

Grade 2	Lesson: 10-9 Problem Solving: Look for a Pattern	Reference to English
Math Standard(s): 2.NBT.2 (also 2.NBT.4)		Domain: Numbers and Operations in Base Ten
Content Objective(s):		Language Objective(s):
Students will solve problems by finding number patterns. <i>I can solve problems through number patterns.</i>		Students will say, “___ comes next.” <i>I can say, “___ comes next.”</i>
Essential Understanding: Some problems can be solved by identifying elements that repeat in a predictable way.		Required Academic Vocabulary for Word Wall: Listen: Read: Write: Speak: Sentence Frame: ___ comes next.
Materials: <ul style="list-style-type: none"> Index Cards (numbers 865, 835, 855, 875, 845 written on them) Index Cards (numbers 649, 619, 739, 709, 676 written on them) Whiteboards, Markers, Erasers Look for a Pattern (page 329) Guided Practice (page 330) 		Additional Lesson Vocabulary:
Lesson:		Instructional Time: 35 minutes
<p>Opening: (1 minutes)</p> <ul style="list-style-type: none"> Students will start on the carpet. <p>T: “You have learned how to find number patterns. Today, you will learn how to use number patterns to solve problems.”</p> <p>Introduction to New Material (Direct Instruction): (8 minutes)</p> <ul style="list-style-type: none"> Choose 5 students to stand up in front of class. Give each student one of the index cards labeled with the numbers 255, 275, 245, 265, and 235. <p>T: “The 5 students standing in the front of class each have a number in their hands. Read the numbers with me.” <i>S: will read the numbers with the teacher.</i></p> <p>T: “Thank you, I need you to help me put these numbers in order from least to greatest. Raise your hand if you know who is holding the number that is the least.” <i>S: will raise their hand and say the student’s name who is holding the smallest number.</i></p> <p>T: “Are they correct? Thumbs up or down?” <i>S: will show thumbs up or down if they think that number is the least.</i></p> <p>T: “Let’s look at the hundreds place first. All the numbers are 2. So let’s move to the tens places. What are the numbers in the tens place? 5, 7, 4, 6, and 3. Which number is the least? Show me with your fingers.” <i>S: will show 3.</i></p> <p>T: “Yes, 3 is the least so the student with 235 will stand on the left of all the other students.” <i>S: with 235 will stand to the left of the other students holding numbers.</i></p> <p>T: “Look at the tens again, what number comes right after 3? Tell your neighbor.” <i>S: will tell their neighbor, “4 comes after 3.”</i></p> <p>T: “I heard you say, 4 comes after 3, so the student with 245 needs to stand to the right of the student with 235.”</p> <ul style="list-style-type: none"> Continue this process until all 5 students are in order from least to greatest. <p>T: “Good job, we did it. Read all the number with me in order, 235, 245, 255, 265, 275.” <i>S: will read the numbers with the teacher.</i></p> <p>Guided Practice: (10 minutes) <u>Using the Modeling Cycle:</u> Teacher Does: T: “Now I need you guys to practice with a partner. Each group will be given 2 sets of index cards and page 329. You will put 5 numbers in order from least to greatest and write them on your paper. Let me show you what I mean first.”</p> <p>1 Student Does with Teacher: T: “I need one helper.”</p> <ul style="list-style-type: none"> Teacher will choose a student. <p>T: “Look at the 5 number cards. Read them with me, 325, 125, 525, 225, and 425.”</p>		

S: *will read the numbers with the teacher.*

T: **"Look at the hundreds place of every number, we have 3, 1, 5, 2, and 4. Which number is the least?"**

S: *will say, "1 is the least."*

T: **"Correct, 1 is the least, let's put that number first. Will you put the rest of the number cards in order."**

S: *will say put the rest of the number cards in order from least to greatest.*

T: **"Good job, please write those numbers in order on the board."**

S: *will write the numbers in order on the board.*

T: **"As they are writing let's tell her/him the numbers that come next."**

S: *will tell the student teacher the number that comes next.*

T: **"Good job, thank you for your help. Please return to your seat."**

All Students Do:

T: **"I will call out your groups. You will need to collect your paper and cards. Remember to put the numbers in order from least to greatest. And to talk while you are working with your partner."**

- Teacher will call out the groups and pass out the papers and cards.

S: *will put the numbers in order and write it on their papers.*

- Teacher will walk around the room helping the students as needed and reminding them to talk throughout the activity.

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.*

Independent Practice: (10 minutes)

T: **"Now, I need you to work on your own. You will put the numbers in order from least to greatest and then we will come back together to answer the questions."**

T: **"I am going to pass out the guided practice papers. When you get it, go to your desk and you may now get started. You have 4 minutes to put the two sets of numbers in order from least to greatest."**

S: *will get started on their work.*

- Teacher will walk around helping students as necessary.

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: (minutes)

- Pass out whiteboards, erasers and markers.

T: **"Let's finish up by answering a couple of questions for the two groups of numbers you put in order from least to greatest."**

- Draw the yellow t-shirts on the board with the numbers in order from least to greatest. (409,419,429,239)

T: **"Look at the numbers on the board. You have already put them in order from least to greatest. What is the pattern you see after putting these numbers in order?"**

S: *will respond, "they get bigger" or "they get bigger by 10s."*

T: **"Yes, look at the numbers, when you start with 409, you add ten to get 419 and then you add ten again to get 429 and so on. What number do you think comes next in the pattern? Write it on your board."**

S: *will write 449 on their board.*

T: **"Now let's look at the blue shirts. You already put them in order from least to greatest. I will write the order on the board. 218, 318, 418, 518. What is the pattern rule of these numbers?"**

S: *will respond, "they add 100."*

T: **"Yes, every number adds 100, so please write the number that you think will come next on your board."**

S: *will write 618 on their board.*

T: **"Show me your boards. Good job, tell your neighbor what number comes next."**

S: *will tell their neighbor, "618 comes next."*

T: **"Good job today."**

Assessment:

Guided Practice