

**Problem**: Does the temperature of the water affect how fast the colored coating dissolves from an M&M?

**Materials**: Each group will have…

|  |  |  |  |
| --- | --- | --- | --- |
| 3 same color M&M’s | Hot Water | Cold Water | Room Temp Water |
| 3 Plastic or foam dessert plates | Crayons/colored pencils | Paper towels |  |

**Procedure:**

1. Identify the independent variable and dependent variable.
   * Independent Variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Dependent Variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Based off of the problem, write a hypothesis.
   * **HYPOTHESIS:** If\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

then\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Retrieve 3 cups of water from the teacher (cold, room temp, hot).
2. Pour cold, room-temperature, and hot water into their labeled plates so that the water covers the bottom of the entire plate.
3. Place a same colored M&M in the center of each plate.
4. Observe the plate/M&M for 1 minute.
5. As you observe the plate/M&M, record your observations in the chart below. Include a description of what is occurring along with drawings.

**DATA TABLE**

|  |  |  |
| --- | --- | --- |
| **Cold Water** | **Room Temp. Water** | **Hot Water** |
| **OBSERVATIONS:** | **OBSERVATIONS:** | **OBSERVATIONS:** |

1. Write a 5-7 sentence conclusion. In your conclusion, be sure to
   * Discuss your hypothesis and data.
   * Did your results support your hypothesis?
   * Why do you think your data turned out as it did?
   * Based off of your data, what can you infer about the relationship between temperature and dissolving?