

Grade 2	Lesson: 8-4 Models to Add Two-Digit Numbers	Reference to English
Math Standard(s): 2.NBT.5 (also 2.NBT.6 and 2.NBT.9) Domain: Number and Operations in Base Ten		
Content Objective(s):		Language Objective(s):
Students will use place-value models and the standard algorithm to add 2 two-digit numbers. <i>I can use place-value models and the standard algorithm to add 2 two-digit numbers.</i>		Students will teach their partner how to add 2 two-digit numbers. <i>I can teach my friend how to add 2 two-digit numbers.</i>
Essential Understanding: The standard addition algorithm for two-digit and two-digit is just an extension of the algorithm for adding two-digit and one-digit numbers. The ones are added first and then the tens.		Required Academic Vocabulary for Word Wall: Listen: Read: Write: Speak: Sentence Frame:
Materials: <ul style="list-style-type: none"> Place – Value Mat A (Teaching Tool 8) Connecting cubes (or Teaching Tool 1) Whiteboards, erases and markers. Models to Add Two- and One-Digit Numbers (page 225) Guided Practice (page 226) 		Additional Lesson Vocabulary: blocks
Lesson:		Instructional Time: 40 minutes
Opening: (3 minutes) <ul style="list-style-type: none"> Draw an addition frame on the board. Pass out whiteboards, markers and erasers. T: “You have learned how to use place-value models to add a one-digit number and a two-digit number. Let’s do one to review.” T: “I have written an addition frame on the board. Please do the same.” <i>S: will write an addition frame on their board.</i> T: “Please fill in the addition frame with 65 plus 6. I will too.” <i>S: will write 65 plus 6 in the addition sentence.</i> T: “Show me your boards. (check the students addition frames to make sure they filled them in correctly) <i>S: will show the teacher their boards.</i> T: “Good, now let’s add. Tell your neighbor what you do first.” <i>S: will tell their neighbor, “add the ones first.”</i> T: “We add the ones first. Please add 5 plus 6 and write it in the addition frame.” <i>S: will add 5 plus 6 and write it in the addition frame.</i> T: “Raise your and, what is 5 plus 5.” <i>S: will raise their hands, “5 plus 6 equals 11.”</i> T: “Correct, 5 plus 6 equals 11. I will write 1 in the ones place and 1 in the box above the 6. Now what do I do?” <i>S: will respond, “add the tens.”</i> T: “Yes, add the tens. 1 plus 6 equals ____? Write it on your board.” <i>S: will write 7 in the tens place.</i> T: “Show me your board.” <i>S: will show the teacher their boards.”</i> T: “Good, 65 plus 5 equals 71. Please read the addition sentence to your neighbor.” <i>S: will read, “65 plus 5 equals 71” to their neighbor.”</i> T: “Good job, say it with me, 65 plus 5 equals 71.” <i>S: will say “65 plus 5 equals 71” with the teacher.</i> T: “That is what we practiced last time, today, you will use a place-value models to add 2 two-digit numbers.”		
Introduction to New Material (Direct Instruction): (7 minutes) <ul style="list-style-type: none"> Pass out place-value mats and connecting cubes. T: “I am going to pass out the place-value mats and connecting cubes. Please leave them in front of you. Do not touch them. If you do touch them I will take them away.” T: “I am going to tell you a story problem. Leslie has 36 cubes. Her brother has 27 cubes. How many cubes do they have in all?” T: “I will write the numbers in the two-digit addition frame on the board. Work with a partner and try to solve the problem using		

the connecting cubes."

S: will work in pairs to solve the problem.

T: "Please are the addition frame on your board and solve the problem."

S: will write the addition frame on their boards and solve the problem.

T: "Show me your boards."

S: will show the teacher their boards.

- Check the student work on the boards.

T: "Thumbs up or down if you used the connecting cubes."

S: will show thumbs up or down.

T: "We are going to do the problem together now and I am going to use the connecting cubes."

T: "How many cubes does Leslie have?"

S: will raise their hand and say, "36."

T: "I will make 36 with the cubes. How many groups of ten do I need? Show me with your fingers."

S: will show 3 with their fingers.

T: "Correct, I need three groups of 10 and 6 loose cubes."

- Show 3 groups of ten and 6 loose cubes to the class.

T: "Leslie's brother has 27 cubes. I am going to make 27 cubes now. How many groups of ten do I need? Tell your neighbor."

S: will tell their neighbor, "2 groups of ten."

T: "We need 2 groups of ten and 7 loose cubes."

- Show the students 2 groups of ten and 7 loose cubes. Put the groups of ten together with the other groups of ten and the ones with the other loose ones.

T: "How many loose ones do we have? Count with me. 1,2,3,4,5,6,7,8,9,10,11,12,13. Can we regroup? Thumbs up or down?"

S: will show thumbs up.

T: "Yes, we need to regroup. We can make one more group of 10. Count with me, 1,2,3,4,5,6,7,8,9,10. Let's move this group of ten with the others and write a one about the tens place in the box."

- Write a 1 in the box above the 3 in the tens place.

T: "How many loose ones do we still have? (show the students the loose cubes).

S: will respond, "3."

T: "Correct, I will write 3 in the ones place."

- Write 3 in the ones place.

T: "We added the ones, we regrouped, what comes next?"

S: will respond, "add the tens."

T: "Yes, we add the tens. Tell your neighbor, 1 plus 3 plus 2 equals ____."

S: will turn to their neighbor and say, "1 plus 3 plus 2 equals 6."

T: "Look at the board, we have 36 plus 27 equals 63 written in the addition frame. Check your own boards and see if you have the same answer."

S: will show their boards.

Guided Practice: (12 minutes)

Use the modeling cycle:

Teacher Does:

T: "Now it is your turn to practice with a partner. I want one of you to be the teacher and the other to be the students. Then you will switch roles. Each of you will teach two problems that I have written on the board."

1 Students Does With Teacher:

T: "Before I let you begin, I need a student to come up and help me."

- Teacher will choose a student.

T: "I want you to teach me how to add using the addition frame. The problem is 36 plus 47."

- Write 36 plus 47 in a number frame on the board.

T: "Please teach me how to add 36 plus 47. Tell me what I do first and then second."

S: will say, "first you add the ones. 6 plus 7 equals 13. Then regroup."

T: "6 plus 7 equals 13. How do I write that in the addition frame?"

S: will respond, "write the 3 in the ones, write the 1 in the box."

- Teacher will write 13 in the appropriate place in the addition frame.

T: "Then what do I do?"

S: will say, "add the tens. 1 plus 3 plus 4 equals 8. Write 8 here (in the tens place)."

T: "Will you read the addition sentence for me?"

S: will say, "36 plus 47 equals 83."

T: "Very good, thank you for teaching me how to add and regroup. You may sit down."

- Help the student with the steps as needed. If they need help with the language, scaffold them along.
- Write the steps on the board so students can use it while they are teaching each other.

2 Students Do:

- Have 2 addition frames written on the board. Problems are 24 plus 35 and 59 plus 13.

T: "Now I need two helpers."

- Teacher will choose two students to come up and help.

T: "Student #1 I need you to teach student #2 how to add using the addition frame. Student #2 I need you to pick the cards."

S: #2 will pick the cards and student #1 will write them in the addition frame.

S: #1 will teach student #2 how to add the numbers.

- 1st add the ones.
- 2nd regroup.
- 3rd write the ones in the ones place.
- 4th write the tens above the tens.
- 5th add the tens

- Scaffold the students as needed.

T: "Now you get to switch. Student #1 you will pick the cards and student #2 you will teach student #1 how to add and regroup."

S: #1 will pick the cards and student #2 will write them in the addition frame.

T: "Student #2 I need you to pick a card from the deck and write it on the addition frame."

S: will pick a card and write the number on the addition frame on the board.

T: "Student #2 teach student #1 how to add and regroup."

S: #2 will teach student #1 how to add and regroup.

T: "Thank you for your help. Now you may sit down."

All Students Do:

T: "Now it's your turn! I will give each group a page 225 and 2 decks of cards. You will need to complete 4 more problems. You will teach 2 problems each. Use the connecting cubes as needed. You have 8 minutes."

S: will do the activity.

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

T: "10, 9, 8, 7, 6, 5, 4, 3, 2, 1. Time is up. Please clean up the connecting cubes and turn in your papers, then sit on the floor."

- Collect the papers.

Independent Practice: (10 minutes)

T: "Now it is your turn to practice individually. We will do the first one together and then you will finish guided practice by yourself."

T: "I have the problem written on the board, 27 plus 23 equals ____? Do we add the ones or the tens first?"

S: will respond, "the ones."

T: "Yes, we add the ones first. What is 7 plus 3?"

T: "Raise your hand if you know what 7 plus 3 is."

S: raise their hands and say "7 plus 3 equals 10."

T: "Do we need to regroup? Thumbs up or down?"

S: will show thumbs up.

T: "I will write 0 below the ones and the other 1 in the box in the tens. What do we do next?"

S: will respond, "add the tens."

T: "Yes, we add the tens. 1 plus 2 plus 2 equals ____? Tell your neighbor."

S: will tell their neighbor, "1 plus 2 plus 2 equals 5."

T: "Show me with your fingers."

S: will show 5 with their fingers.

T: "Good, read the addition sentence to your neighbor."

S: will read, "27 plus 23 equals 50."

T: "Very good, did we regroup? Thumbs up or down?"

S: will show thumbs up.

T: "Now it is your turn to do the rest of guided practice. You will have 6 minutes to do 4 problems."

S: will work on the rest of the problems.

T: "10, 9, 8, 7, 6, 5, 4, 3, 2, 1. Time is up. Please clean up the connecting cubes and turn in your papers, then sit on the floor."

- Collect the papers.

Closing: (8 minutes)

- Pass out whiteboards, erases and markers.

T: "To finish up today I am going to read you a story problem. As I read it I will write the information on your board. To start with, write an addition frame on your board."

S: will write an addition frame on their board.

T: "Rico builds a fort with 36 blocks. Tony uses 38 blocks to make it bigger. Write the information on your board."

S: will write 36 and 38 on their boards.

- Teacher will write 36 plus 38 on the board in the addition frame.

T: "How many blocks are used in all? Find the answer."

S: will find the answer and write it on their board.

T: "Show me your boards. Good job. I wrote 36 plus 38 in my addition frame. Tell your neighbor what you do first."

S: will say, "add the ones."

T: "Yes, first I will add the ones. 6 plus 8 equals 14. I need to regroup. Where do I write the 4?"

S: will say, "in the ones place."

- Write 4 in the ones place.

T: "Where do I write the 1?"

S: will say, "in the box."

T: "Yes, I will write 1 in the box above the 1."

- Write 1 at the bottom the tens column.

T: "Then what?"

S: will say, "add the tens."

T: "Yes, add the tens, 1 plus 3 plus 3 equals 7. I will write that. Read the addition sentence to your neighbor."

S: will read, "36 plus 38 equals 74."

T: "Good job, 36 blocks plus 38 blocks equals 74 blocks."

Assessment:

Guided Practice

Draft - Do Not Reproduce
Property of USOE