

**LAB REPORT WORKSHEET****1. TITLE**

- a. Create a concise title that thoroughly describes the experiment that was done in lab today.

Studying Anaerobic and Aerobic Respiration with Yeast, Smooth, and Stripes

**2. INTRODUCTION**

- a. Explain how the processes of anaerobic and aerobic respiration is similar.

Anaerobic and aerobic respiration both produce CO<sub>2</sub> as products, but aerobic respiration requires oxygen to do it. Also, both anaerobic and aerobic respiration goes through the process of glycolysis, which takes place in the cytoplasm.

- b. Why is anaerobic respiration less efficient in comparison to aerobic respiration?

Anaerobic respiration "takes place in the first portion of the cytoplasm..." while "...the bulk of the energy yield of aerobic respiration takes place in the mitochondria." Anaerobic respiration gives much less energy and is therefore less efficient because it "releases a lot of energy in the ethanol or lactate molecules that the cell cannot use and must excrete" (Campbell/Reece). Aerobic respiration releases very little energy that it produces, and it makes more ATP so it is more efficient. Aerobic respiration yields 38 ATP while anaerobic respiration yields only 2 ATP. They are both equally effective though.

- c. In the anaerobic experiment, predict how each of the variables will affect the production of CO<sub>2</sub> and give reasons for your predictions.

I predicted that Glucose would increase the production of CO<sub>2</sub> because it is the substrate for glycolysis to make pyruvate... and it "contains energy" (Biological Science, 1st ed.). This means that decreasing it will decrease the amount of energy and therefore the reaction will produce less CO<sub>2</sub>.