition. <i>I can use number lines to model two-digit addition.</i>		Students will tell their neighbor how many more they need. <i>I can tell my neighbor how many more I need.</i>
Essential Understanding: Sums can be represented as lengths on a number line diagram of addition.		Required Academic Vocabulary for Word Wall: Listen: number line Read: Write: Speak: Sentence Frame:
Materials: <ul style="list-style-type: none"> Guided Practice (page 234) Independent Practice (page 235) 		Additional Lesson Vocabulary: Blocks, arrow
Lesson:		Instructional Time: 40 minutes
<p>Opening: (1 minutes)</p> <ul style="list-style-type: none"> Draw a number line from 0 – 30 (label multiples of 5) on the board. <p>T: “You have learned how to use models to add 2 two-digit numbers. Today, you will use a number line to add one- and two-digit numbers.”</p> <p>Introduction to New Material (Direct Instruction): (7 minutes)</p> <p>T: “I am going to tell you a story about Amelia. She walked 18 blocks on Monday. Let me write that on the board. 18 blocks.”</p> <ul style="list-style-type: none"> Write Monday and 18 blocks next to it on the board. <p>T: “She walked 5 blocks on Tuesday. I will write that too.”</p> <ul style="list-style-type: none"> Write Tuesday and 5 blocks next to it on the board. <p>T: “How many blocks did she walk all together?”</p> <ul style="list-style-type: none"> Use the number line you have already written on the board. <p>T: “Look at the number line on the board. Every hash mark is worth one block. I need a student to come up and find 18 and circle it.”</p> <ul style="list-style-type: none"> Teacher will choose a student. <p><i>S: will find 18 on the number line and circle it.</i></p> <p>T: “Let’s count by 5’s to make sure they are correct, count with me, 5, 10, 15, 16,17,18. They are right! I will draw an arrow from 0 to 18.”</p> <p><i>S: will count with the teacher.</i></p> <p>T: “She walked another 5 blocks on Tuesday. Let’s add another 5 blocks. We will start at 18 and count up 5. 1,2,3,4,5. I will draw another arrow.”</p> <ul style="list-style-type: none"> Teacher will draw another arrow from 18 to 23. <p>T: “Look at the number line and the arrows above it. Where does the second arrow stop?”</p> <p><i>S: will respond, “stops on 23.”</i></p> <p>T: “Yes, it stops on 23. So, 18 plus 5 equals 23. How many blocks did Amelia walk in all? Tell your neighbor.”</p> <p><i>S: will turn to their neighbor and say, “23 blocks.”</i></p> <p>Practice: (10 minutes)</p> <ul style="list-style-type: none"> Have a large number line on the board to work with. <p>T: Today we are going to practice together. When I give your guided practice paper, I need you to quietly stand up, walk to your desk and wait until everyone is ready. Will you start working?”</p> <p><i>S: will respond, “no.”</i></p> <p>T: “Will you run?”</p> <p><i>S: will respond, “no.”</i></p> <p>T: “Will you start working?”</p> <p><i>S: will respond, “no.”</i></p> <p>T: “Good.”</p> <ul style="list-style-type: none"> Teacher will hand out the papers and send the students to their desks. <p>T: “We will go through 1 problem at a time. We will do the first one together. I will work on the board and you work on your</p>		

paper.”

- Write the equation on the board – $21 + 7 = \underline{\quad}$.

T: “We need to use the number line to find 21 plus 7. What number do we start with? Tell your neighbor and then circle it.”

S: will tell their neighbor, “21” and circle it on their paper.

T: “Show me your papers.”

S: will show the teacher their papers.

T: “Good, you circled 21 on your paper. I will do the same.”

- Teacher will circle 21 on the number line on the board.

T: “Now, we need to draw an arrow from 0 to 21.”

S: will draw an arrow from 0 to 21.

T: “21 plus 7, now we need to add 7. Where do we start?”

S: will respond, “at 21.”

T: “Yes, we start at 21. Let’s count 7 from 21, 1,2,3,4,5,6,7.”

S: will count with the teacher.

T: “Good, where did we land?”

S: will respond, “28.”

T: “Yes, draw an arrow from 21 to 28.”

S: will draw an arrow from 21 – 28.

T: “Please turn to your neighbor and read them the addition sentence.”

S: will turn to their neighbor and say, “21 plus 7 equals 28.”

T: “Awesome, let’s do the next problem. I will write the problem on the board.”

- Write $14 + 9 = \underline{\quad}$ on the board.

T: “14 plus 9 equals, _____. What number do we start with?”

S: will respond, “14.”

T: “Correct, find 14 on the number line.”

S: will find 14.

T: “What do you do now?”

S: will answer, “draw an arrow.”

T: “Yes, draw an arrow.”

S: will draw an arrow from 0- 14.

T: “Show me your papers.”

S: will show the teacher their papers.

T: “Every one looks good. What do we do next?”

S: will respond, “add 9.”

T: “We add 9 by counting on from 14. Count with your neighbor and draw the arrow.”

S: will count on from 14 to 23 with their neighbor and draw the 2nd arrow.

T: “What number did you land on?”

S: will respond, “23.”

T: “Read the number sentence with your neighbor.”

S: will read “ $14 + 9 = 23$ ” to their neighbor.

T: “Let’s read the addition sentence together, 14 plus 9 equals 23.”

T: “Please do number 4 in the Independent Practice by yourself.”

S: will complete number 4, $16 + 5 + \underline{\quad}$ independently.

T: “Hold up your papers. (Check student work – if most got it correct, move on, if most did not, go over problem.)

Closing: (5 minutes)

T: “To finish up today we are going to do one more problem. This time you have to figure out the addition sentence from the information on the number line.”

- Draw the number line on the board and write $7 + 12$ using arrows and circles.

T: “Talk to your neighbor and figure out the addition sentence. You have 1 minute.”

S: will work together to figure out the addition sentence.

T: “5, 4, 3, 2, 1. Time is up! Look at problem #3. Look at the purple arrow. It goes from 0 to what number?”

S: will respond, “7.”

T: “You are right, the arrow goes from 0 to 7. I will write 7 on the first blank.”

- Teacher will write 7 on the first blank in the addition sentence.

T: “Look at the second arrow. How long is the second arrow? Count with me, 1,2,3,4,5,6,7,8,9,10,11,12. 12. It goes from 7 to 19, that is 12 steps. I will write 12 on the second blank.”

- Teacher will write 12 on the second blank in the addition sentence.

T: "Does your addition sentence, does it look the same?"

S: will check their addition sentence.

T: "Read the number sentence with me, 7 plus 12 equals. Tell your neighbor what it equals."

S: will turn to their neighbor and say, "19."

T: "Say the number sentence with me one more time, 7 plus 12 equals 19."

S: will say with the teacher, "7 plus 12 equals 19."

T: "Do one more of those by yourself. Look at problem 6 on Independent Practice. You have 1 minute to answer it."

S: will work on problem 6.

- Check student work and go over problem 6 if the students need to help.

T: "Good job!"

Assessment:

Guided Practice

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