Sci 8 Factors Affecting Activity of Yeast Name:

Partners:

**Introduction:** Yeast is a unicellular, microscopic eukaryotic fungi commonly used in the kitchen to make dough rise. Yeast makes the dough expand. How does this happen? Yeast is activated when placed in warm water with sugar. The yeast beginning to break down sugar, also known as **sucrose,** through a process called **fermentation**. A waste product of the fermentation is carbon dioxide gas. The gas can be seen as bubbles or foam forming on the surface.

**Question:** How does the temperature of water affect activity of yeast fermentation?

**Hypothesis:** If warmer temperature of water is used with the yeast, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Independent Variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dependent Variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Control Variables: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Materials:** yeast, water, sugar, measuring spoon, thermometer, beaker, ruler, glass stir rod

**Procedure:**

1. Obtain 3 test tubes and 3 flasks. Label flask 1- **Cold**, 2-**Warm**, and 3- **HOT.**
2. Add a spoonful of yeast to each test tube.
3. Add two spoonfuls of sugar to each test tube.
4. Add 4cm of corresponding temperatures of water to each test tube.
5. Stir each one to mix with glass stir rod.
6. Add 250ml water of corresponding temperatures to each flask.
7. Place each test tube of yeast mixture into corresponding flask.
8. After 10 – 20 min observe measure the height of the foam and record observations below.

**Observations:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | 1-Cold | 2-Warm | 3-Hot |
| Height of foam after 10 min |  |  |  |

**Analysis:**

1. How did you know the yeast was active?
2. What is the name of the process yeast uses to break down sugars?
3. Which water temperature indicated the most activity from the yeast?
4. Explain your results.
5. Why did we need to wait a few minutes to measure the foam?
6. Why was it necessary to keep the amounts of yeast and sugar the same throughout the three tubes?
7. What other factors might affect the rate at which yeast ferments?
8. Write a few lines suggesting how you would test this new variable. Include measurements.
9. Write a conclusion summarizing what you learned from this experiment. Please use complete sentences.