

## How Long Is It?

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<b>Strand:</b>	Measurement and Geometry
<b>Topic:</b>	Comparing two objects, using direct comparison, according to length (shorter, longer)
<b>Primary SOL:</b>	K.9 The student will compare two objects or events, using direct comparisons, according to one or more of the following attributes: length (longer, shorter), height (taller, shorter), weight (heavier, lighter), temperature (hotter, colder), volume (more, less), and time (longer, shorter).
<b>Related SOL:</b>	None

### Materials

- Children’s book about measuring length
- Eight–10 ribbons
- Container or basket to hold the ribbons
- Unsharpened pencil
- Pink eraser
- Pencil-top (cap) eraser
- “Longer or Shorter?” worksheet
- iPads (optional)

### Vocabulary

*compare, length, longer, shorter*

### Student/Teacher Actions: What should students be doing? What should teachers be doing?

1. Formally introduce the concept of measuring length by reading aloud a relevant piece of children’s literature. Explain that length is the distance between two points, or how far it is from one end of an object to the other end. Explain that objects can be placed next to other objects to determine which is longer and which is shorter.
2. Show students the container of precut ribbons, and tell students that we are going to be comparing the lengths of the ribbons. Pull two ribbons out of the container, but leave them bunched or curled up, one in each hand. Ask: *How could we compare these ribbons to see which one is longer?* Let students share their ideas of how to compare and then choose two students to come up and compare the ribbons. Remind students that because length is how far it is from one end to the other, we need to stretch out our ribbons so that we can see and compare the length. Ask: *Which ribbon is longer? Which ribbon is shorter? How do you know?* Repeat the process with additional pairs of ribbons as long as students stay engaged, allowing different students to come up to compare.
3. Hold up a new, unsharpened pencil and an unused pink eraser next to the pencil. Explain to students that the pencil is longer because it extends beyond the eraser. The eraser is considered to be shorter because it stops before the length of the pencil.

Display the “Longer or Shorter?” worksheet or draw a larger version on chart paper. Draw and label a picture of the pencil on the **Longer** side, and draw and label a picture of the pink eraser on the **Shorter** side.

4. Hold the pink eraser next to a pencil-top eraser. Ask students to identify which eraser is longer and which is shorter. Using the “Longer or Shorter?” worksheet or chart, draw and label a picture of the pink eraser on the **Longer** side, and draw and label a picture of the pencil-top eraser on the **Shorter** side. Point out that an item may be longer than one object but shorter than another. (The pink eraser was longer than the pencil-top eraser, but shorter than the pencil.)
5. Tell students that they will be comparing objects in the classroom to each other to figure out which is longer and which is shorter. Once they have decided which is longer and which is shorter, students should draw pictures of the objects, or write the names of the objects, on the correct side of their worksheets. Allow students to work alone, with a partner, or in small groups to complete this task.
6. If you wish to include more technology, give each pair/set of students an iPad. They can take pictures of their item pairs and verbally explain which is longer or shorter.
7. Bring students back together to discuss some of the items they compared. Ask children to describe how they compared and how they knew whether one item was longer or shorter than another. Have students show their pictures, if iPads were used.

### Assessment

- **Questions**
  - What did you think about in order to compare the two objects?”
  - Can you name an object that was longer than one thing but shorter than another?
- **Journal/writing prompts**
  - Draw a picture of something that is longer than your hand. Draw a picture of something that is shorter than your hand.
  - What are some things at home that are longer than a pencil? Draw a picture of them.
- **Other Assessments**
  - Group the students into small groups, and have each group make a train, using three linking cubes. Then, have each group make another train, using four cubes. Have each group identify the longer and shorter trains.
  - Download the photographs onto a FlipChart. Create a “Longer or Shorter?” worksheet on the chart and have students drag photographs to the appropriate side. (Photographs can be printed and sorted in lieu of using a FlipChart.)

### Extensions and Connections (for all students)

- Use the body to model or represent “long” by spreading arms wide and “short” by using fingers. For example, ask, “Show me what ‘long’ looks like,” or “Show me how long an elephant’s trunk is.” “Show me what ‘short’ looks like,” or “Show me how short a worm is.”

- Lead students in creating minibooks with patterned sentences following instruction in the concepts. The patterned sentences could be placed one per page and might read as follows: “The pencil is longer than the eraser.” “The bookshelf is shorter than the door.” “The bike is shorter than the bus.” Guide students in illustrating their minibooks to show shorter and longer.

### **Strategies for Differentiation**

- Using iPads to take photographs may help students who are not ready to label their pictures.
- Use voice apps for students to verbally express their comparisons.
- Before allowing students to compare classroom items, be sure your classroom is labeled for ELL students. They can copy the English words from your labels.
- Provide paired pictures of classroom items for students to find in the classroom and compare. These pictures can then be glued to the recording sheet.
- Provide sentence frames for student use: \_\_\_\_ is longer than \_\_\_\_\_. \_\_\_\_ is shorter than \_\_\_\_\_. I know because \_\_\_\_\_.

**The following pages are intended for classroom use for students as a visual aid to learning.**

Name: \_\_\_\_\_

### Longer or Shorter?

<u>Longer</u>	<u>Shorter</u>