

Names: _____

Snails and Aquatic Plants.... What's the connection?

The Problem...you have been given a kit to establish an aquarium tank to breed snails. No air pump has been provided but you were given an Elodea plant. Why might Elodea plants be important in maintaining a snail aquarium tank?



Go to <http://www.classzone.com/cz/index.htm>

- Click on **High School Science – California - GO**
- Click on **Biology 2008 California**
- Click **Virtual Labs**
- Click **Carbon Transfer Through Snails and Elodea**

Problem -

- 1) You will explore the link between Elodea and snails in a virtual lab to answer this question.
- 2) You will form a hypothesis about the relationship between snails and Elodea
- 3) You will design an experiment to test your hypothesis.

Before you get started you need to explore the lab where you will set up the investigation. You must click on each item in the Check List before you can begin the lab.

Procedure – follow the directions...step by step. Record your information in the computer and on this sheet.

Hypothesis:

Dependent Variable:

Operational definition (How you will measure the dependent variable):

Independent variable:

Control(s):

Prediction: Complete the table(s) below with your set up AND prediction for what will happen based on your hypothesis. Use all 8 test tubes.

Test Tubes	Contents	Starting color	Predicted End Color	Results
Rack 1 - 1				
Rack 1 - 2				
Rack 1 - 3				
Rack 1 - 4				
Rack 2 - 1				
Rack 2 - 2				
Rack 2 - 3				
Rack 2 - 4				

Start the Clock....in other words, run the experiment.

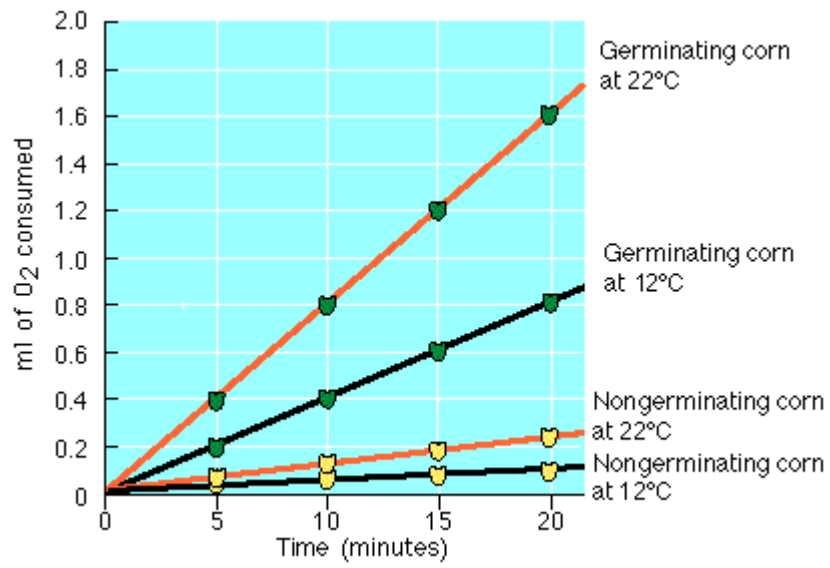
More Data: Fill in the Results on the table above. Was your hypothesis supported or disproved?

Test Tubes	For each test tube explain why the color of the BTB changed or didn't change? Use the following terms: photosynthesis, cellular respiration, reactant, product, oxygen, CO ₂ , pH, acidic, basic, neutral, light, dark, control, experimental
Rack 1 - 1	
Rack 1 - 2	
Rack 1 - 3	
Rack 1 - 4	
Rack 2 - 1	
Rack 2 - 2	
Rack 2 - 3	
Rack 2 - 4	

Why is Elodea required for a snail aquarium?

Further Applications:

1. Describe three applications you might see in the environment.
2. If you used an experimental design to compare the rates of respiration of a 25 g reptile and a 25 g mammal, at 10⁰C, what results would you expect? Explain your reasoning. If respiration in a small mammal were studied at both room temperature (21⁰C) and 10⁰C, what results would you predict? Explain your reasoning.
3. What can you conclude based on the data? Give a trend and an explanation with respects to temperature and germination.



2. What is the rate of oxygen consumption in germinating corn at 12°C? Show your work.