Names \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_ Date \_\_\_\_\_\_\_

**Introduction**

Whenever a chemical change occurs, there are often changes in the physical properties of the substance that undergoes the change. Think about how different a fried egg looks compared to a raw egg. In this activity you are going to test and observe how a physical property change occurs as a result of a chemical change.

□ **Chemical Change:** The primary way that matter changes from one form to another by

 recombining atoms into new substances. Evidence of a chemical

 change includes color change, heat given off or absorbed, light

 given off, gas given off, change in odor.

**Materials**

* 250 ml beaker
* Thermometer
* Scale
* 5g of quick rising dry yeast
* 50 mL of 3% hydrogen peroxide
* Spoon
* Stop watch

**Procedures**

1. Using the thermometer, measure the temperature of our classroom. Record the room temperature on the data table.
2. Pour 50 mL of 3% hydrogen peroxide into the beaker.
3. Place the thermometer in the beaker.
4. Make sure that the temperature shown on the thermometer is stable and then record the temperature of the hydrogen peroxide.
5. Remove the thermometer from the beaker.
6. Use the scale to measure 5 grams of quick dry yeast.
7. Pour the yeast into the hydrogen peroxide and quickly stir the mixture with the spoon.
8. Measure and record the initial temperature of the mixture. Leave the thermometer in the beaker.
9. Record the temperature **every minute** for the next five minutes. Stir it after every reading.
10. When you take each temperature measurement, make sure to feel the bottom half of the beaker.
11. Answer the analysis questions and clean up supplies.

## Data Table

|  |  |
| --- | --- |
| **Measurement** | **Temperature (oC)** |
| **Room Temperature** |  |
| **Temperature of 3% Hydrogen Peroxide** |  |
| **Temperature of Mixture Initial** |  |
| **Temperature of Mixture 1 Minute** |  |
| **Temperature of Mixture 2 Minutes** |  |
| **Temperature of Mixture 3 Minutes** |  |
| **Temperature of Mixture 4 Minutes** |  |
| **Temperature of Mixture 5 Minutes** |  |

## Analysis Questions

1. What were the independent, dependent, and control in this experiment?

Independent:

Dependent:

Controls:

1. What physical properties went through a physical change in this activity? Explain what you observed.
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1. What chemical properties went through chemical change in this activity? Explain what you observed.

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1. Based on your data, in what way did the temperature change?

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1. When you picked up the beaker what did you observe? What was happening with the particles inside the beaker for this to occur? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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6. Was this an endothermic or exothermic chemical reaction? Explain why.

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7. Based on your knowledge of a chemical change, give three examples of a chemical change.