

Y8 - Knowledge organiser 8.9 – Respiration & Photosynthesis

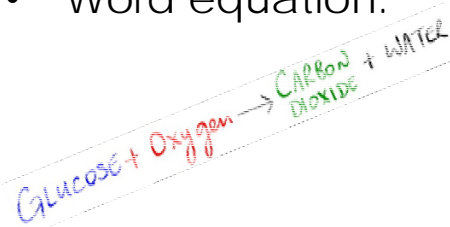


Respiration 1

- Happens in cells.
- **Glucose** is broken down to provide energy.
- Forms new molecules: oxygen and water
- **Uses of Glucose:** cell walls, starch for storage, converted into fats and fructose, combined with proteins for new growth, respiration (energy release)

Aerobic respiration 2

- Breaking down glucose with oxygen
- The most common type of respiration
- Requires oxygen
- Word equation:



Anaerobic respiration 3

- Breaking down glucose with no oxygen.
- In animals, produces **lactic acid**
- Produces less energy than aerobic respiration.

Fermentation 4

- A type of anaerobic respiration.
- Happens in plants and microorganisms.
- Produces **ethanol** (alcohol) and carbon dioxide
- Yeast is used in brewing/ bread making

Photosynthesis 5

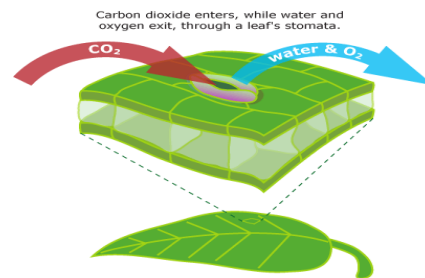
- Plants/ algae using energy from light to make glucose.
- Word equation:



- Glucose is used as an energy store, or to build new tissue.

Adaptations of plants 6

- Plants are adapted to carry out photosynthesis
- Plants have big root systems to take in water.
- Stomata:



Chlorophyll 7

- Green pigment in plants and algae.
- Function is to absorb light energy.
- Contained in chloroplasts.
- Allows photosynthesis to happen.

Testing for starch 8

- If glucose is being stored for later use, it is converted into **starch**.
- **Iodine** is used to test for starch, and so tells us if photosynthesis is happening.

