
Respiration in Yeast



What is Respiration?

- ▶ **Respiration** is the process by which cells take in oxygen and release carbon dioxide and energy.
- ▶ **Respiration** is a constant process.
- ▶ **Energy** is required for the survival of all living things.



Respiration

- ▶ There are two types of respiration:

Aerobic- with Oxygen

**Glucose + Oxygen -> Carbon Dioxide + Water
+ENERGY**

Anaerobic (Plants and Microorganisms)

-without Oxygen

Glucose -> Carbon Dioxide + Alcohol +ENERGY

This is known as FERMENTATION

Experiment

Aim: To observe how an organism (yeast) uses sugar to create energy

- ▶ Can we see respiration happening?
 - ▶ So how do we tell that respiration is occurring?
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Experiment - Setup

- ▶ Groups of 4
- ▶ Pick a **variable** between the class:

- ▶ **Materials:**

Dry yeast

Warm water

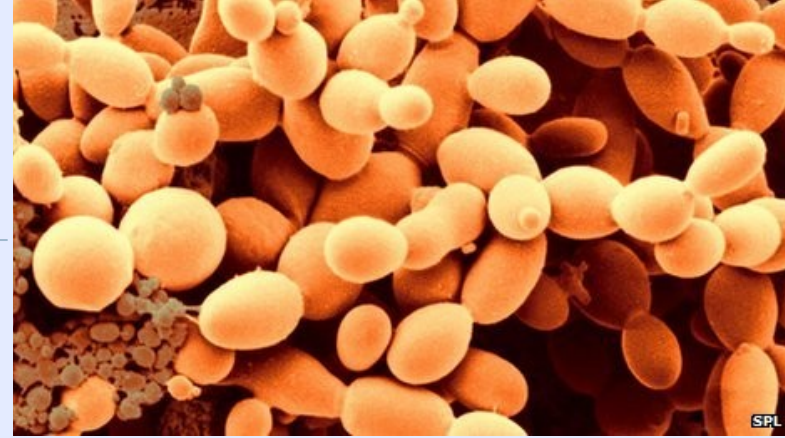
Sugar

Beaker

Thermometer



Uses of Yeast



▶ Baking

<http://www.youtube.com/watch?v=0z8hrRXQuHY>

▶ Why is the dough rising?



▶ Brewing

- ▶ Turns sugar into alcohol
 - ▶ Ingredients: water, malt, hops and yeast
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Analysis

- ▶ What did we see in our experiment?
- ▶ What is the gas that filled the balloon?
- ▶ How do we know the yeast is alive?
- ▶ Which were the variables in our experiment?
- ▶ Why do we use yeast in breadmaking?
- ▶ Temp Variable - <http://www.youtube.com/watch?v=24rohmxrxC4>

