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

Period\_\_\_\_\_\_\_\_\_\_\_ Living Environment

**Lab #1: Is Yeast Alive?**

**Research Question:** How can we measure if yeast is alive?

**Hypothesis: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Materials:**

|  |  |
| --- | --- |
| • 100ml very warm water (105° F–115° F) | • 2 tablespoons sugar |
| • a rubber balloon | • a 16oz empty water bottle |
| • 2 tablespoons dry yeast |  |

**Procedure:**

**1.** Stretch out the balloon using your hands, and then lay it aside.

**2.** Add the yeast and the sugar to the cup of warm water and stir.

**3.** Once the yeast and sugar have dissolved, pour the mixture into the bottle.

**4.** Attach the balloon to the mouth of the bottle, and set both aside.

**5.** At each interval of time, record your observations in the chart below.

**Observations:** Part One

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table #** | **Baseline (Beginning)** | **2 minutes** | **5 minutes** | **10 minutes** |
| 1 | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2 | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3 | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4 | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5 | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | foam: \_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | foam: \_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | foam: \_\_\_\_\_\_\_\_\_\_\_Balloon circumference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**Review Questions:**

1. What is a baseline? How did the final result compare to the baseline in this experiment?

2. What can you conclude from this experiment about your hypothesis? Were you correct?

3. What are the things that you could change in conducting this experiment that might lead to different results?