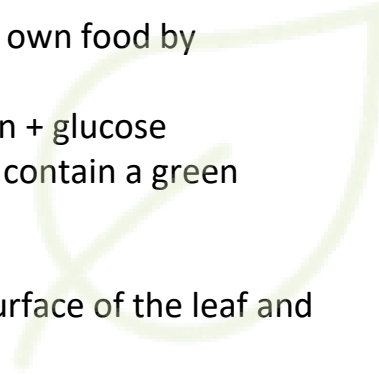


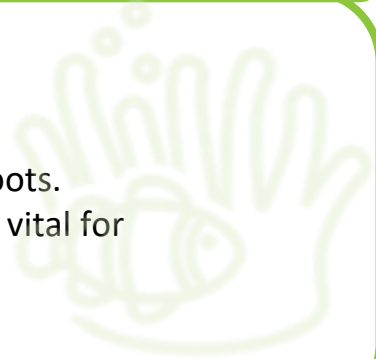
Must Remember

- Plants and algae are producers – they make their own food by photosynthesis
- Photosynthesis: carbon dioxide + water → oxygen + glucose
- Photosynthesis occurs in chloroplast, chloroplast contain a green pigment called chlorophyll.
- Chlorophyll absorbs light used in photosynthesis.
- A leaf is a plant organ, palisade cells are on the surface of the leaf and are the primary site of photosynthesis
- Stomata allows for gases to be transported into and out of the leaf, the hole is known as the stoma.
- Guard cells control the opening and closing of the stomata.
- Plants need minerals for healthy growth. For example, nitrates are needed to make amino acids (amino acids join together to make proteins).
- Water moves through a plant from the roots to the leaves via xylem vessels, this is known as the transpiration stream, transpiration is the evaporation of water from the leaf surface.
- Sugar moves through the plant by translocation, this occurs in the phloem vessels.



Nice to know that...

- Plants require a range of minerals to be healthy.
- Nitrates are required for protein synthesis.
- Phosphates are used to make DNA and for healthy roots.
- Magnesium is required to make chlorophyll and so is vital for photosynthesis.
- Potassium is required for healthy leaves and flowers.



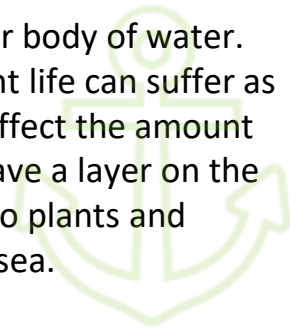
Key Terms

- **Algae:** Green unicellular or multicellular organisms that perform photosynthesis and live underwater.
- **Chlorophyll:** Green pigment that absorbs light for use in photosynthesis.
- **Deficiency:** A lack of minerals, that causes poor growth.
- **Fertiliser:** Chemical containing minerals, normally applied to soil.
- **Magnesium:** A mineral needed by plants for making chlorophyll.
- **Nitrates:** Minerals containing nitrogen for healthy growth.
- **Phosphates:** Minerals containing phosphorus for healthy roots.
- **Photosynthesis:** The process plants use to make their own food, glucose. In photosynthesis, carbon dioxide and water react together to make glucose and oxygen.
- **Potassium:** A mineral needed by plants for healthy leaves and flowers.
- **Stomata:** Holes found on the bottom of the leaf that allow gases to diffuse in and out of the leaf.



Maritime Futures – Factors Affecting Photosynthesis

Aquatic plants absorb sun light as it passes through the sea or body of water. Light can only penetrate so far through the water and so plant life can suffer as a result of a lack of light. Human activity in the sea can also affect the amount of light that can reach aquatic plants. Plastic pollution can leave a layer on the surface of the sea reducing the amount of light that can get to plants and therefore can reduce the amount of life that can exist in the sea.



Further Study

[BBC Bitesize – Photosynthesis](#)