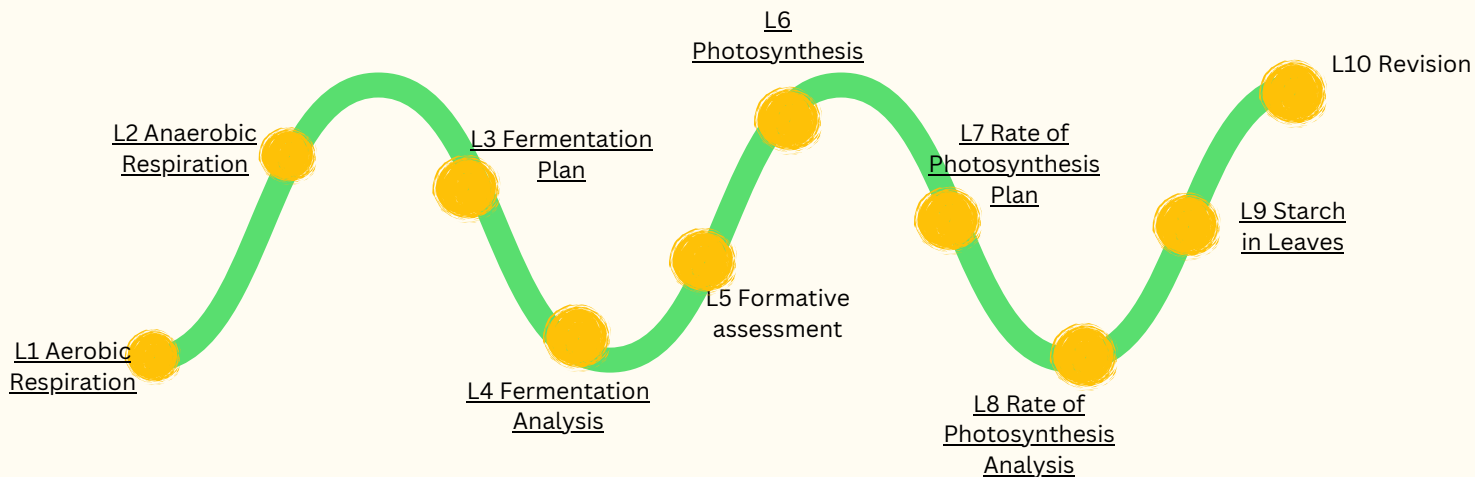


In this you unit you will learn that photosynthesis makes glucose from light, carbon dioxide, and water, storing it as starch in leaves. You will study aerobic respiration (using oxygen) and anaerobic respiration (without oxygen), including fermentation in microorganisms. These processes are linked in the cycling of carbon and oxygen and are affected by environmental factors.



**Prior learning link:** KS2 Plants and Animals, including humans.

## Key words

- **Photosynthesis** – The process by which plants, algae, and some bacteria use light energy, carbon dioxide, and water to make glucose and oxygen.
- **Chlorophyll** – The green pigment in chloroplasts that absorbs light energy for photosynthesis.
- **Glucose** – A simple sugar made in photosynthesis and used in respiration to release energy.
- **Starch** – An insoluble carbohydrate made from glucose and stored in plant cells, often in leaves.
- **Aerobic respiration** – The process of releasing energy from glucose using oxygen, producing carbon dioxide and water.
- **Anaerobic respiration** – The process of releasing energy from glucose without oxygen, producing less energy and different products depending on the organism.
- **Fermentation** – A type of anaerobic respiration in microorganisms that produces ethanol and carbon dioxide.
- **Chloroplast** – The plant cell organelle where photosynthesis takes place.
- **Mitochondria** – The cell organelles where respiration takes place.
- **Light intensity** – The strength of light; an environmental factor that can affect the rate of photosynthesis.
- **Limiting factor** – Something in short supply that restricts the rate of a process, such as photosynthesis.

## Revision Resources

[BBC KS3 Respiration and Gas Exchange](#)