Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Condensation Lab**

**Objective:** Students will explain how condensation forms by observing the process using a beaker, water, ice cubes, watch, and a thermometer.

**Procedure:**

1. Fill a beaker about 2/3 full of water. Record the temperature of the water.
2. Add ice cubes until the beaker is full. Record the temperature of the water at 10 second intervals.
3. Observe the outside of the beaker. Note the time and the temperature at which changes occur on the outside of the glass.

|  |  |
| --- | --- |
| **Time (sec)** | **Temperature(Degrees C)** |
| 0 |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

**Data:**

**Analysis:**

1. The independent variable in this experiment is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. The dependent variable in this experiment is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Two constants in this experiment were \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

4. Was there a control in this experiment? \_\_\_\_\_\_\_\_\_\_\_\_\_If so, what was it? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

5. At what temperature did condensation occur? \_\_\_\_\_\_\_\_\_At what time did condensation occur? \_\_\_\_\_\_\_\_\_\_

6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ occurs when the amount of water vapor in a volume of air reaches the maximum amount

7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the temperature to which air must be cooled at constant pressure to reach saturation.

8.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the process by which a cooling gas changes to a liquid

**Conclusion (use complete sentences)**

10. Describe the process by which condensation forms on the outside of the beaker. Use the terms identified in Analysis 6, 7, 8 in your description. Be specific.

11. Apply what you have learned in this activity to explain the formation of clouds in the atmosphere. Be specific.

12. Explain why dew sometimes forms on grass in the early morning. Be specific.