

Material Cycles and Energy Knowledge Organiser

Aerobic Respiration

- Living things need energy to stay alive.
- They get their energy from respiration.
- Respiration is a chemical reaction that happens inside cells.

WHY DO WE NEED ENERGY?



Growing & Making proteins
releases energy

Moving
Thinking - using our brains Keeping warm

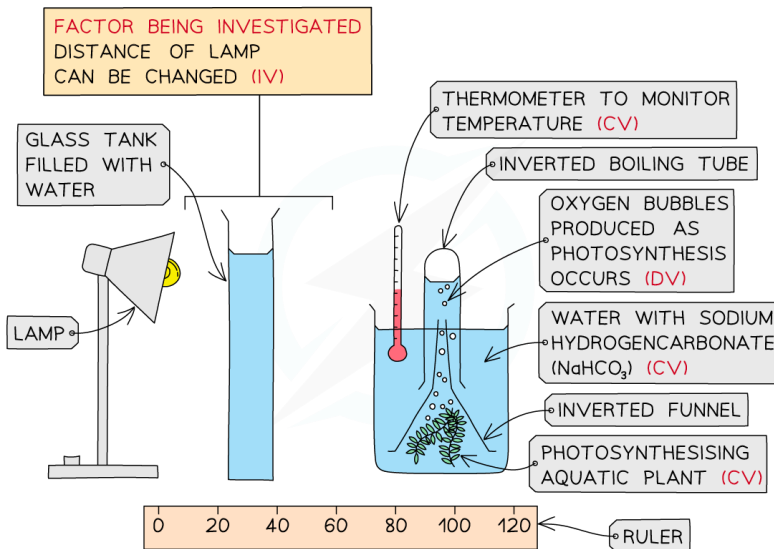
Anaerobic Respiration

When the body **cannot** supply the cells with the oxygen needed to break down glucose, then it has to carry out **anaerobic** respiration. Energy is released **without oxygen**:

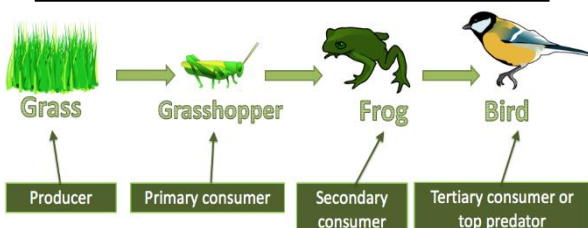


Photosynthesis Investigation

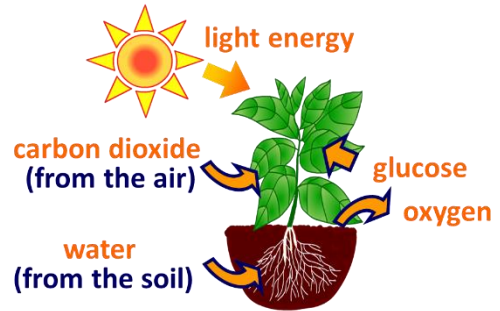
How does the distance of the light affect the rate of photosynthesis?



Feeding Relationship Example



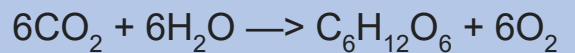
Photosynthesis



Word Equation

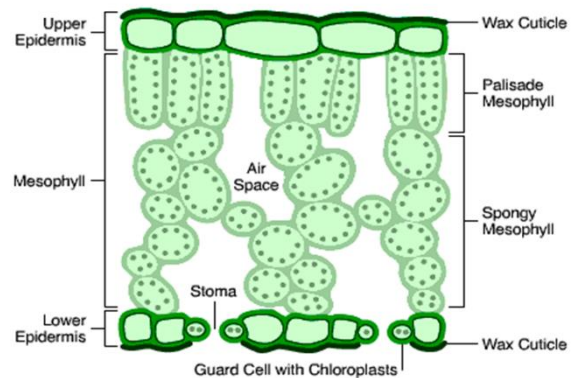


Symbol Equation



Leaf Structure

They have a **WAXY COATING** to minimise water loss



They have 'holes' in the leaves to allow carbon dioxide in and oxygen out. These are **STOMATA**.

Many of the cells are packed with chloroplasts which contain a light trapping pigment- **CHLOROPHYLL**.

Leaves are **BROAD** and **FLAT**, giving **LARGE SURFACE AREA** to absorb as much light as possible.

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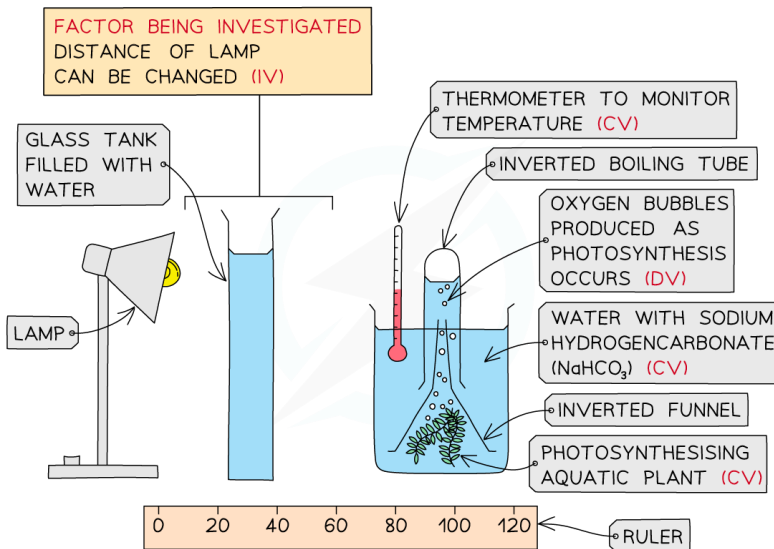
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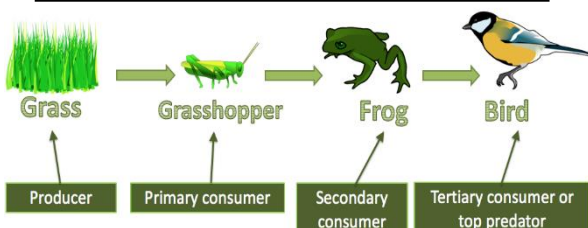


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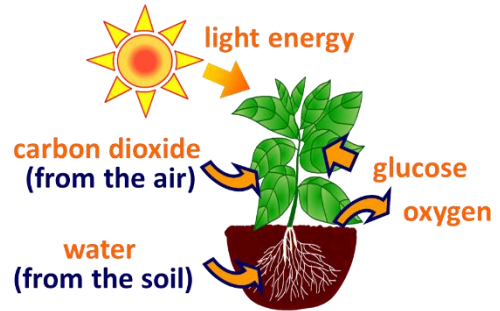
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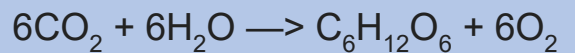
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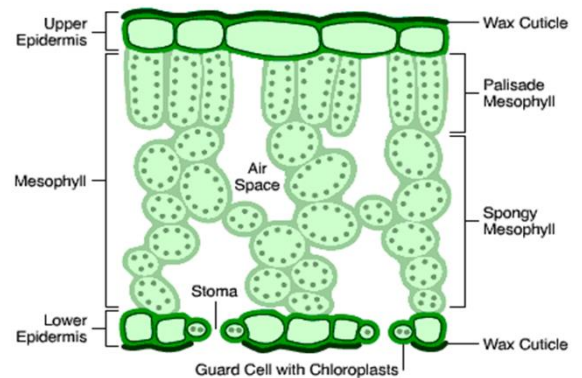


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