

**Project FOCUS  
Best Lessons  
KINDERGARTEN**

**Title of Lesson: Using a Solid and Liquid to make a Gas**

**Theme: Physical Science**

**Unit Number: 1      Unit Title: Physical Properties of Matter**

**Performance Standard(s) Covered (enter codes):**

SKP 1

**Enduring Standards (objectives of activity):**

**Habits of Mind**

- Asks questions
- Uses numbers to quantify
- Works in a group
- Uses tools to measure and view
- Looks at how parts of things are needed
- Describes and compares using physical attributes
- Observes using senses
- Draws and describes observations

**Content (key terms and topics covered):**

Understanding and describing the three types of matter: solids, liquids, and gases.

**Learning Activity (Description in Steps)**

**Abstract (limit 100 characters):** This lesson allows student's to see how a gas takes the shape and fills the volume of its container.

**Details:** I placed a pinch of baking soda in each student's hand and asked him or her to describe the substance. I then displayed a bottle of vinegar asked the students to describe the substance. I then had the students wave their arms in the air to "feel" the air. We then discussed and compared the characteristics of solids, liquids, and gases.

Next, fill 1/3 of a 20oz plastic bottle with vinegar. Then fill a balloon with one tablespoon of baking soda. Next, attach the balloon to the top of the 20oz plastic bottle that contains the vinegar. Then pick the balloon up to allow the baking soda (solid) to react with the vinegar (liquid). When the balloon expands, ask the students what form of matter is inside the balloon.

**Materials Needed (Type and Quantity):**

1 20oz clear plastic bottle

1 balloon

6.67oz of vinegar (1/3 of the 20oz bottle)

1tablespoon of baking soda (plus extra baking soda for the student to feel)

2 Funnels

**Notes and Tips (suggested changes, alternative methods, cautions):**

**This experiment worked very well in a small group setting. You can adjust the length of the experiment by either pre-measuring or allowing the students to measure out the vinegar and baking soda.**

**Sources/References:**

- 1)
- 2)
- 3)