

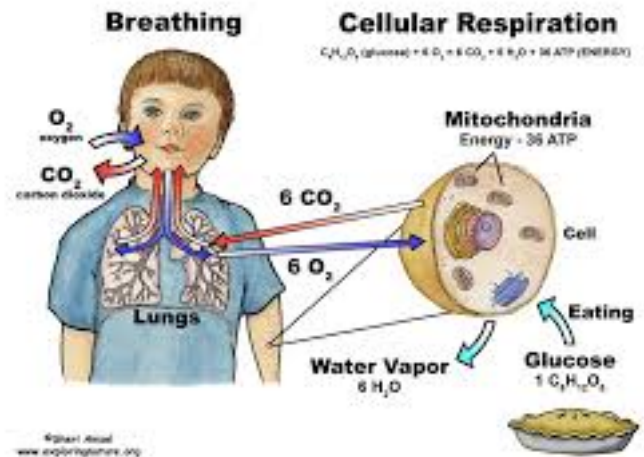
Investigating Cellular Respiration

Directions: Write the purpose, read the reading and background information, then answer any questions in completed sentences.

Purpose: What are the raw materials and products of cellular respiration?

Background Information:

- *Cellular Respiration* - is an oxidation process that takes place in the cells that gives all living things the energy they need to grow, reproduce, and survive.
- *Combustion* – a rapid form of oxidation that releases heat and, in many cases, light.
- *Oxidation* – the process by which substances combine with oxygen
- *Bromthymol blue* - is an indicator that turns a greenish yellow color the presence of carbon dioxide



Hypothesis

a. What are the 3 waste products of cellular respiration?

Mini:

Procedures:

1. **Have the teacher light the candle that is on top of the wooden block.**
A – What are the 3 products of combustion
2. Cover the beaker up with the aluminum foil.
B- What substance was taken away?

Analyzing the data:

- g) Did the temperature of the water change after you exhaled into it?
- h) What was the change?
- i) What would a change in the temperature of the water indicate about your exhaled air?
- j) What does this tell you must be a product of cellular respiration?
- k) What did you observe in the color of the Bromthymol blue from the starting temperature reading to the reading three minutes later?
- l) What does this indicate the presence of?
- m) What is another product of cellular respiration?

Procedure:

- 1) Hold the beaker up to your mouth.
- 2) Exhale on the beaker.

Analyzing the data

- n) What do you notice?
- o) What must be the third product of cellular respiration?
- p) Summarize the purpose of this inquiry in relation to the 3 products of cellular respiration.
 - a. Hint 1 – what does Bromthymol blue test for?
 - b. Hint 2 – Why did you use a thermometer?
 - c. Hint 3 – Why did you breath into the glass beaker (or desk)?