



# Solids, Liquids, and Gases Experiment

By: Michelle Bouslog

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Science  
Grades 3-5



## Introduction

What is the difference between a solid, liquid, and gas? In this fun experiment, students will watch a balloon inflate with air after an Alka-Seltzer tablet is added to a water bottle. In a short time, students will observe all 3 states of matter.

## Learning Objectives

[CCSS.ELA-Literacy.W.3.2.a](#); Introduce a topic and group related information together; include illustrations when useful to aiding comprehension

## Materials Needed

- Plastic water bottle, water, balloon, Alka-Seltzer tablets
- Writing paper and a pencil

## Procedure

1. Tell students that there are 3 states of matter: solids, liquids, and gases. Today, we are going to do a short experiment as a whole class where we can quickly see all 3 states of matter. We will use our observations to write about the experiment, using quick sketches to show the phases of matter that we observed.
2. Fill a water bottle just over halfway with water. Before dropping in the tablet, explain that the water is a liquid and the bottle and tablet are both solids. Then, break an Alka-Seltzer tablet in half and drop it into the water.
3. Ask students what they are noticing. Point out the bubbles that are forming and popping at the surface of the water. Explain that the reaction created with the bubbles is carbon dioxide, which is a gas.
4. Ask students what they think will happen if you drop even more tablets in the water? What about if you add a balloon to the top of the water bottle?
5. Demonstrate the experiment. The students should be observing the balloon filling with air.
6. After the experiment, have students take out their writing notebooks. Tell them that for their writing assignment today, they are going to draw three different steps to the experiment they observed. Each step should be labeled with an explanation of the state of matter that the water is in.

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## Evaluation

Checklist:

- |  |     |    |
|--|-----|----|
| • Student was engaged and focused during the experiment:                         | Yes | No |
| • Writing showed 3 different pictures:   | Yes | No |
| • Writing labeled with an explanation of the state of matter that was portrayed: | Yes | No |
| • Writing followed appropriate mechanics such as capitalization and punctuation: | Yes | No |