

## **First Grade Lesson Plan Solids and Liquids**

### **First Grade Physical Sciences Standard**

1. Materials come in different forms (states), including solids, liquids, and gases. As a basis for understanding this concept:

- a. Students know solids, liquids, and gases have different properties.

**Time Needed:** Twenty minutes per state of matter covered. Each could be done on a different day or all three states of matter could be done in an hour in rotating groups if you have enough volunteers to run each group. Ask the first grade teacher in advance how much time is available.

**Lesson Topic:** Exploring Solids, Liquids and Gases

### **Objectives:**

- To experience the difference between solids, liquids and gases
- To explore how:
  - solids keep their shape and size,
  - liquids keep their size, but change shape and

### **Resources:**

1. Solids of an irregular shape – plastic spoons would do.
2. Legos or blocks.
3. Wax paper, toothpicks, colored water (put a drop of food coloring in a water bottle)
4. Various shaped containers, ½ cup of water
5. Plastic bags from grocery store
6. Bowls, water, dishwashing liquid, straws

### **Procedure:**

1. The three groups could be done one at a time on three different days (plan on about 20 minutes per group) or done in an hour in rotating groups. If doing all three groups on the same day, divide the class into three groups, one for solids, one for liquids and one for gases. You might have three volunteers to run the groups or two volunteers if the teacher takes a group.
2. Follow the instructions on the worksheets

## First Grade Science: Solids

Name \_\_\_\_\_

**A solid is a state of matter that has a shape of its own.**

1. Trace the solids you have on this paper. Trace them again.

Did any of the solids change shape? \_\_\_\_\_

Talk about why or why not.

**The amount of matter in a solid always stays the same.**

2. Choose a solid that you can hold in your hand. Look at it.

Put it behind your back. Take it out and look at it again.

Did it change size? \_\_\_\_\_

Talk about why or why not.

3. Build something with solids. If they were not solid, could you build something with them? \_\_\_\_\_

Talk about why or why not.

## First Grade Science: Liquids

Name \_\_\_\_\_

### **Liquids do not have a shape of their own.**

Lab #1: Use a dropper to put drops of colored water next to each other on wax paper.

Use a toothpick to change the position of the drops.

Talk about what happens.

Question #1: Do liquids have their own shape? How do you know?

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### **The amount of liquid stays the same.**

Lab #2: Everybody stand in a circle holding a different shape container.

Pour  $\frac{1}{2}$  cup of water into the first container. Talk about how much water is in the container. Also talk about the shape of the water right now. What is the shape?

Pour the same water from the first container into the second container. Talk about how much water is in the container. Also talk about the shape of the water right now. Has the shape changed? What is the shape now? What shape does water take?

Repeat this all the way around the circle.

Question #2: If you could pour the  $\frac{1}{2}$  cup of water from container to container without spilling any, would there still be a  $\frac{1}{2}$  cup of water when you get to the last container? Why?

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### **Review what you learned:**

A liquid is matter that has a definite size but does not have a definite shape.

**Review what you learned:**

A solid is matter that has a shape and size of its own.

A liquid is matter that has a size, but does not have a shape.

**Think of examples of solids and liquids.**