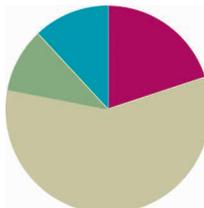


Lesson 5

Objective: Determine which linking cube stick is *longer than* or *shorter than* the other.

Suggested Lesson Structure

■ Fluency Practice	(10 minutes)
■ Application Problem	(5 minutes)
■ Concept Development	(29 minutes)
■ Student Debrief	(6 minutes)
Total Time	(50 minutes)



Fluency Practice (10 minutes)

- Show Me Longer and Shorter **K.7A, K.7B** (2 minutes)
- 5-Group Hands **K.2D, K.2I, K.5** (4 minutes)
- 5-Groups on the Dot Path **K.2I, K.5** (4 minutes)

Show Me Longer and Shorter (2 minutes)

Note: This kinesthetic activity reviews vocabulary.

Conduct the activity as described in Lesson 2, but with *longer* and *shorter*. Now, students extend their hands from side to side to indicate length.

5-Group Hands (4 minutes)

Materials: (T) Large 5-group cards in vertical orientation (Fluency Template 1)

Note: This maintenance activity develops flexibility in seeing the 5-groups vertically or horizontally and adds a kinesthetic component.

- T: (Show the 6-dot card in vertical orientation.) Raise your hand when you know how many dots are on the left. (Wait until all hands are raised, and then signal.) Ready?
- S: 5.
- T: Right?
- S: 1.
- T: We can show this 5-group on our hands. Five on the left and 1 on the right, like this. (Demonstrate on hands, side by side.)
- S: (Show 5 and 1 on hands, side by side.)

T: Push your hands out as you count on from 5, like this. 5 (extend the left hand forward), 6 (extend the right hand forward). Try it with me.

S: 5 (extend the left hand forward), 6 (extend the right hand forward).

Continue with 5, 6, and 7, steadily decreasing guidance from the teacher, until students can show the 5-groups on their hands with ease.

5-Groups on the Dot Path (4 minutes)

Materials: (S) Dot path (Fluency Template 2) placed inside of a personal white board

Note: This activity helps students gain flexibility in grouping 5 and starting to count on from 5 pictorially.

T: Touch and count the dots on your dot path.

S: 1, 2, 3, ..., 10.

T: What do you notice about the dot path?

S: There are 10 dots. → There are two different color dots. → A color change at 5.

T: Yes. I'm going to ask you to circle a group of dots. Use the color change at 5 to count and circle them as fast as you can. Ready? Circle 5.

S: (Circle a group of 5 dots.)

T: How did you do that so fast?

S: I just circled all the light ones, and I knew it was 5.

T: Erase. Get ready for your next number. Circle 6.

S: (Circle a group of 6 dots.)

T: How did you count 6?

S: I counted all of the dots until I got to 6. → I counted one more than 5.

If students are starting to count on, let them share their thinking with the class. Continue the process with numbers to 10.

Deviate from a predictable pattern as students show mastery.

Application Problem (5 minutes)

Write your name so that one letter is in each box. Begin with the box above the star. Don't skip any boxes!

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



You made a name train. Compare your train to that of your partner. What do you notice? Which train has more letter passengers?

Note: By replacing the vertical emphasis in yesterday's linking cube exercise with a horizontal representation, the problem serves as an anticipatory set for today's lesson. Circulate during the discussion to notice use of *longer than* and *shorter than* terminology; observe endpoint alignment skills.



NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

Scaffold the Application Problem for English language learners and students with disabilities by walking them through the directions one step at a time. Begin with the box above the star, and point to it. Observe students as they follow directions to ensure their complete understanding.

Concept Development (29 minutes)

Materials: (S) 1 bag of linking cube stairs from Lesson 4 per pair

- T: With your partner, arrange your linking cube stairs from yesterday on your desk. This time, put them in order from the tallest to shortest. Let's count to make sure they are all here. How many are in the longest stick?
- S: 10. 1 less is 9. 9. 1 less is 8. (Continue the pattern through 1.) 1.
- T: Find your 5-stick, and hold it up. How many?
- S: 5.
- T: Now, find your 2-stick, and compare it to your 5-stick. What do you notice?
- S: It is shorter.
- T: Repeat after me, "My 2 is shorter than my 5. My 5 is longer than my 2." (Hold up sticks, and demonstrate.)
- S: My 2 is shorter than my 5. My 5 is longer than my 2.
- T: Put your sticks down. Find your 5 and your 4. Compare the sticks. What do you notice?
- S: My 4 is shorter than my 5. → My 5 is longer than my 4.
- T: Great! Now, use your 5, and choose another stick of your own. What did you choose?
- S: The 7. It is longer than the 5. (Answers may vary.)
- T: Say it with me. "The 7 is longer than the 5. The 5 is shorter than the 7." Did anyone choose a different stick? (Allow other students to tell about their choices.)

Repeat this exercise and sentence modeling through several iterations, using a variety of different sticks for the initial comparison.

- T: Do you see a stick that is shorter than the 1? Why not? (Allow time for discussion.)
- T: Do you see a stick that is longer than the 10? Why not? (Allow time for discussion.)
- T: Mix up all of your sticks on your desk. Now, you will play a game with your partner. One of you will close your eyes and choose two sticks. When you open your eyes, quickly tell your partner which stick is longer than the other one and which stick is shorter than the other one. Make sure you tell your partner in the way that we just practiced! Then, it will be your partner's turn. (Allow students to play until they are comfortable with the correct language of comparison.)
- T: What did you notice while you were playing your game? (Allow time for responses.)
- T: Did it matter if your sticks were up, down, or sideways?
- S: No! They were still the same length!
- T: Put your stairs away carefully for next time.



NOTES ON MULTIPLE MEANS FOR ACTION AND EXPRESSION:

When giving directions about how to play the game, illustrate the meaning for English language learners. Hold up two sticks and demonstrate by saying, "My 2-stick is shorter than my 7-stick. My 7-stick is longer than my 2-stick."

Problem Set (10 minutes)

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

For this Problem Set, it is recommended that all students begin with circling the sticks and possibly leave filling in the blanks to the end if time allows.

Student Debrief (6 minutes)

Lesson Objective: Determine which linking cube stick is *longer than* or *shorter than* the other.

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.

- When you were asked to draw a stick taller or shorter than 6 or 9 cubes, what did you draw?
- Did you all choose to draw the same stick? What else could you have chosen?
- How did you compare the lengths of your sticks?
- Tell your partner about the number of cubes in the stick you drew using the sentence, “My _____ stick is longer than/shorter than my _____ stick.”
- Turn to your partner, and tell him something you could teach or share with your family tonight about length. Be sure to use the words *longer than* and *shorter than*.

Name Vasili Date 6-13-13

Circle the stick that is shorter than the other.

Circle the stick that is longer than the other.

My 5 - stick is longer than my 4 - stick.
My 4 - stick is shorter than my 5 - stick.

Determine which linking cube stick is longer than or shorter than the other.

Circle the stick that is shorter than the other stick.

My 9 - stick is longer than my 7 - stick.
My 7 - stick is shorter than my 9 - stick.

On the back of your paper, draw a 6-stick.
Draw a stick longer than your 6-stick.
Draw a stick shorter than your 6-stick.

OR

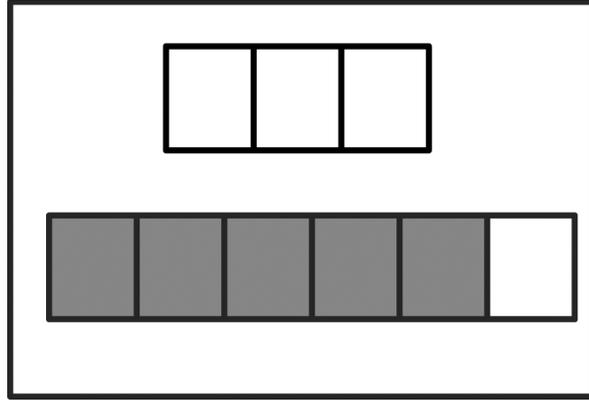
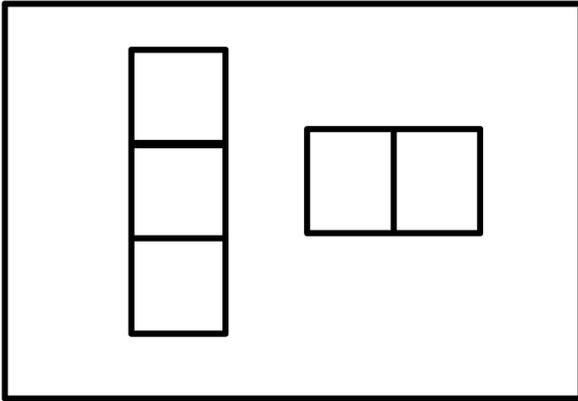
On the back of your paper, draw a 9-stick.
Draw a stick longer than your 9-stick.
Draw a stick shorter than your 9-stick.

Determine which linking cube stick is longer than or shorter than the other.

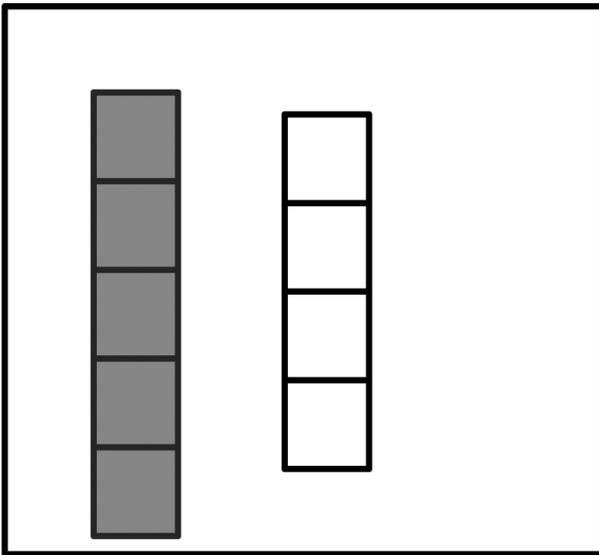
Name _____

Date _____

Circle the stick that is shorter than the other.



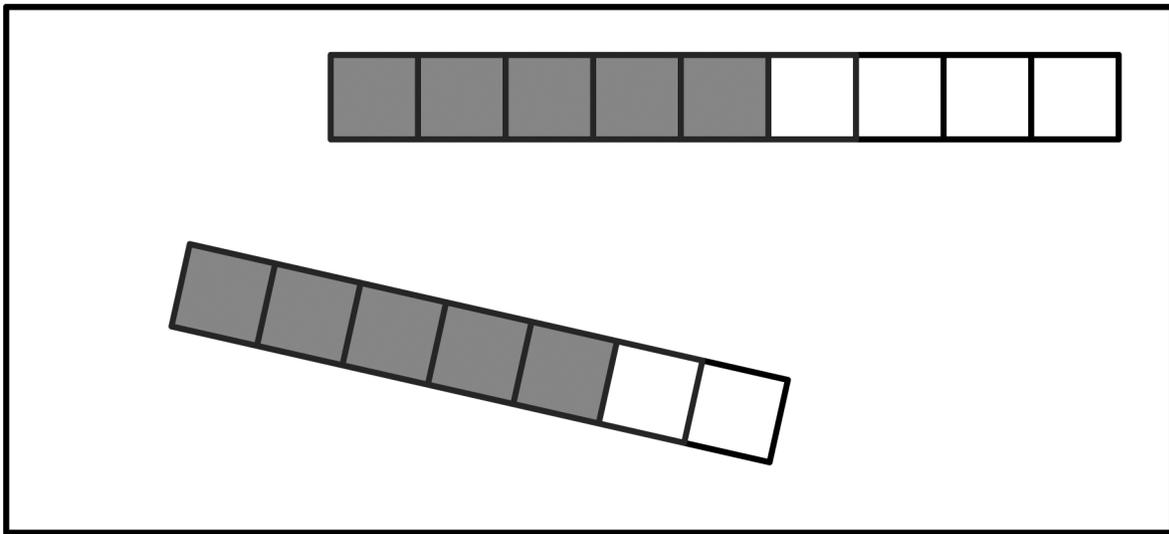
Circle the stick that is longer than the other.



My _____-stick is longer than my _____-stick.

My _____-stick is shorter than my _____-stick.

Circle the stick that is shorter than the other stick.



My _____ -stick is longer than my _____ -stick.

My _____ -stick is shorter than my _____ -stick.

On the back of your paper, draw a 6-stick.

Draw a stick longer than your 6-stick.

Draw a stick shorter than your 6-stick.

OR

On the back of your paper, draw a 9-stick.

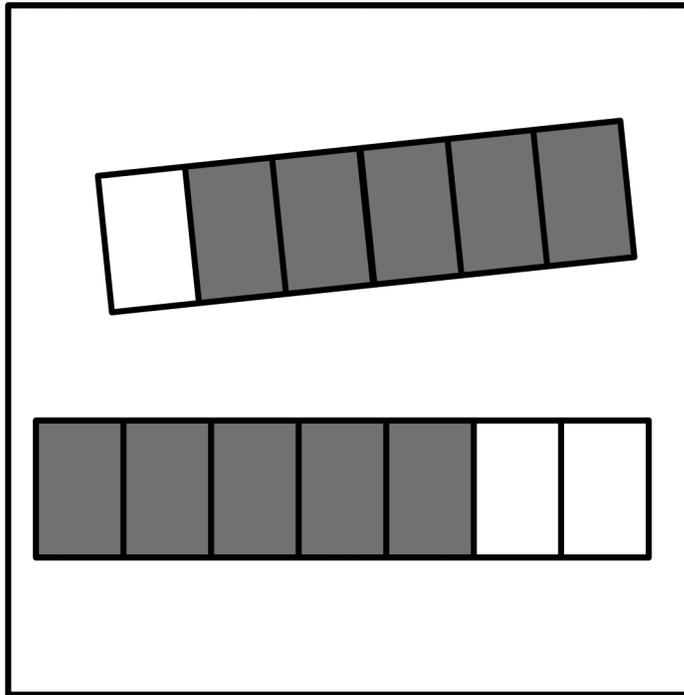
Draw a stick longer than your 9-stick.

Draw a stick shorter than your 9-stick.

Name _____

Date _____

Circle the stick that is shorter than the other.



My _____ -stick is shorter than my _____ -stick.

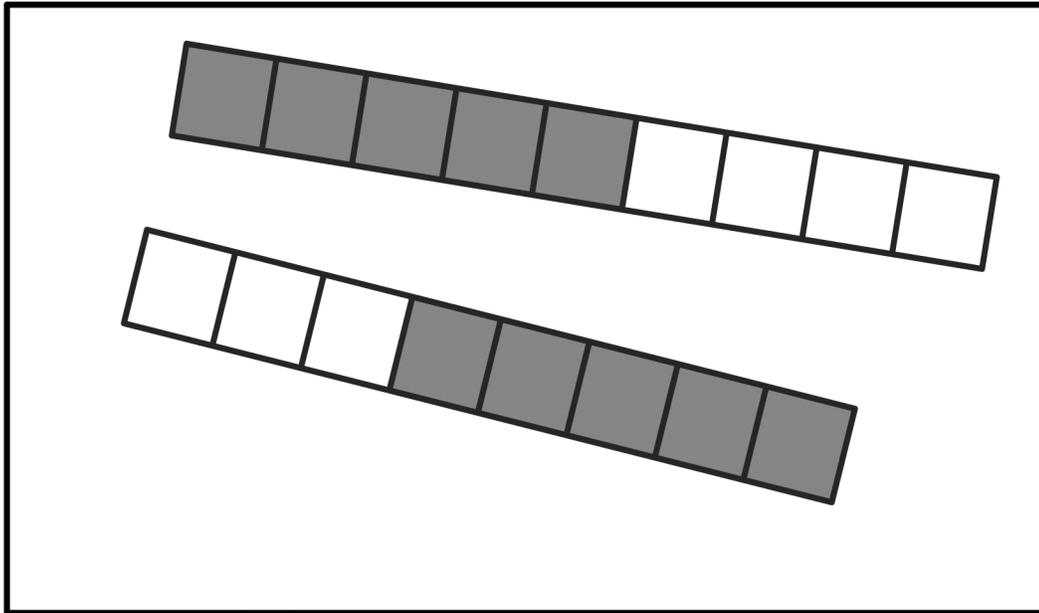
My _____ -stick is longer than my _____ -stick.

On the back of your paper, draw a 7-stick.

Draw a stick that is longer than the 7-stick.

Draw a stick that is shorter than the 7-stick.

Circle the stick that is longer than the other.



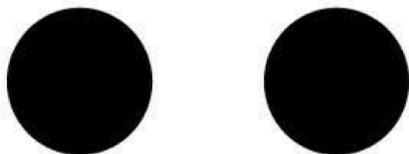
My _____ -stick is shorter than my _____ -stick.

My _____ -stick is longer than my _____ -stick.

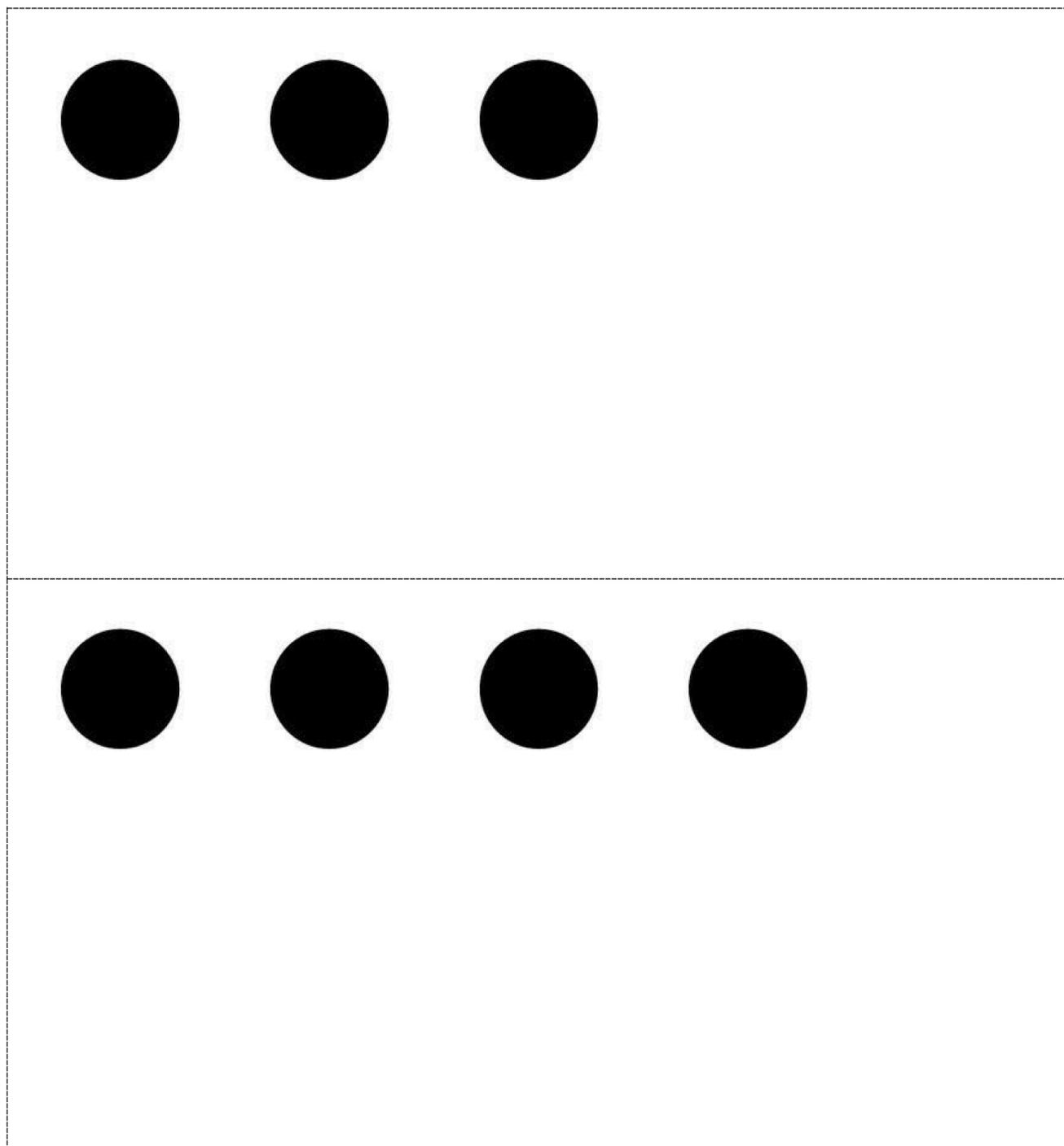
On the back of your paper, draw a stick that is between a 4- and a 6-stick.

Draw a stick that is longer than your new stick.

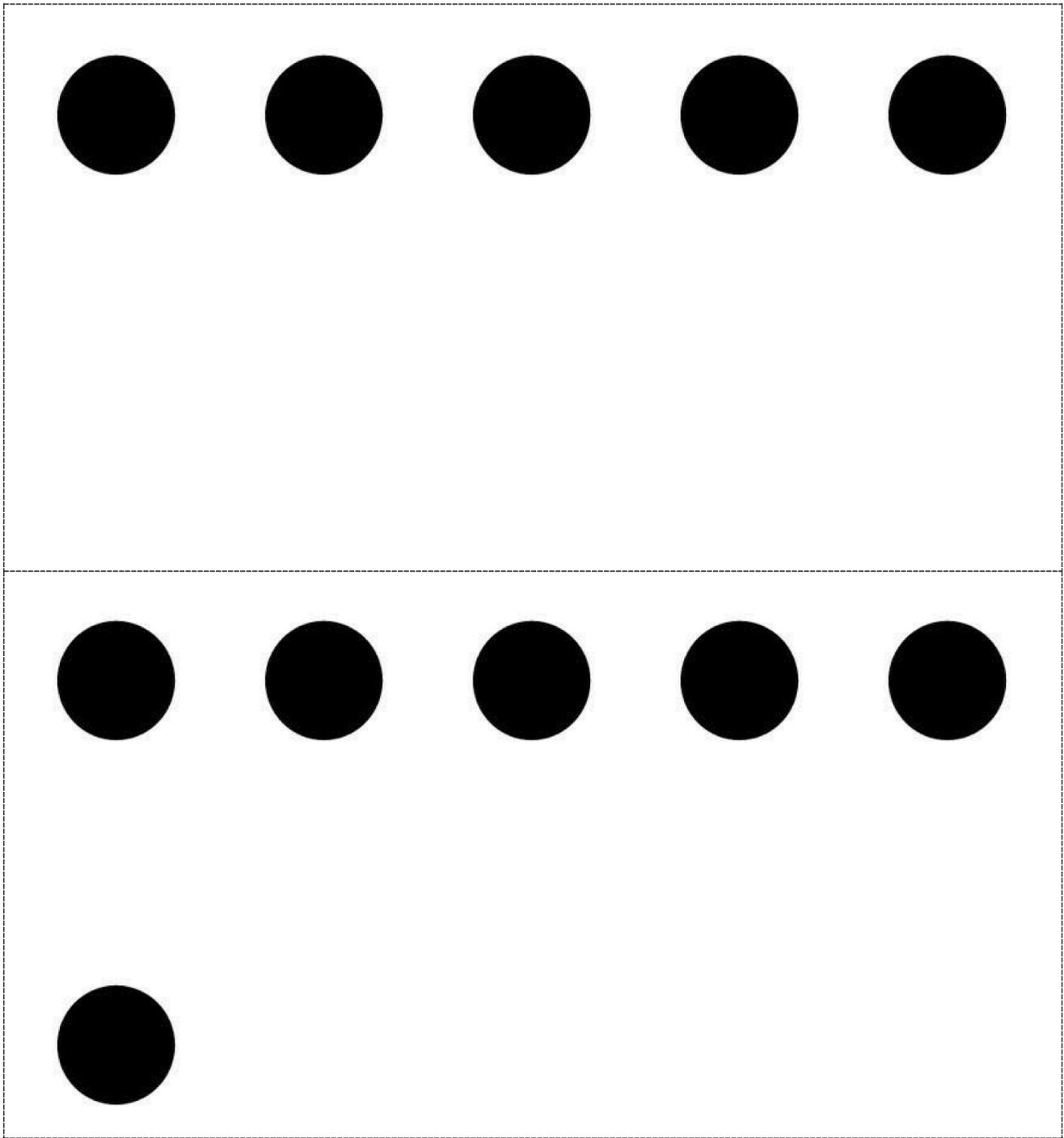
Draw a stick this is shorter than your new stick.



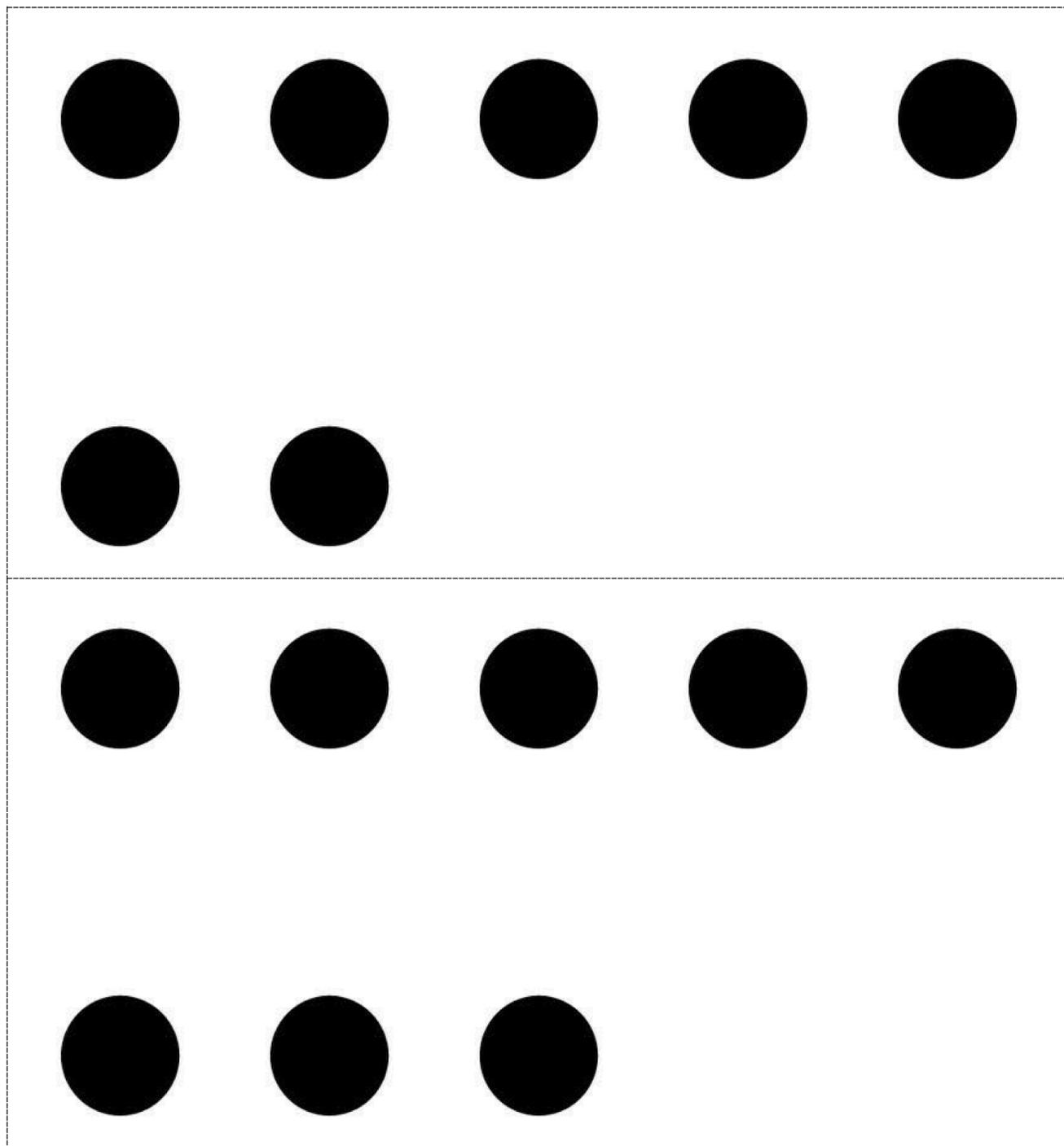
large 5-group cards (Copy on card stock and cut. Save a full set.)



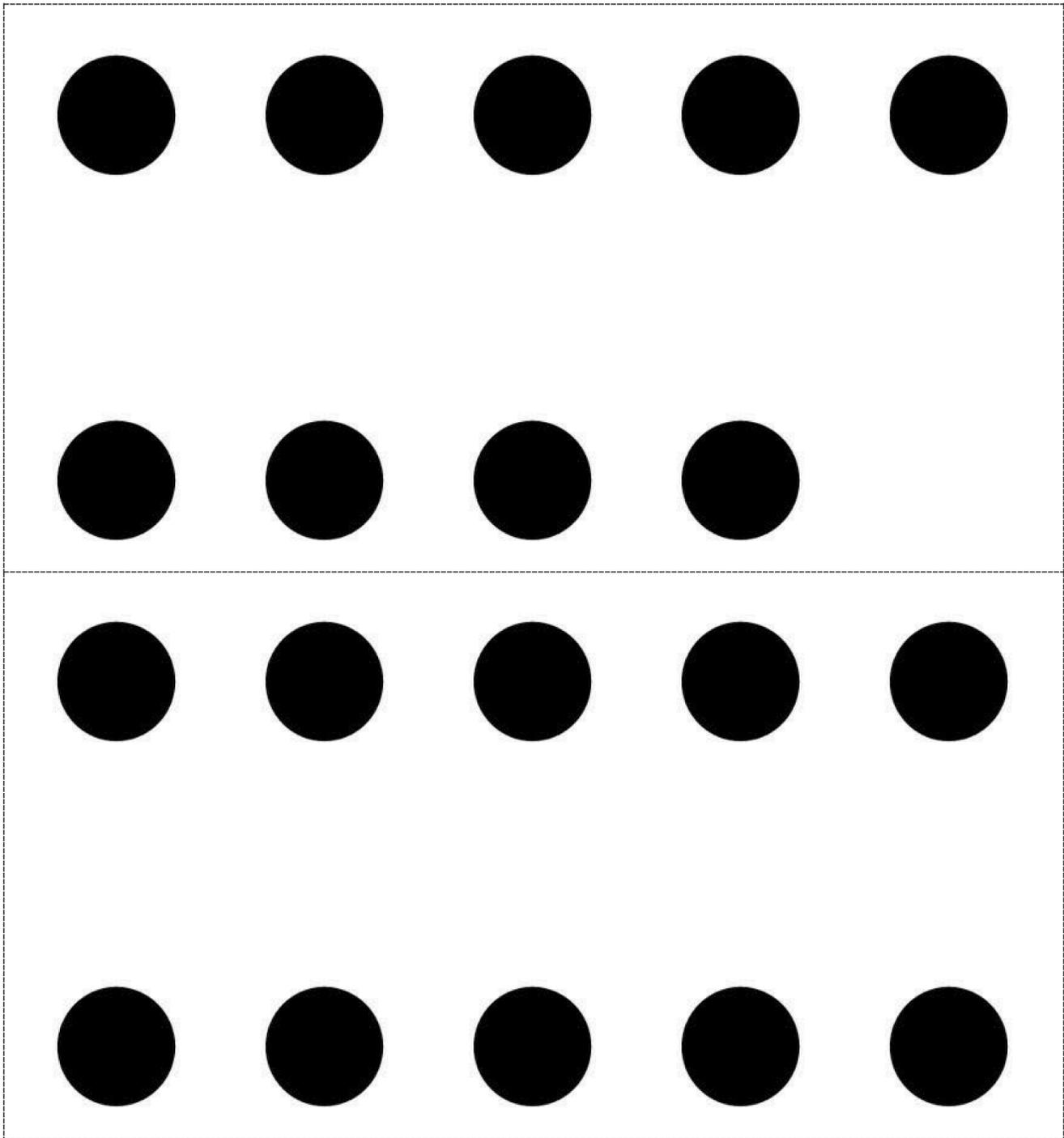
large 5-group cards (Copy on card stock and cut. Save a full set.)



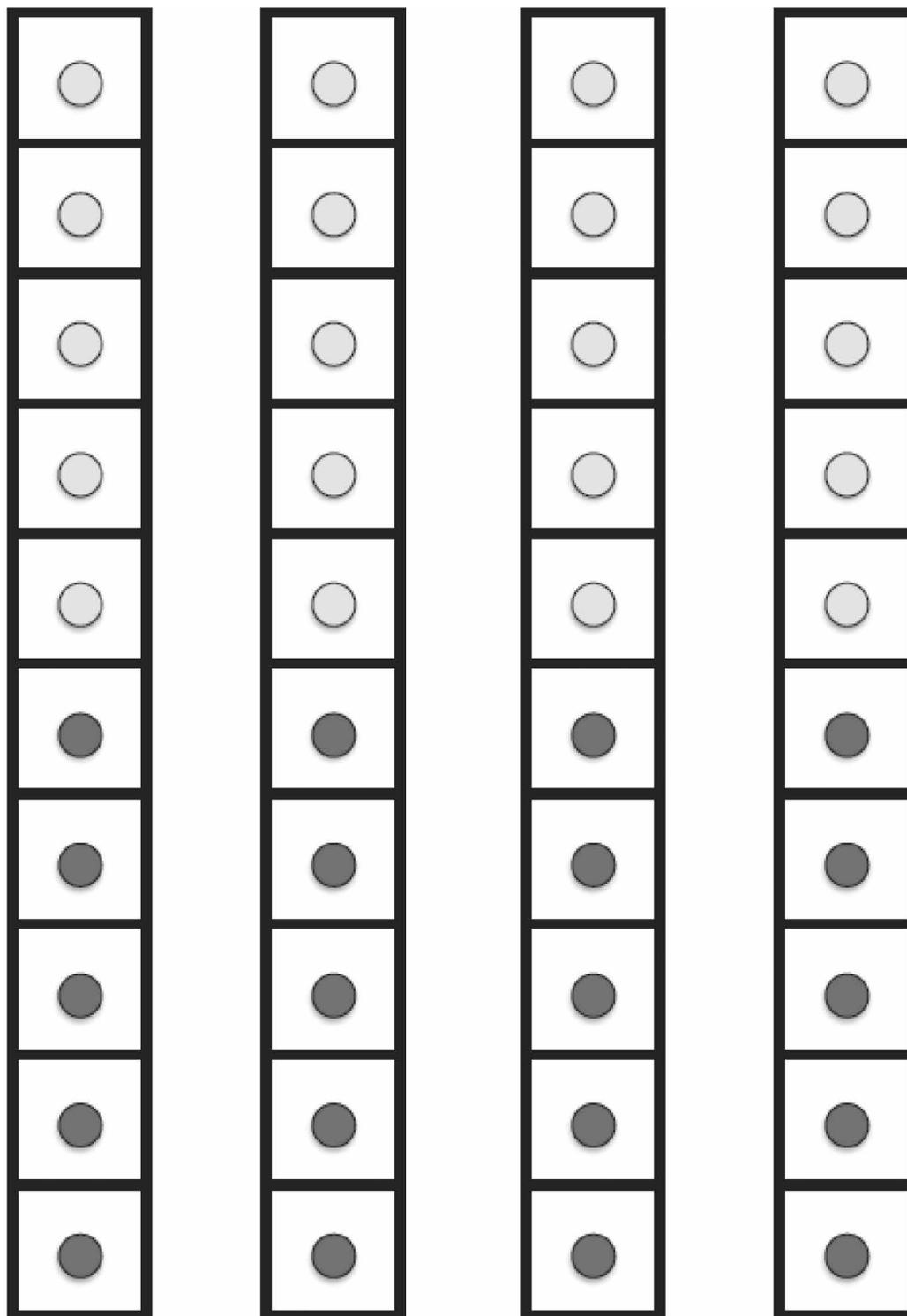
large 5-group cards (Copy on card stock and cut. Save a full set.)



large 5-group cards (Copy on card stock and cut. Save a full set.)



large 5-group cards (Copy on card stock and cut. Save a full set.)



dot path