

**KNOWLEDGE ORGANISER**  
**BIG IDEA:** ECOSYSTEMS  
**TOPIC:** PHOTOSYNTHESIS

Key word	Definition
fertilisers	Chemicals containing minerals that plants need to build ne tissue
photosynthesis	A process where plants and algae turn carbon dioxide and water into glucose and release oxygen
chlorophyll	Green pigment in plants and algae which absorbs light energy
stomata	Pores in the bottom of a leaf which can open and close to let gases in and out

Plants have specially adapted organs that allow them to obtain resources needed for photosynthesis

We can use iodine to test for the presence of starch in photosynthesising leaves.

If starch is present, the iodine will turn a blue/ black colour.

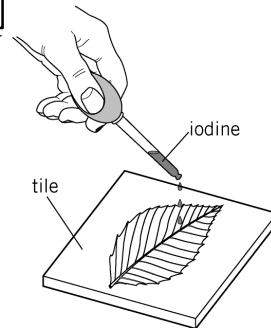
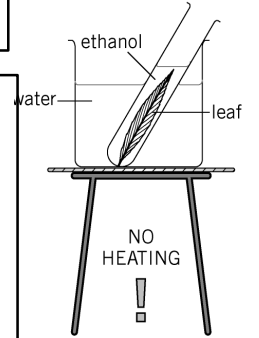
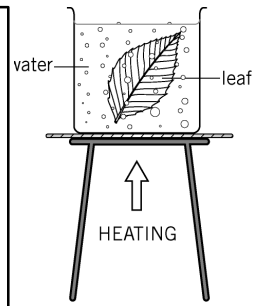
We know that a leaf has been photosynthesising if iodine turns blue/black because glucose is stored as starch in a plant.

Plants and algae do not eat, but use energy from light, with carbon dioxide and water to make glucose (food) through photosynthesis.

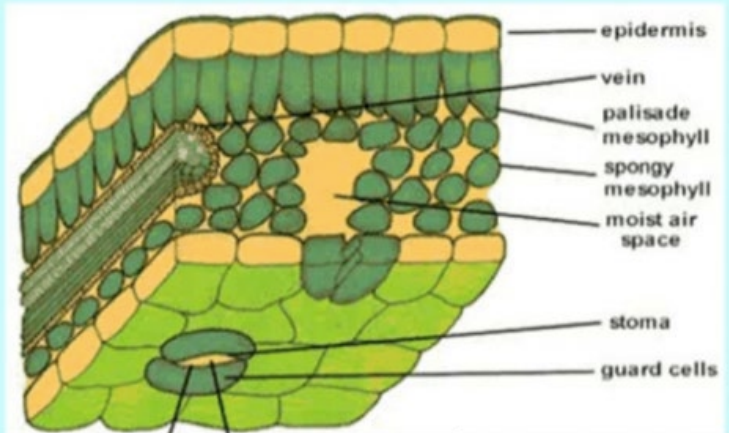
**This is represented by the word equation:**



Glucose is used as an energy source, to build new tissues or stored for later use as starch.



### Structure of a leaf



## Knowledge organiser



**Y8 topic:** Photosynthesis

### **I have already learned:**

**In KS2:** the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant, investigate the way in which water is transported within plants

**Y7:** (Cells link) cell structure and function of organelles including chloroplasts

### **This topic links to:**

**Y8:** Respiration

**KS4:** Bioenergetics

### **It is important to study about Photosynthesis because...**

Photosynthesis is important to living organisms because it is the number one source of food and oxygen in the atmosphere. Fewer plants would mean less recycling of carbon dioxide and there would be less oxygen production. Without photosynthesis there would be no life as we know it on planet Earth.

### **Possible careers involving Photosynthesis are...**

- Plant scientist
- agriculture
- horticulture
- Brewing industry
- Environmental scientist