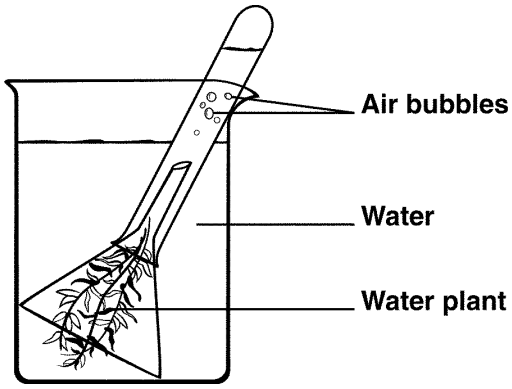
Eastern Regional High School
Honors Biology

Name:_____
Mod:_____ Date:_____

Unit 5 – ATP, Photosynthesis and Cellular Respiration
Worksheet – Measuring the Rate of Photosynthesis

USING SCIENCE SKILLS

A student prepared two beakers with identical sprigs of a water plant as shown below. She placed one beaker in the shade and the other beaker beside a fluorescent lamp. She then systematically changed the distance of the beaker from the lamp. She counted the bubbles given off by each sprig of the water plant. Shown here is the graph of the data for the beaker she placed in the light.



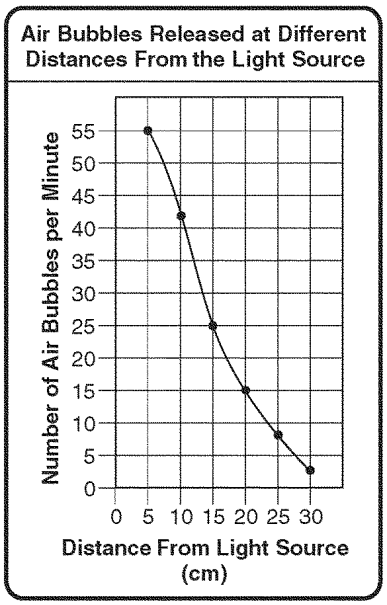


Figure 8-4

1. Which beaker is the student's control? **The Beaker in the dark**

2. Look at Figure 8-4. If the student later tested the air bubbles collected in the test tube, what would she find they are made of? How do you know?
   Oxygen Gas – O_2 is a product of photosynthesis

3. Look at the graph in Figure 8-4. At what distance from the light source was the greatest number of bubbles produced?
   5 cm

4. Look at the graph in Figure 8-4. What do the student's data show?
   As you move the plant away from the light source, the rate of photosynthesis decreased

5. If the lamp were placed closer than 5 centimeters from the water plant, would the plant give off many more bubbles? Why or why not?
   Possibly, but rate of photosynthesis may level out, because the plant could become saturated with light energy and thus photosynthesis could not go any faster