



Introduction to Science and Chemistry in a Ziploc Bag



KEY WORDS

chemistry

endothermic

exothermic

inference

bicarbonate

ion

hydrogen

carbon dioxide

calcium carbonate

observation

I. Methods used in Science

Name several different fields of science?

Why is there not one universal method for conducting science?



II. Making Observations

Spring Peeper (*Pseudacris crucifer* (*Hyla crucifer*))



Initial observations about the photo above:

After reading more information about the Spring Peeper Frog, look at it again and make additional observations:



III. Chemistry in a Ziploc Bag Experiment Procedure:

1. You will work in pairs. One student should hold the bag upright over the plate while the other student adds the 15 mL of phenol red solution to the bag.
2. Write down everything you observe after the phenol red is added to the ziploc bag containing baking soda.

3. Seal the bag and keep it upright.
4. Feel the bag, and record observations.
5. The teacher adds a spoonful of anhydrous calcium chloride.
6. **Seal the bag as quickly as possible after the calcium chloride is added.**
7. Keep the bag upright and sealed while gently shaking the bag back and forth to mix the contents.
8. Observe what happens after the calcium chloride was added – color changes, whether the bag is cold or warm (or both since there can be localized heating), foaming, change in bag size...

The reaction takes about three to five minutes. During this time the student not holding the bag should write down any observations that the pair has made

9. Write down everything you observe after the calcium chloride is added to the Ziploc bag.
