Photosynthesis Experiment

Subject: Biology | Grade: Grade 10

Objective:

To investigate the effect of light intensity on the rate of photosynthesis using an aquatic plant.

Materials:

- Hydrilla or Elodea plant
- Beaker
- Funnel
- Test Tube
- Lamp/Light Source
- Sodium Bicarbonate (source of CO2)
- Stopwatch
- Meter Ruler

Procedure:

1. Place the Hydrilla plant in a beaker of water mixed with a pinch of Sodium Bicarbonate.
2. Cover the plant with an inverted funnel.
3. Place an inverted water-filled test tube over the funnel stem.
4. Place the lamp at a distance of 10cm from the beaker.
5. Allow the plant to adjust for 5 minutes.
6. Count the number of bubbles produced in 1 minute.
7. Repeat the count twice and calculate the average.
8. Repeat the experiment at distances of 20cm, 30cm, 40cm, and 50cm.

Discussion Questions:

1. What gas is released in the bubbles?
2. How does the rate of bubbling change with distance?
3. What is the relationship between light intensity and distance?
4. Why is Sodium Bicarbonate added to the water?