

Project FOCUS
Best Lessons
SECOND GRADE

Title of Lesson: Alka Seltzer and Water Reaction: States of Matter

Theme: States of Matter

Unit Number: 1 **Unit Title:** Physical Science

Performance Standard(s) Covered (enter code):

S2CS4

S2P1a

S2CS5a

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):

Essential addressed: What are the three states of matter and how do you describe them?

How the three states of matter change under certain conditions

Key terms: solid, liquid, gas, dissolve, properties.

Learning Activity (description in steps)

Abstract (limit 100 characters): This activity shows discrete properties of the three states of matter and how they change.

Details: [Click here to enter text.](#)

The introduction of this activity asked the students what the three states of matter are. I asked them what were distinct properties of each state of matter after clearly identifying what each was. I then introduced to them the fact each state of matter can change under certain conditions beyond the distinct changes in state. I explained to them the procedure of the experiment and asked them to write in their journals the properties of each state of matter, that is, an alka seltzer pill, water, Ziploc bag etc.

For the actual experiment, I passed out a small Ziploc bag to each student and filled each bag up with water. After each student got a bag with water, I made sure to tell each student to hold the bag with two hands to make sure the bag didn't spill. I then gave each student an alka seltzer pill to put in the bag and then told him or her to close the bag. The students were able to see the gas and bubbles forming in the water and the bag. After the reaction ended, the students were supposed to write in their science journals what the properties were at the end of the experiment

and what happened to each individual state of matter. They were able to draw pictures of the reactions and how each state of matter looked.

Safety: Make sure the students do not eat the alka seltzer pills or drink the water after the alka seltzer pill was put in the bag.

Materials Needed (type and quantity): Alka seltzer packets, small Ziploc bags, water

Notes and Tips (general changes, alternative methods, cautions): Some changes include having the students not close the Ziploc bag after putting the pill in the bag, because pressure began to build up and caused the bag to pop open. Although the water did not come out, it prohibited them from really understanding the experiment. When the bag was opened the students were able to put the bag close to their face and almost feel the gas being produced above the water. Some tips include letting each student do the experiment themselves so each can see the reaction very closely.

Sources/References:

1) Best Lesson Template – ELC Project FOCUS