

ELEMENTARY EXPLORATION: LIQUIDS

GOAL: To explore the concept that liquids have a definite volume, but not a definite shape. Liquids take the shape of their container.

MATERIALS:

- 1—100 ml beaker to measure volume in milliliters (ml)
- 1—100 ml graduated cylinder to measure volume in milliliters (ml)
- 1—triple beam balance to measure mass in grams (g)
- 1—pitcher of water

TEACHER PREPARATION:

1. Set up a center with the materials listed.
2. Schedule the students in groups of four to explore the center at five minute intervals.
3. Make one copy of this page for each student.

STUDENT PROCEDURE:

1. Weigh the empty beaker. Record the weight.

_____ g

2. Weigh the empty graduated cylinder. Record the weight.

_____ g

3. Pour exactly 100 ml of water into the beaker.

4. Weigh the beaker with the water. Record the weight. _____ g

5. Pour the water from the beaker into the graduated cylinder. Record the volume. _____ ml

6. Weigh the graduated cylinder with the water. Record the weight. _____ g

7. Calculate the weight of the water that was in the beaker by subtracting weight of the empty beaker from the weight of the beaker with the water.

Weight of water = Weight of beaker and water – Weight of empty beaker = _____ g

8. Calculate the weight of the water in the graduated cylinder by subtracting the weight of the empty graduated cylinder from the weight of the graduated cylinder with the water.

Weight of water = Weight of cylinder and water – Weight of empty cylinder = _____ g

9. Compare the answers from steps 7 & 8.

10. Write a conclusion about the volume and shape of liquids that you have learned from this experiment.

