

Grade 2	Lesson: 9-8 Ways to Subtract	Reference to English
<b>Math Standard(s): 2.NBT.5 (also 2.NBT.9)</b>		<b>Domain: Number and Operations in Base Ten</b>
<b>Content Objective(s):</b>		<b>Language Objective(s):</b>
<p>Students will use different methods to solve two-digit subtraction. <i>I can solve subtraction problems using 2 different methods.</i></p>	<p>Students will teach the group how to subtract 2 numbers. <i>I can teach the group how to subtract 2 numbers.</i></p>	
<p><b>Essential Understanding:</b> All sums and differences can be found using models (cubes). Some calculations are done easily using mental math or paper and pencil. More complex calculations can be done using a calculator.</p>	<p><b>Required Academic Vocabulary for Word Wall:</b> <b>Listen:</b> <b>Read:</b> <b>Write:</b> <b>Speak:</b> <b>Sentence Frame:</b></p>	
<p><b>Materials:</b></p> <ul style="list-style-type: none"> <li>• Number Cubes (Teacher Made)</li> <li>• Whiteboards, erasers and markers.</li> <li>• Subtracting on a Number Line (page 275)</li> <li>• Guided Practice (page 276)</li> </ul>	<p><b>Additional Lesson Vocabulary:</b></p>	
<b>Lesson:</b>		<b>Instructional Time: 30 - 35 minutes</b>
<p><b>Opening: (8 minutes)</b>  <b>T: "You have learned how to chose a method to use for solving addition problems. Today, you will learn to choose a method to use for solving subtraction problems. We are first going to go through the different methods we have learned."</b>  <b>#1</b>  <ul style="list-style-type: none"> <li>• Write <math>23 - 6 = \underline{\quad}</math> on the board.</li> <li>• Use connecting cubes to demonstrate subtraction.</li> </ul> <b>T: "Look at the problem on the board. <math>23 - 6 + \underline{\quad}</math>? Let's subtract the ones first. 3 take away 6. (use the connecting cubes to show 3 and try to take 6 cubes from the 3) Can you subtract 6 from 3? Thumbs up or down."</b>  <b>S: will show thumbs down.</b>  <b>T: "You are right, we cannot take 6 cubes away from 3 cubes. What should we do? I have an idea. I can regroup. There are 2 tens in 23. I am going to take one of the tens and break it up. I will put it with the ones. That is regrouping. I now have 13 loose cubes. Count with me. 1,2,3,4,5,6,7,8,9,10,11,12,13."</b>  <b>S: will count the loose cubes with the teacher.</b>  <b>T: "Can we take 6 cubes away from 13? Tell your neighbor."</b>  <b>S: will tell their neighbor, "yes, 13 take away 6 equals 7."</b>  <b>T: "Show me with your fingers what <math>13 - 6 = \underline{\quad}</math>."</b>  <b>S: will show 7 with their fingers.</b>  <b>T: "Yes, 13 take away 6 equals 7. So, I have 7 loose cubes or ones. I will write that in the ones place."</b>  <ul style="list-style-type: none"> <li>• Teacher will write 7 in the ones place in the subtraction frame.</li> </ul> <b>T: "How many groups of ten do I have left?"</b>  <b>S: will respond, "1."</b>  <b>T: "Yes, I will write 1 in the tens place. Please tell your neighbor the subtraction sentence."</b>  <b>S: will tell your neighbor, "<math>23 - 6 = 17</math>."</b>  <b>T: "Good job, let's use another method."</b>  <b>#2</b>  <b>T: "We are going to do another problem, but this time you will not use connecting cubes. I will read you a story problem and you need to solve it."</b>  <b>T: "Before I read the story problem, please draw a subtraction frame on the your board."</b>  <b>S: will draw a subtraction frame on their board.</b>  <b>T: "As I tell you the story, please write the important information on the board."</b>  <b>T: "Ari has 31 stickers, I said 31 stickers. (give the students a couple seconds to write 31) He puts 8 of them in a book, I said, he put 8 of them in a book. (give the students a couple seconds to write 8) How many stickers does Ari have now? Solve the problem. If you need help, ask your neighbor."</b>  <b>S: will solve their problem.</b>  <b>T: "Show me your boards. (check out the work on the student boards) Now let's do it together."</b>  <b>T: "You wrote 31 minus 8 on your boards. First I subtract the ones. Can I take 8 from 1?"</b>  <b>S: will say, "no."</b></p>		

**T: "What should I do?"**

*S: will say, "regroup."*

**T: "You're right, I need to regroup. I will take one of the tens to make 11 in the ones and 2 in the tens. What is 11 take away 8? Tell your neighbor."**

*S: will tell their neighbor, "3."*

**T: "Show me with your fingers."**

*S: will show 3.*

**T: "Correct, 11 take away 8 is 3. I will write 3 in the ones place."**

**T: "What is the tens?"**

*S: will respond, "2."*

**T: "Yes, I will write 2 in the tens place. Tell your neighbor the subtraction sentence."**

*S: will turn to their neighbor and say, "31 minus 8 equals 23."*

**T: "Say it with me, 31 minus 8 equals 23."**

**T: "Let's use another method to subtract."**

**#3**

**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.*

**#4**

**T: "Lastly, let's remember how to check our subtraction problems."**

- Write  $50 - 20$  on the board in a vertical format.

**T: "Please solve 50 - 20 on your boards."**

*S: will solve  $50 - 20$  on their boards.*

**T: "Please show me your boards so I can check your work."**

*S: will show the teacher their boards.*

**T: "How can you check if your answer is correct?"**

*S: will respond.*

**T: "To check your work, you can use addition. Let me show you how."**

**T: "Up on the board I have written  $50 - 20 = 30$ . Now to check my work I will take the answer - 30 and write it on the top of an addition problem. I will also move the 20 over."**

- Teacher will write  $30 + 20$  on the board with arrows from those numbers in the subtraction problem. (you can reference teacher guided for help)

**T: "What is 30 plus 20?"**

*S: will respond, " $30 + 20 = 50$ ."*

**T: "The sum is 50, is that the same number as the number that we subtracted from in the first problem? Thumbs up or down."**

*S: will show thumbs up.*

**T: "That means you subtracted correctly. You used the same numbers in the both equations!"**

**Introduction to New Material (Direct Instruction): (1 minutes)**

**T: "We have practice subtracting using many different methods. The one method we didn't talk about was subtracting in our heads - mental math."**

**Guided Practice: (10 minutes)**

*Use the modeling cycle:*

Teacher Does:

**T: "I am going to separate you into groups of 3 each of you will take a turn teaching the others in your group how you would**

**subtract the problems. You will get the first number in the equation by tossing the number cubes. I will show you how it is done first."**

2 Students Do with Teacher:

**T: "I need two helpers."**

- Teacher will choose two students.

**T: "We are a group of three. I will be the teacher. First I roll the number cube 2 times. The first number I roll goes in the tens place and the 2<sup>nd</sup> number goes in the ones place. Awesome, I rolled 48. I will write that above 27 in the problem 1 on the papers."**

- Teacher will write 48 above 27 on the paper as well as writing  $48 - 27$  on the board.

**T: "Now I need to choose what method to use to subtract. I will use mental math. In my head I will subtract the ones 8 minus 7 equals 1. I will write 1 in the ones place. Then I will subtract the tens. 4 minus 2 equals 2. I will write 2 in the tens place. So, 48 minus 27 equals 21."**

**T: "So, I just taught you how to use mental math to subtract 48 minus 27. Now, another student will become the teacher and teach us how to use a different method to subtract."**

- Teacher will choose one of the two students in the group to be the teacher.

**T: "Alright, you are the teacher. Please roll the number cubes and find your number to write about 17."**

*S: will roll the number cubes and write the number above 17 on the board.*

**T: "Good job, now please teach us how to subtract those two numbers."**

*S: will teach the group how to subtract the two numbers.*

All Students Do:

**T: "Fantastic, if we had time we would watch the 3<sup>rd</sup> student teach us how to subtract, but I would rather the whole class get to work. I will call out the groups of three. You need to collect 1 number cube and 1 piece of paper for the group. Then take turns being the teacher!"**

- Teacher will separate the students into groups of 3.

*S: will collect their materials and get started.*

- Teacher will walk around observing and helping the groups as needed.

**T: "10,9,8,7,6,5,4,3,2,1. Time is up. Please clean up your area, turn in your papers and come to the carpet."**

**Independent Practice: (7 minutes)**

**T: "Now it is your turn to work on your own. We will do the first problem on Guided Practice together and then you will do 3 on your own. I will pass out your papers. Go to your desk, and let's get started together."**

- Teacher will pass out the papers.

*S: will collect their papers, do to their desks and wait to do the first problem as a class.*

**T: "I will write the problem on the board.  $82 - 27 = \underline{\quad}$ ."**

**T: "What do we do first? Tell your neighbor and then do it."**

*S: will tell their neighbor, "first we subtract the ones" and then they will subtract the tens."*

**T: "Show me your papers. Did you need to regroup? Thumbs up or down?"**

*S: will show thumbs up.*

**T: "Yes, we needed to regroup. What is 12 minus 7? Show me with your fingers."**

*S: will show 5 fingers.*

**T: "Good, I will write 5. Then what do we do?"**

*S: will respond, "subtract the tens."*

**T: "What is 7 minus 2? Please write it."**

*S: will write 5 in the tens place.*

**T: "Please read the subtraction sentence to your neighbor."**

*S: will read, "82 minus 27 equals 55" to their neighbor.*

**T: "82 minus 27 equals 55. Did you use mental math or did you need to write it down?"**

*S: will respond, "we had to write it down."*

**T: "Circle paper and pencil for the problem."**

*S: will circle paper and pencil.*

**T: "Now you need to finish the next 3 problems in 4 minutes."**

*S: will work on the next three problems on guided practice.*

- Teacher will walk around the room helping students.

**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 turn in their papers and sit on the carpet.*

**Closing: (3 minutes)**

- Pass out whiteboards, eraser and markers.

**T: "I am going to read you a story problem and I need you to write the subtraction problem on you boards."**

**T: "Brett counted 86 stars in the sky. (give the students time to write 86) Drew counted 42 stars. (give the students time to write 42) How many more stars did Brett count than Drew? Write the subtraction problem, and show me your boards."**

*S: will show the teacher their subtraction problems.*

**T: "Brett counted more stars so his number goes on top. 86. Then Drew counted less stars so his number goes below 86. You should have written 86 minus 42 like this (write the equation on the board). Now please subtract."**

*S: will subtract  $86 - 42$ .*

**T: "How did you solve the problem? Did you do it in your head? Did you use cubes (show cubes)? Did you use paper and pencil? How did you solve the problem?"**

*S: will respond.*

**T: "Good job today!"**

**Assessment:**

**Guided Practice**

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