

This is the **Foundation Separate** version — Higher Tier content has been removed.

Photosynthesis converts light energy into chemical energy stored in glucose.

**Required Practical: Investigating effect of light intensity on photosynthesis rate using pondweed.**

- Equation:  $6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$  (light energy required)
- Occurs in chloroplasts containing chlorophyll
- Limiting factors: light intensity,  $\text{CO}_2$  concentration, temperature
- Glucose used for: respiration, starch, cellulose, proteins (with nitrates), sucrose, lipids
- Rate measured by  $\text{O}_2$  produced or  $\text{CO}_2$  consumed

### Key Terms

<b>Limiting factor</b>	Factor in shortest supply controlling rate of photosynthesis
<b>Chlorophyll</b>	Green pigment absorbing light energy for photosynthesis

■ **Exam Tip:** Limiting factors: increasing ANY other factor when one is limiting has NO effect. Only increasing the limiting factor will increase rate.