

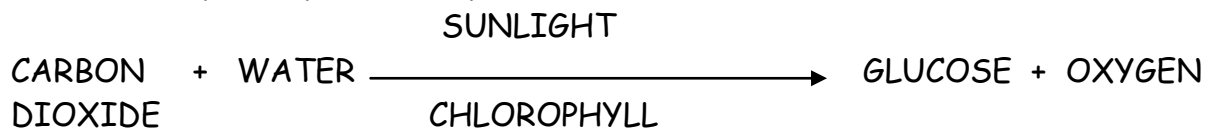


PHOTOSYNTHESIS

1. State the definition of PHOTOSYNTHESIS:

PHOTOSYNTHESIS is the process by which GREEN PLANTS make their own food.

2. State the photosynthesis equation



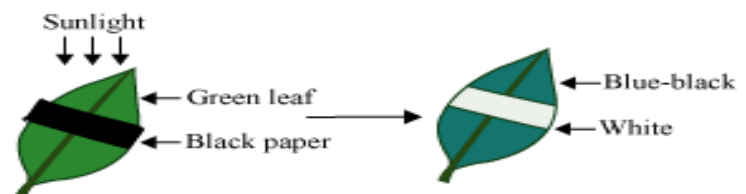
3. Explain that the raw materials for PHOTOSYNTHESIS are **CARBON DIOXIDE** and **WATER**.

4. Explain that the end products are **GLUCOSE** and **OXYGEN**.

5. Know that the Glucose is built up into **STARCH** which can be tested for with **IODINE** Solution.

6. Describe the stages involved in testing a leaf for starch:

- Boil leaf in water
- Boil leaf in ethanol
- Rinse leaf
- Add iodine solution



FACTORS AFFECTING RATE OF PHOTOSYNTHESIS.

7. Understand that photosynthesis can happen more quickly or slowly when conditions change.

8. Know that if any of the **requirements** (sunlight, water, carbon dioxide or a suitable temperature) are low or missing, the **photosynthesis rate is limited** (slows down).

9. Know that if the **photosynthesis rate increases**, plants will make **MORE glucose** which they use to grow



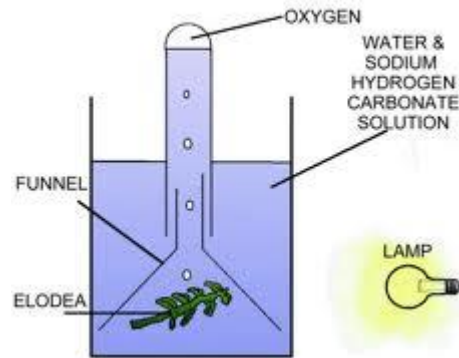
ST NINIAN'S HIGH SCHOOL

NATIONAL 4 BIOLOGY

LEARNING OBJECTIVES



- ☐ 10. Explain how the ELODEA BUBBLER experiment can be used to investigate the factors affecting the RATE of photosynthesis.



- ☐ 11. Know that **plant growers** (horticulturists) need to **help their plants grow** more by **adding** any of the **factors for Photosynthesis** that are in **LOW** supply.
- ☐ 12. Greenhouses can help plant growers by:
- a. adding extra lighting for photosynthesis;
 - b. including a heater to increase the temperature; and
 - c. using a gas heater to produce extra carbon dioxide.

