

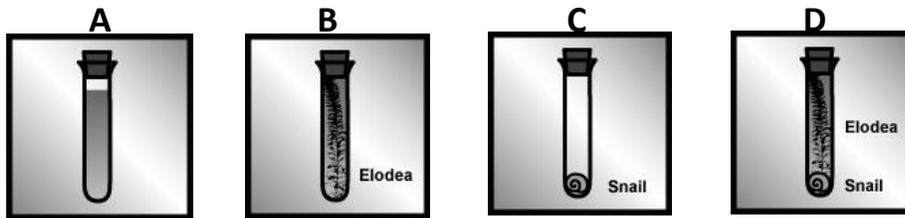
Carbon Transfer through Snails and *Elodea*

Bromothymol blue (BTB) is an indicator that turns yellow in the presence of carbon dioxide. The pictures below show the setup for an investigation during which bromothymol blue was added to all the test tubes.

LIGHT SETUP

Describe the initial color of each test tube.

GREEN



Describe the Final color of each test tube.

Tube A GREEN

Tube B BLUE

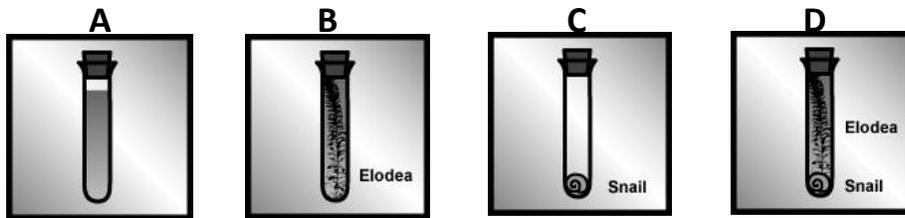
Tube C YELLOW

Tube D GREEN

DARK SETUP

Describe the initial color of each test tube.

GREEN



Describe the final color of each test tube.

Tube A GREEN

Tube B GREEN

Tube C YELLOW

Tube D YELLOW

Analyze and Conclude

1. Conclude What is the relationship between snails and *Elodea*?

Snails generate CO₂ that elodea convert into sugar. *Elodea* produces the O₂ and glucose that the snail will consume.

2. Analyze Why did the color of the bromothymol blue change?

Greater or less CO₂ in the solution.

3. Analyze What was the importance of a control in your experiment? What would you conclude if the color of the solution in the control changed?

Comparison

Something other than the organism s are causing the color change.

4. Analyze Which set up would have different results if it were conducted in the absence of light? Why?

The ones containing plants. Plants need light to carry out photosynthesis (consume CO₂)

5. Infer When you began the experiment, was there CO₂ in the water? In the test tubes that contained *Elodea*, where did the CO₂ go?

Yes; into making glucose

6. Infer Which gas did the snails release? What observation supports this inference?

CO₂; Color change to yellow

7. Apply Based on the results, explain why you need to add the *Elodea* to your snail aquarium.

Elodea will provide the necessary oxygen for your snails to carry out cellular respiration.

http://www.classzone.com/cz/books/bio_07/book_home.htm?state=NJ