GRADE 8 · BIOLOGY · UNIT 3

Photosynthesis

How plants capture sunlight and turn it into the food that powers almost every food chain on Earth.

Handout 1 of 1
Name: _____

Key idea

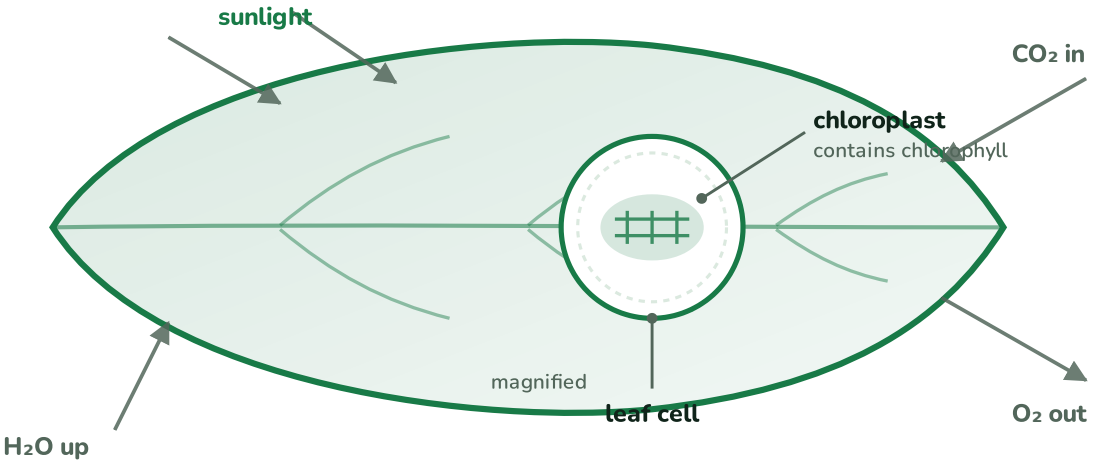
Plants are **producers**: they build their own food. Inside the chloroplasts of leaf cells, **light energy** is used to join **carbon dioxide** from the air with **water** from the soil, making **glucose** (a sugar the plant uses for energy and growth) and releasing **oxygen** as a waste product. No light, no glucose — so photosynthesis stops at night.

The equation

$$6\,CO_2 + 6\,H_2O \xrightarrow{\text{LIGHT + CHLOROPHYLL}} C_6H_{12}O_6 + 6\,O_2$$

carbon dioxide + water → glucose + oxygen

Inside a leaf



Cross-section of a leaf: gases enter and leave through the surface, water arrives from the roots, and chloroplasts do the work.

Five key words

Photosynthesis
The process in which plants use light energy to make glucose from carbon dioxide and water.

Chlorophyll
The green pigment inside chloroplasts that absorbs light energy. It gives leaves their colour.

Chloroplast
The small structure in a plant cell where photosynthesis happens.

Glucose
The sugar made during photosynthesis; the plant uses it for energy and to build new tissue.