Name Period Date

Unit	Handout	
1	7-P	*Lesson 1: Determining if Something is Alive Procedure*

Purpose:	To provide instructions on how to run three tests for handout 7.
Guiding Questions:	- How do scientist design and carry out a controlled experiment? - What evidence is needed to demonstrate something is alive?

Hot Bath Setup
1. Slowly turn on the hot water at your sink. Let it run for a few moments until warm/ hot water is available. 2. Fill the beaker with 150mL of warm/hot water. 3. Use your thermometer to check the temperature. It should be between 90-115°F.

Testing for Response
1. Before beginning, your hot bath must be ready. 2. Get 2 prepared test tubes from the front table (each has 1/4 tsp of dry yeast). 3. Measure 20mL of water and pour it into one test tube. This is your control. Label this test tube "A". 4. Measure 20mL of sugar water at the back table. 5. Bring the water back to your table into the other test tube. Label this test tube "B". 6. Gently stir (swirl) each test tube to mix the yeast with the water or substance. 7. Collect data on each one (e.g. take a picture, describe what you see). 8. Place both test tubes into the hot bath. 9. Wait several minutes. (Go on to the next test.) 10. Remove one test tube at a time and measure the height of the foam. This is measured from the top of the liquid to the top of the foam. Measure in centimeters (cm). Record your data on hand t7. 11. When you are done with the test tube, place it back in the hot bath.

Continue on to the next page for more tests!

Testing for Cells

1. Before beginning, you must have completed steps 1-8 of "testing for response." Also allow the yeast to sit for a minute or two in the hot bath before you continue.
2. Setup your microscope: 40X (red lens), low light setting, stage fully lowered.
3. Collect a small amount of yeast from test tube B with the dropper.
4. Place **one** drop on the glass slide. Cover slips are available on the blue tray on Mr. Ower's front table.
5. Observe the yeast at 40X and then move to 100X (yellow lens)*.
6. Record observations of what you see (e.g. pictures, written descriptions, etc.).
7. Repeat steps 3-7 using a sample from test tube A. Do you notice any differences?
8. Shut down the microscope: return to 40X (red lens), fully lower the stage, remove the slide, turn off the microscope, unplug and wrap the cord, and put the cover on the microscope.
9. Clean the slide: throw away the cover slip, rinse the slide with warm water, dry the slide, and return it to the blue tray in your kit.

* If you would like to use high power (400X, blue lens), please raise your hand and wait for permission.

Testing for Energy Use/Obtainment and Waste Production

1. Before beginning, you must have completed all steps of "testing for response."
2. Ask Mr. Ower to add the bromoythmol blue to your test tubes.
3. Record the results as you observe what happens.

Clean Up

1. You must have completed all other tests (or be told you're out of time) before beginning clean up.
2. Remove the test tubes from the hot bath.
3. Gently rinse each in your sink.
4. Place the rinsed test tubes in the plastic bin on Mr. Ower's front table.
5. Empty the beaker and place it back into your bin.
6. Dry your table and organize the materials.