

Name: _____

Date: _____

Period: _____

Cellular Respiration Demo

Directions: Read and annotate the paragraph below. Then answer the questions below using the given information.

Since carbon dioxide is one of the products of cellular respiration, the rate at which an organism completes cellular respiration can be measured based on how much carbon dioxide is produced. A simple way to determine the amount of carbon dioxide that is produced is by using the indicator, bromothymol blue, or BTB for short. BTB is normally a deep blue color in the presence of oxygen. However, when there is a carbon dioxide present, BTB turn fro blue to green and then yellow-green. Today we will use BTB to determine how exercise affects cellular respiration.

1. Write out a testable question for this demo using the paragraph above.

2. What is the name of the indicator solution being used and what gas is it testing for?

3. How will you know if the gas is present?

Procedure:

1. Determine which partner will be the test subject. Whoever it is has to be the same person for both trials.
2. Time how long it takes the test subject to blow into a straw NORMALLY until the BTB turns a bright green color. Record this data in the table below.
3. Have the test subject exercise by doing jumping jacks as fast as he/she can for 30 seconds.
4. Time how long it takes the test subject to blow into a straw normally until the BTB turns a bright green color (the same color as they had in step two). Record this data in the table below.

	Color Change Time (sec)
At Rest	
After Exercise	

Use the data table and introduction paragraph to answer the following questions.

1. Was there a difference in color change time? Explain

2. Why do you think there is a difference in color change times at rest compared to after exercise?

