

**Project FOCUS
Best Lessons
FIFTH GRADE**

Title of Lesson: Chemical Reaction in a Bag

Theme: Physical Science

Unit Number: **Unit Title:** Matter/ Chemical and Physical Changes

Performance Standard(s) Covered (enter codes):

S5P2

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):

Learning Activity (Description in Steps)

Abstract (limit 100 characters): Using chemicals, such as food coloring, to induce a chemical change.

Details: (Prior to experiment, the students should know the basic difference between a physical and a chemical change, as well as know how to identify the evidence to show that this change is chemical rather than physical)

Before class, prepare a tray for each group with a Ziploc bag and a medicine measuring cup -At top of worksheet, have the students record their observations about the physical properties of each chemical.

-Measure 1 teaspoon of baking soda and 2 teaspoons of calcium chloride; boxes of baking soda come with teaspoons inside, so these can be used for measuring the baking soda and calcium chloride. Make sure the students rinse these before switching chemicals. Have the students put both chemicals in the Ziploc bag.

-Measure 10 mL of phenol red sol'n. Medicine measuring cups (like the ones that come with cough syrup) have a 10-mL mark and are good to use. Put the measuring cup containing the phenol red into the Ziploc bag and seal it tightly. it is very important that the bags are completely sealed, so check each group's bag to make sure that it is shut. it is best to lay the bag flat on the tray, and set the measuring cup in the bag

-Pick up the Ziploc bag from the tray so that it is upright, and watch what happens!

Summarize by asking them what evidence they observed that indicated a chemical change; answers might include heat, bubbling, fizzing, and color change.

Materials Needed (Type and Quantity):

Quart-size Ziploc bags, 2-tablespoon sized medicine measuring cups, Calcium Chloride, Phenol Red Solution, Sodium Carbonate (baking soda).

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

Takes about 1 hour to do the experiment and record the results.

Sources/References:

- 1)
- 2)
- 3)