

## Developmental Series Sample

2008 Edition

**Objective 4:** The student will demonstrate an understanding of the concepts and uses of measurement.

### Knowledge and Skills Statement

**(1.7) Measurement:** The student directly compares the attributes of length, area, weight/mass, capacity, and temperature. The student uses comparative language to solve problems and answer questions. The student selects and uses nonstandard units to describe length.

### Student Expectation

**(F)** The student is expected to compare and order two or more objects according to weight/mass (from heaviest to lightest).

## ACTIVITY

### Which Weighs More?

### Materials

Items of various weights, including beans, Unifix cubes, paper clips, marbles, rocks, rubber bands, sugar cubes, marshmallows, coins, textbooks, stapler, tissue box, coffee mug, paperweight, trash can  
Pictures of heavier items, e.g., car, ocean liner, television, horse, refrigerator, etc.  
Balance scale

### Procedure

Hold up a textbook and a tissue box, and ask students to identify which is heavier. Then ask students to identify which is lighter. Hold up only the textbook, and ask student volunteers to name objects in the classroom that are heavier than the textbook. Then hold up the stapler, and ask student volunteers to name objects in the classroom that are lighter than the stapler.

Next, show students a marshmallow, a rock, and the stapler. Ask students to identify which object is heaviest, and then ask them to identify which is lightest. Ask a student volunteer to come to the front of the room and order the three objects from heaviest to lightest. After (s)he has finished, ask another student volunteer to come to the front of the room and order the objects from lightest to heaviest.

Using different objects and/or pictures of objects, repeat the above procedure several times with different volunteers. Then repeat the procedure several more times using four different objects instead of three.

Next, hold up a bean and a marble, and ask students which they think is heavier. After students give their answers, place the bean in one tray of the balance scale and the marble in the other. Ask students which object the scale indicates is



heavier. (If students are unfamiliar with how a balance scale works, explain that the two trays will be at the same height if the objects in each tray weigh the same. If the object in one tray is heavier than the object in the other, the tray with the heavier object will be lower than the other tray.) Then ask students to identify which object the scale indicates is lighter.

Repeat the above procedure using a marshmallow and a sugar cube. Then repeat the procedure two more times, first with a paper clip and a marble and then with a paper clip and a quarter.

Next, place a bean in one tray of the balance and a marble in the other, explaining that a bean is lighter than a marble. Then ask students how many beans would weigh the same as one marble. Take guesses from students, and check students' guesses by adding beans to the scale until it is balanced.

Once the class has determined how many beans weigh the same as one marble, remove the beans from their tray, and place one paper clip in that tray. Follow the same procedure as was used with the beans and the marble with paper clips and the marble. Repeat the described procedure once more, this time asking students to determine how many rubber bands weigh the same as one Unifix cube.



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**Knowledge and Skills Statement**

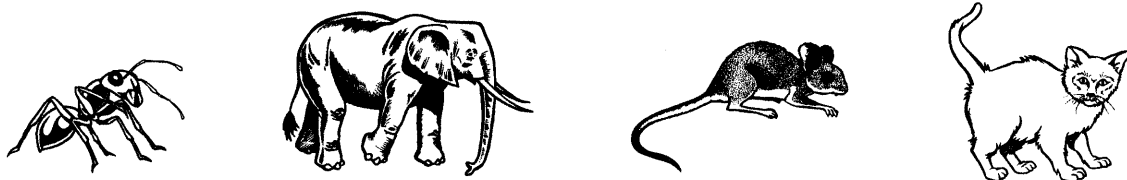
**(1.7) Measurement:** The student directly compares the attributes of length, area, weight/mass, capacity, and temperature. The student uses comparative language to solve problems and answer questions. The student selects and uses nonstandard units to describe length.

**Student Expectation**

**(F)** The student is expected to compare and order two or more objects according to weight/mass (from heaviest to lightest).

(Question 1 of 6)

**1** Look at the animals.



Which shows the animals in order from heaviest to lightest?

