

LESSON 3

Objective

Sort objects by length; use the terms *shortest* and *longest*.

Common Core State Standards

- **K.MD.1** Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
- **K.MD.2** Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*

Measurement and Data

Sorting by Length

Measuring brings together mathematical disciplines such as geometry and number sense. Comparison of objects helps build a foundation in measurement concepts. In this lesson, children will begin using *shortest* and *longest* to describe objects while sorting them by length.

Try It! Perform the Try It! activity on the next page.

Talk About It

Discuss the Try It! activity.

- Emphasize the importance of left-to-right order. Make sure children understand that in the activity, they always started from the left side regardless of the order in which they placed the trains.
- **Say:** *First we put the trains in order from shortest to longest. Ask: What would happen to the middle train if we changed the order from longest to shortest?*
- **Ask:** *How can you be sure which train is the shortest? The longest? (Look for children counting the number of Snap Cubes® or comparing by sight.)*
- **Say:** *Let's make a new train that is eight cubes long. Ask: Where would we put this train if we wanted to keep our trains in order from shortest to longest?*

Solve It

With children, reread the problem. Have children draw a picture that shows what Alison drew.

More Ideas

For other ways to teach about sorting objects by length—

- Give children more Snap Cubes to make trains of different sizes. Have them work with partners to sort the trains by length. Help them work on sorting more trains by first asking them to make three trains, then four, then five.
- Give children Link 'N' Learn® Links to create different-length chains and sort chains by length. Emphasize that children should lay the chains flat to measure their length.

Formative Assessment

Have children try the following problem.

Circle the pencil that is the longest.



Try It! 15 minutes | Pairs

Here is a problem demonstrating how to sort objects by length.

Alison drew a picture of three worms crawling on the ground. She showed the picture to her teacher. Her teacher said that the worms were in order from shortest to longest. How can you show the order of the worms in Alison's picture?

Introduce the problem. Then have children do the activity to solve the problem.

Divide the class into pairs. Pass out three trains of Snap Cubes to each pair. The three trains should be of different lengths.

Materials

- Snap Cubes® (3 trains of different lengths per pair)



1. Instruct children to count their trains. Demonstrate if necessary.



2. Ask children to stack their trains and line them up on the left-hand sides. A straightedge can be used to help align the trains.



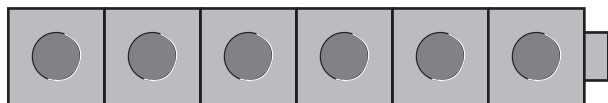
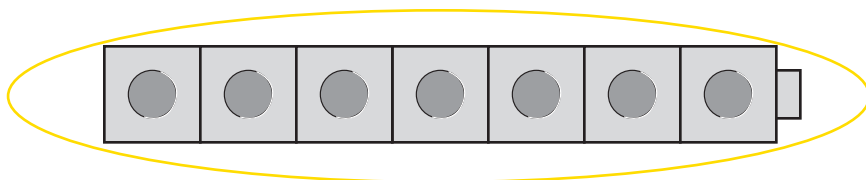
3. Now invite children to rearrange their trains from shortest to longest, with the shortest train on the top. Remind them to line up the edges of their trains correctly.

Look Out!

Watch out for the children who do not keep their trains aligned on the left ends. Model what happens when the trains are not lined up correctly to show children that the results will be skewed. Give these children a ruler or other straightedge to help them align their trains correctly. Also, make sure that children do not confuse *longest* with *tallest*. Remind children that *tallest* describes direction from the ground to the sky. Length is left to right or side to side.



1.



2.



Check children's work.

Directions

1. Use Snap Cubes®. Build the trains. Circle the longest train. Underline the shortest train. 2. Color the shorter crayon red. Color the longer crayon yellow.

Answer Key

Check children's work.

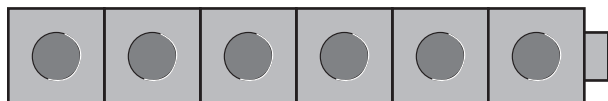
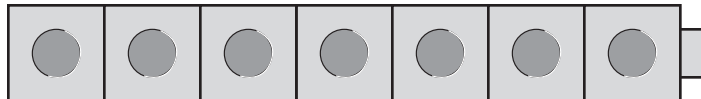
Challenge

Use Snap Cubes®. Build two trains with different lengths. Draw a picture of your trains. Color the longer train green. Color the shorter train blue.

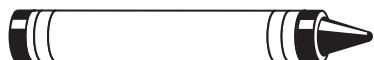
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1.



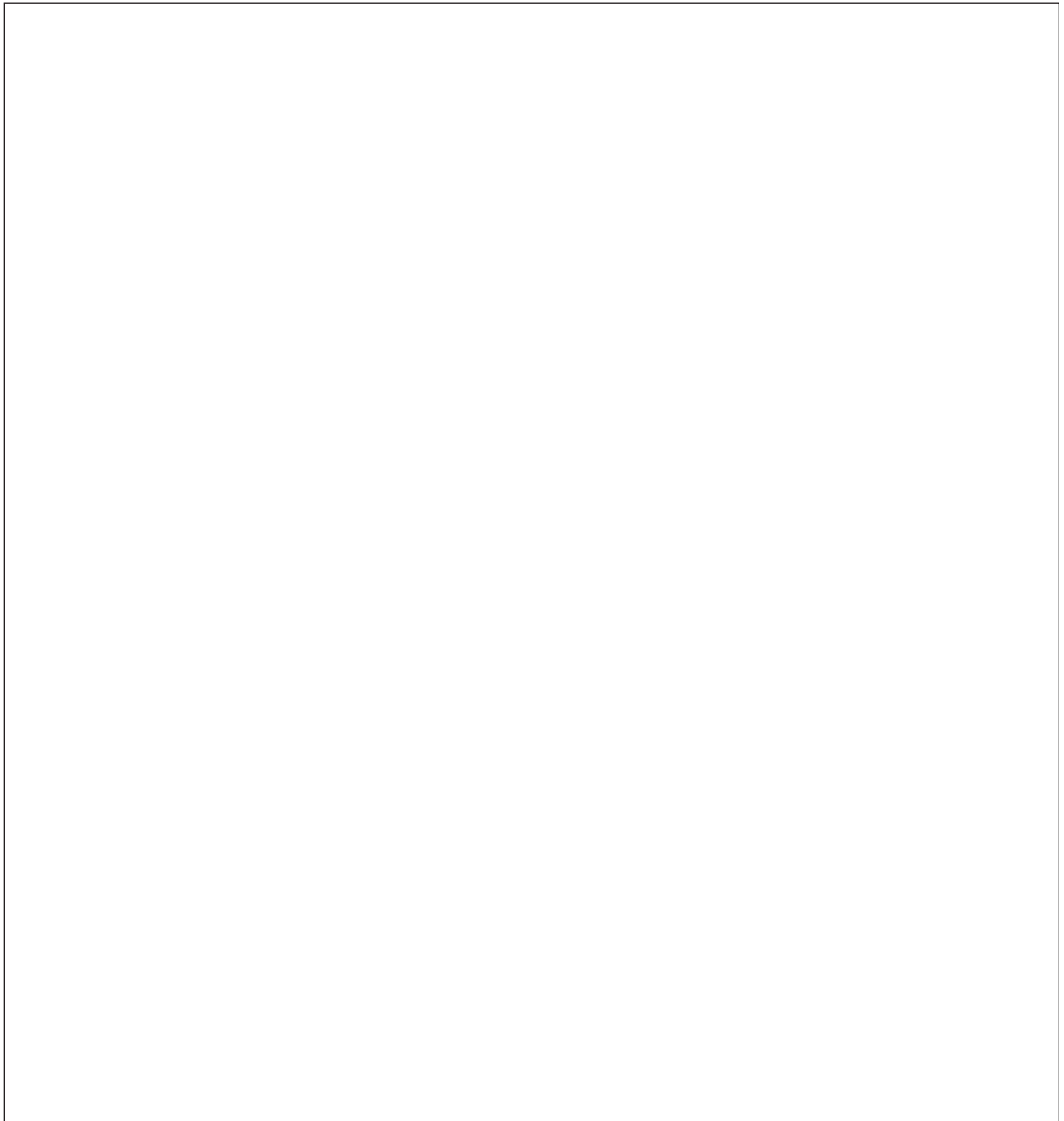
2.



Directions

1. Use Snap Cubes®. Build the trains. Circle the longest train. Underline the shortest train. 2. Color the shorter crayon red. Color the longer crayon yellow.

Name _____



Challenge

Use Snap Cubes®. Build two trains with different lengths. Draw a picture of your trains. Color the longer train green. Color the shorter train blue.

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