

Lab - Observing A Chemical Reaction

NOV 3

Purpose:

To make qualitative & some quantitative observations of a chemical reactions and the surrounding conditions over a period of five days; to gain experience in the scientific method; to learn about some types of reactions.

Background:

In this experiment, simple procedures and materials are put together to make a remarkably complex and dynamic series of reactions. After careful observation of the reactions and conditions over a 5-day period, you must also offer explanations for the changes observed.

It is important to follow the safety guidelines for this experiment.

Materials:

1 test tube

1 small piece of filter paper

1 square of parafilm

1 pipet

2.5 grams of copper sulfate (blue)

5.0 grams of sodium chloride (white)

1 iron nail cleaned with steel wool

Procedure:

1. SET-UP & START - DAY 1 - Prep - (do in this order)

- Place the copper sulfate in the test tube.
- Cut 2 filter paper circles to fit the inner tube's diameter and place 1 circle on top of the copper sulfate.
- Slowly, with minimal disturbance, add water by pipet to cover the copper sulfate crystals and wet the circle.
- Carefully pour the sodium chloride on top of the filter paper circle. ↑ SOAK!
- Place the second filter circle over the sodium chloride.
- Carefully add water to cover the salt and then add additional water so that there will be about 2 inches of water above the filter paper.
- Place the iron nail, flat head down, in the water on top of the filter paper circle. Make sure that it is completely covered by water.
- Cover the test tube with the parafilm and set the test tube upright in one of the designated slots in the test tube holders on the shelf in the classroom. Record the slot number that contains your test tube. ← Label w/ sticker + your names
- Set up your lab notebook for this lab as instructed on the Lab Portfolio sheet. What type of data will you be taking, and over what time period? How often per day? Do you think that drawing pictures will help? Set up your own, logical data table which has room for both qualitative and quantitative data. Start taking data on day 1, and be sure to write down the time.

2. LAB REPORT - (after day 5)

- Make a daily recording of all layers and any changes that occur, Monday through Friday.
- After the 5-day period, starting from the bottom up, try to explain the observed changes. Using a chemical dictionary or your text book, describe each of the chemicals that were involved in the reaction.

3. DISPOSAL - (on day 6)

- Dump your chemicals in the container provided by the teacher, trapping the iron nail with forceps so that it doesn't follow the solution into the dumping container. Place the iron nail in a separate container. Rinse out the test tube and clean it with a brush, returning it to the test tube holder where it was during the experiment.