Rate of Photosynthesis

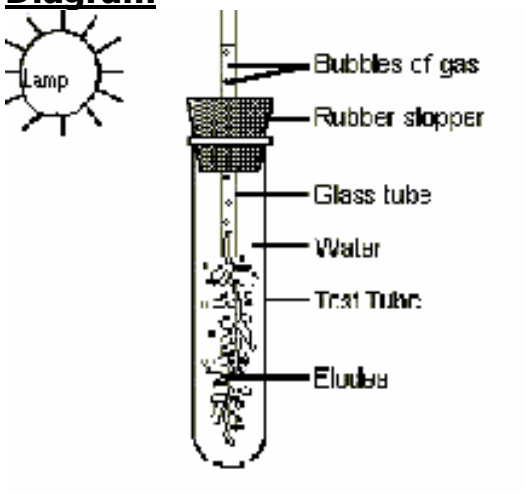
In this experiment I will be investigating the effect of light intensity on the rate of photosynthesis.

The variables available to me are:

- Distance of light source from plant
- The wattage of the lamp
- The amount of leaves
- Size of Elodea plant

The variable I am going to investigate is the distance of the light source from the plant as it is the easiest variable to measure.

Diagram



Method

We placed upside down Elodea plants in water filled gas jars and counted the bubbles coming from upturned bottom of the stem. The amount of bubbles that came from the plant was noted.

Prediction

I predict that when we decrease the distance from the lamp to the plant (increase the light intensity). The rate of bubbles that will be produced will increase until it reaches a certain rate where increasing the light intensity will not effect the rate of bubbles produced, I think this because at some point there will be some other limiting factor that will make a difference to the rate.

Results

Group A						
Distance from Plant (cm)	20	40	60	80	100	120
Bubbles in ten minutes	160	80	52	30	24	12
Group B						
Distance from Plant (cm)	20	40	60	80	100	120
Bubbles in ten minutes	190	105	62	24	12	0
Group C						
Distance from Plant (cm)	20	40	60	80	100	120
Bubbles in ten minutes	300	298	296	150	80	37
Temperature in degrees C	25	24	22	21	21	21

Conclusion

The results show that when the light intensity increases, the rate of bubbles produced increases (rate of photosynthesis). I predicted that a level would be reached where increasing the light intensity would have no more effect on the rate of bubbles produced, because there would be another limiting factor, which would slow down the rate. The rate increases at a steady rate as the light intensity increases until it reaches a certain point on the graph and then stops. This makes my prediction correct.

Evaluation

I could have made my experiment more fair by:
- Repeating the experiment several times so that any mistakes in one experiment can be fixed by the other results.
- All groups should have used the same Elodea plant.
- All other possible light sources should have been ensured they could not effect the results.