

Physical Science
Unit: Chemical Reactions**Lab Report: Endothermic and Exothermic Reactions****Purpose of this Lab**

The purpose of this lab is to help you visualize endothermic and exothermic reactions. You will carry out two chemical reactions and use your knowledge of chemical reactions to decide which one is endothermic and which one is exothermic.

In the first reaction, you will mix Epsom salts (magnesium sulfate) with water. In the second reaction, you will mix yeast with hydrogen peroxide.

Hypothesis

Record your best “educated guess” about what will happen in the experiment. Give your reasons and outline any assumptions that lead you to this hypothesis.

Materials

You will need the following materials.

Thermometer

room temperature water

1 tablespoon of Epsom salts (can be found at a drug store or pharmacy)

2 medium-sized glass jars or beakers (needs to be glass)

a spoon

1 tablespoon of quick rising dry yeast

¼ cup of 3% hydrogen peroxide (the kind you can buy at the store)

Experimental Design

List the procedures you used to complete this lab in order.

To complete the first reaction, carry out the following steps:

1. Fill one glass jar with room temperature water.
2. Place your hand on the outside of the jar and record how warm or cool the jar feels.
3. Place the thermometer in the water and record the actual temperature of the water.
4. Remove the thermometer and stir in the Epsom salts.
5. Feel the jar again and record how warm or cool it feels.
6. Again, place the thermometer in the jar and record the actual temperature of the water.
7. Remove the thermometer and rinse it off. Save it for use later.

To complete the second reaction, carry out the following steps:

1. Place the thermometer in your other jar.
2. Stir the hydrogen peroxide and the yeast together in the jar.
3. Record the temperature of the peroxide and yeast mixture.
4. Wait 3 minutes and record the temperature again.
5. Feel the bottom of the jar and record how warm or cool it feels.
6. Safely discard your used materials and clean up after yourself.

Observations/Data

Record the observations and/or data you collected here.

Analysis

Analyze the data you collected in the lab.

Conclusion

After conducting the experiment, how would you now explain the problem(s) or answer the question(s) raised when you described the purpose of the lab. Be sure to base your answer on the data you collected. Consider whether your conclusion is the only explanation for the data you collected, or if there could be alternate explanations. Which reaction was endothermic and which one was exothermic? How do you know?

Discussion Summary

Please **summarize** how you responded to the discussion and the comments made to your post here.