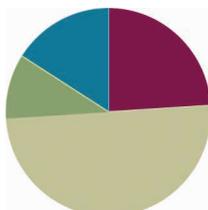


Lesson 27

Objective: Visualize quantities to compare two numerals.

Suggested Lesson Structure

■ Fluency Practice	(12 minutes)
■ Application Problem	(5 minutes)
■ Concept Development	(25 minutes)
■ Student Debrief	(8 minutes)
Total Time	(50 minutes)



Fluency Practice (12 minutes)

- Sprint: Counting to 5 in Varied Configurations **K.2A, K.2C** (12 minutes)

Sprint: Counting to 5 in Varied Configurations (12 minutes)

Materials: (S) 2 copies of the Counting to 5 Sprint

Note: In this activity, students get accustomed to the full Sprint routine while completing a task that is relatively simple conceptually. This builds confidence and enthusiasm for Sprints in the future.

Follow the instructions for delivering a Sprint in Lesson 24. Giving the identical Sprint twice facilitates comparison from Sprint A to Sprint B and allows students to see their growth. (Eventually, students will complete two Sprints that are similar but not exactly the same.) Continue to emphasize the concept of students beating their own personal score. Praise students for their hard work and for following directions in learning a new procedure.

- T: It's time for a Sprint! (Briefly recall previous Sprint preparation activities, and distribute Sprints face down.) Take out your pencil and one crayon, any color.
- T: On your mark, get set, go!
- S: (Work.)
- T: (Ring the bell, or give another signal for students to stop. Although it will not be necessary to time the students in this short practice Sprint, be sure to give the stop signal before students finish so as to not develop the expectation of finishing every time.) Pencils up!
- T: Pencils down, crayons up!
- T: It's time to check answers. What do you do if the answer is right?
- S: Circle it. (Circling correct answers instead of crossing out wrong ones avoids stigmatization.)
- T: What do you say?
- S: Yes!

T: (Have students correct their work, and incorporate a brief skip counting exercise including movement before Sprint B.)

T: See if you can beat your score! Race against yourself! On your mark, get set, go!

Students work on the Sprint for a second time. Perhaps give an additional three to five seconds to help students beat their first score. Give the signal to stop, reiterating that it is okay not to finish. Continue to emphasize that the goal is simply to do better than the first time. Proceed through the checking answers procedure with more enthusiasm than ever. Then, facilitate a comparison of Sprint A to Sprint B. Because students are still developing understanding of the concept of more, it may be necessary to circulate and facilitate the comparison, either visually or numerically.

T: Stand up if you beat your score.

T: You worked so hard, and I am so proud of you! Let's celebrate (e.g., congratulate each other, give three pats on the back, shake hands, have a parade).

Variation: Allow students to finish, but provide an early-finisher activity to complete on the back.

Application Problem (5 minutes)

Materials: (S) Paper, crayons, and a small ball of clay

Draw four snowmen on your paper. With your clay, make little hats and put them on the snowmen. Now, make two more hats for the snowmen that melted yesterday. How many snowmen did you draw? How many hats did you make? Which number is greater? Which number is less?

Note: This problem serves as an anticipatory set for today's lesson.



NOTES ON MULTIPLE MEANS OF REPRESENTATION:

Pair English language learners with a partner to facilitate the development of their understanding of the Application Problem. Teach students how to ask probing questions such as, "Do you agree?" and "Why do you think so?" as a way of extending mathematical conversations.

Concept Development (25 minutes)

Materials: (T) Bell, chime, or other gentle noisemaker (S) 1 set of 5-group cards (Template)

T: You are really good at comparing sets! I wonder if you need to see them to be able to compare them. Please close your eyes, put your heads on your desks, and listen carefully. I'm going to give you sets of sounds to compare. (Tap chime 3 times.) Think about how many chimes you just heard, and keep that number in your brain. Now, listen again. (Tap chime 6 times.) Think about the number of chimes the second time. Which number was greater?

S: 6.

T: Which number was less?

S: 3. → The first one!

T: Use your *less than* words.

S: 3 is less than 6.

Repeat this exercise several times, using both *more than* and *less than* vocabulary, until students are confident in their answers.

- T: Now that you are confident, play a tapping game with your partner. Tap a number lightly that is less than 5. Wait. Tap another number less than 5. See if your partner can make a statement about the two numbers you tapped.

Circulate and watch students as they play. Listen for their comparison words. Allow students who are successful to work within a broader range of numbers.

- T: Next, you are going to play a game with your partner. Each of you has a mixed-up deck of number cards. Hide your deck in your hands with the number side up. When I count to three, quickly put the top card in front of you, and compare it to your partner's card. Which number is less?
- T: Close your eyes, and try to see how many are in each set. You may use the dots on the back to help you if you need to. When you and your partner agree, continue with the next card. (Circulate and check to ensure understanding.)

After several minutes, repeat the game. This time, however, the students should state which number is more. Circulate as they are playing to see which students still need to look at the sets in order to compare the numbers. Encourage use of *more than* and *less than* language.

Problem Set (10 minutes)

Students should do their personal best to complete the Problem Set within the allotted time.



NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:

Model the number card game for students working below grade level. Give one instruction, model it, and ask students to demonstrate. As students show dots and numerals, vocalize the visualization "I see the number 3." "I see a number, and I see 6 dots on the back." Then, model the more than/less than statements. "3 dots is less than 6 dots." Continue observing and make note of students who still need help.

Student Debrief (8 minutes)

Lesson Objective: Visualize quantities to compare two numerals.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson.

Any combination of the questions below may be used to lead the discussion.

- How did you count and compare the sets of sounds? What did you think about?
- If you are having trouble comparing two numbers, what can you do?
- When you closed your eyes, could you see a number? Who can describe how they see numbers?
- What new (or significant) math vocabulary did we use today to communicate precisely?
- How did the Application Problem connect to today's lesson?

Name Tyler Date 1-20-14

Visualize the number in Set A and Set B. Write the number in the sentence.

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<u>5</u>	<u>3</u>
is more than	
<u>3</u>	<u>5</u>
is less than	

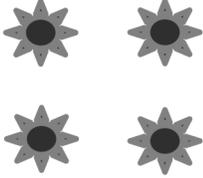
<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">7</div> <p style="font-size: 8px; margin: 0;">Set A</p>	<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">6</div> <p style="font-size: 8px; margin: 0;">Set B</p>
<u>7</u>	<u>6</u>
is more than	
<u>6</u>	<u>7</u>
is less than	

<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">8</div> <p style="font-size: 8px; margin: 0;">Set A</p>	<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">6</div> <p style="font-size: 8px; margin: 0;">Set B</p>
<u>8</u>	<u>6</u>
is more than	
<u>6</u>	<u>8</u>
is less than	

<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">9</div> <p style="font-size: 8px; margin: 0;">Set A</p>	<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">10</div> <p style="font-size: 8px; margin: 0;">Set B</p>
<u>10</u>	<u>9</u>
is more than	
<u>9</u>	<u>10</u>
is less than	

Roll a die twice and write both numbers on the back. Circle the number that is more than the other.

Counting to 5

 <p>1 2 3 4 5</p>	 <p>1 2 3 4 5</p>
 <p>1 2 3 4 5</p>	 <p>1 2 3 4 5</p>
 <p>1 2 3 4 5</p>	 <p>1 2 3 4 5</p>
 <p>1 2 3 4 5</p>	 <p>1 2 3 4 5</p>

Name _____

Date _____

Visualize the number in Set A and Set B. Write the number in the sentences.



Set A



Set B

_____ is more than _____.

_____ is less than _____.



Set A



Set B

_____ is more than _____.

_____ is less than _____.



Set A



Set B

_____ is more than _____.

_____ is less than _____.



Set A



Set B

_____ is more than _____.

_____ is less than _____.

Roll a die twice, and write both numbers on the back. Circle the number that is more than the other.

Name _____

Date _____

Visualize the number in Set A and Set B. Write the number in the sentences.



Set A



Set B

_____ is more than _____.

_____ is less than _____.



Set A



Set B

_____ is more than _____.

_____ is less than _____.



Set A



Set B

_____ is more than _____.

_____ is less than _____.



Set A



Set B

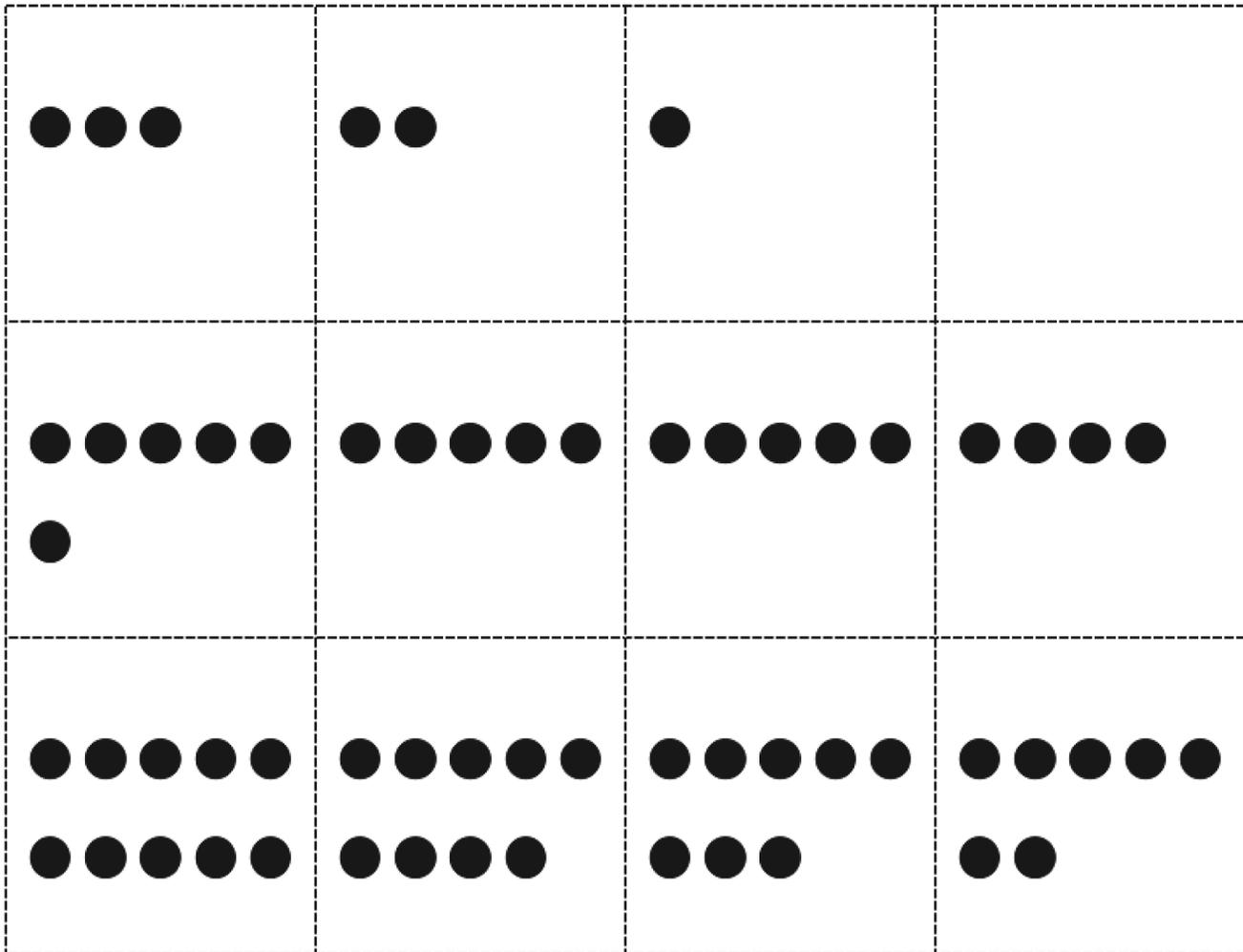
_____ is more than _____.

_____ is less than _____.

Ask a family member to give you 2 numbers. Write the numbers on the back, and circle the number that is more than the other.

0	1	2	3
4	5	5	<u>6</u>
7	8	<u>9</u>	10

5-group cards (numeral side) (Copy double-sided with 5-groups on card stock, and cut.)



5-group cards (5-group side) (Copy double-sided with numerals on card stock, and cut.)