Chapter 14 - Photosynthesis

Photosynthesis is the way that green plants make their own food.

Carbon Dioxide is taken in through the leaf and **Water** is taken in through the roots.

These are added together in the leaf to make **sugar** (Glucose).
This sugar is food for the plant to grow.

The plant then gets rid of it's wastes through the leaf.
The waste is **Oxygen gas**.

Factors needed for Photosynthesis

Light - sunlight or artificial light is absorbed by chlorophyll.

Water - from the roots up through the xylem.

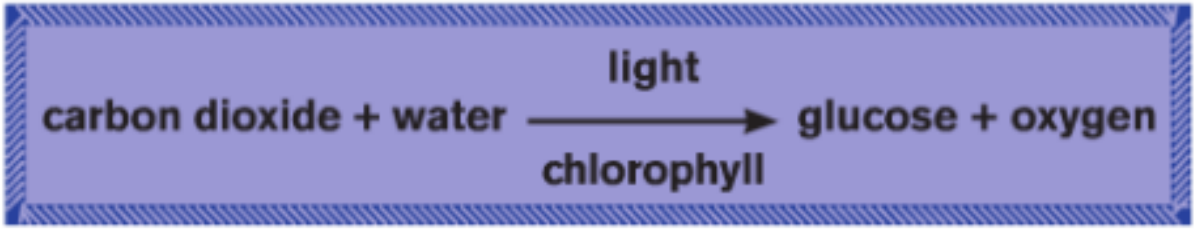
Carbon Dioxide - from the air, enters the stomata (pores).

Chlorophyll - a chemical that can absorb light.

Products and their Uses

Glucose - used in respiration. It is broken down to make energy.
It can be stored in long chains and is called Starch.

Oxygen - is used by animals and plants for respiration.
Food is broken down with Oxygen to make energy.
Oxygen is released from the plant and used by animals to live.



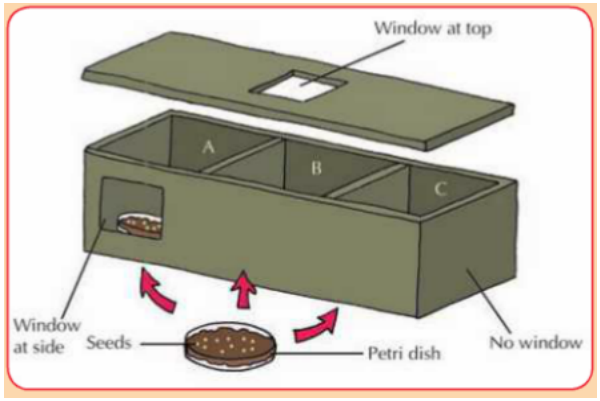
Photosynthesis is important for producing Oxygen, producing sugar and reducing CO_2.

To show that starch is produced by a photosynthesising plant

1. A plant was placed in the dark for 48 hours. This destarches the plant.
2. The leaves were partially covered with aluminium foil.
3. The plant was placed in bright light for 4 - 6 hours.
4. Starch should be made where there is no aluminium foil.
5. Draw a sketch of the leaf and the position of the foil.
6. Boil the leaf for 1 minute to kill it
7. Put the leaf in alcohol in warm water to remove the green chlorophyll
8. Soften the leaf in water and test for starch with Iodine on a white tile.

Tropisms

Phototropism - is the way plants grow towards light.



Geotropism - is the way plant roots grow towards gravity.