

Heavier or Lighter?

Strand:	Measurement & Geometry
Topic:	Comparing two objects, using direct comparison, according to weight (heavier or lighter).
Primary SOL:	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).
Related SOL:	None

Materials

- Children’s book about weight
- One empty box
- One box filled with sand, sugar, etc.
- Baseball
- Beach ball
- T-Chart labeled “Heavier” and “Lighter”
- “Heavier or Lighter?” worksheet

Vocabulary

compare, heavier, lighter, weight

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

1. Ask: *Would you rather carry an elephant or a kitten? Why?* Students may respond that their arms would get tired holding an elephant, or a kitten would feel softer in their hands. Guide students to the understanding that an elephant is *heavier* than a kitten. It has more *weight*. Explain that weight is a measure of heaviness of an object.
2. Formally introduce the concept by reading a children’s book about weight. Ask: *What does it feel like to hold something heavy in your hands? Pretend I just threw a big, fat book for you to catch. Show me how your body might react.* Expect students to lower their hands and arms, as though holding something heavy. Ask: *What does it feel like to hold something light in your hands? Pretend I just threw a balloon for you to catch.* Expect students to mimic playing with a balloon. Maybe they will tap it into the air and watch it fall.
3. Display two boxes of about the same size. One should be empty, and the other should be filled with sand, sugar, or something with weight. Say, *I’m going to pass around my boxes. When you’re holding a box, be sure to use both hands. I do not want you to drop the box, because what’s inside may spill out or it may hurt you if it lands on you.* Pass around the boxes. Notice students’ comments when they hold each box. Point out what you may see: *I notice that Bobby’s hands moved a bit lower when he took the box from his neighbor. I see that Ruthie smiled when she got to this box; is that easier for you to*

hold? Once everyone has had a turn to hold the boxes, ask: *What did you notice about the boxes? What makes you think that?*

4. Ask: *Do you remember when we talked about holding an elephant or a kitten at the start of this lesson? Which animal is heavier? Which animal is lighter? Do you think a bigger item always weighs more than a smaller item?* This time, display a baseball and a beach ball. Once you have given your expectations, pass both balls around. Ask: *Which ball is bigger? Is it heavier than the smaller ball? Explain your thinking.* Guide students to understand that a larger size does not always mean a heavier weight.
5. Put students into groups of two or three. Ask students to compare the weight of two objects in the classroom. Review safety expectations; for example, trying to lift a table might not be the best idea, because someone can get hurt. Have students hold the items to confirm which feels heavier or lighter. Come back to the whole group and list these items on a T-Chart. Typically, students will categorize large objects as heavy and smaller objects as light, so remind them of the beach ball/baseball activity as necessary.
6. Pass out “Heavier or Lighter?” worksheet. Students can choose an item from the chart or something different to complete the sentences on the sheet. Allow students to illustrate their sentences.
7. Come back together as a whole group to share sentences. Add students and their items to the T-Chart, if time permits.

Assessment

- **Questions**
 - (Display two objects.) Which of these objects is heavier? How do you know?
 - Why is it important to know whether an object is heavier or lighter than something else?
- **Journal/writing prompts**
 - Draw a picture of something that is heavier than you. Draw a picture of something that is lighter than you.
 - Draw a picture of something that is heavier than a desk. Draw a picture of something that is lighter than a tissue box.
- **Other Assessments**
 - Distribute pictures of heavy and light items. Have students sort the pictures by placing the “heavy” pictures under a picture of an elephant and placing the “light” pictures under a picture of a balloon.

Extensions and Connections (for all students)

- Place two bins labeled “Heavier” and “Lighter” in the front of the room. Give students two items at a time and ask them to decide in which bin the items belong. Have the students explain their thinking.
- Give students three or more objects and have them put the objects in order from heaviest to lightest.

Strategies for Differentiation

- Preselect items for students to classify as heavier or lighter to make weight comparisons.
- Provide students with visual cards for vocabulary words.

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

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Name: _____

Heavier or Lighter?

I am lighter than a _____.

A _____ is heavier than me.

I am heavier than a _____.

A _____ is lighter than me.