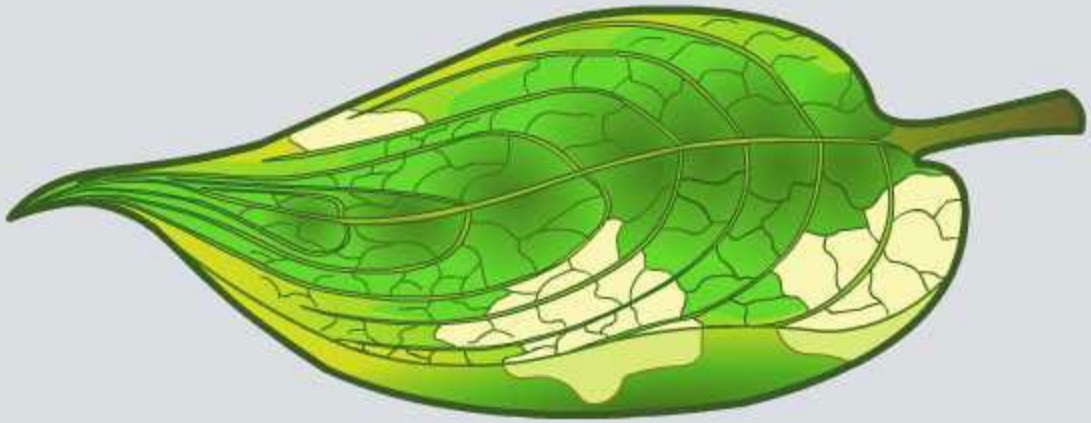
Leaves and Glucose



How are leaves adapted?

Leaves can be thought of as small ‘factories’ that produce food for plants by photosynthesis.

Leaves are adapted so that photosynthesis can take place.

Plants need carbon dioxide, water, sunlight and chlorophyll to carry out this important process.

What features of leaves make them suitable for photosynthesis?

What are the useful features of leaves?

Leaves often have many features that make them suitable for photosynthesis, including:

- A leaf is **broad** and **flat** to capture lots of sunlight.
- Certain plant cells contain **chloroplasts** filled with **chlorophyll**.
- **Veins** carry water to the leaf and take food from the leaf to the rest of the plant. Veins also help to support the leaf.
- Small holes called **stomata** in the underside of a leaf allow gases in and out.

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Inside a leaf

How are leaves adapted for photosynthesis?

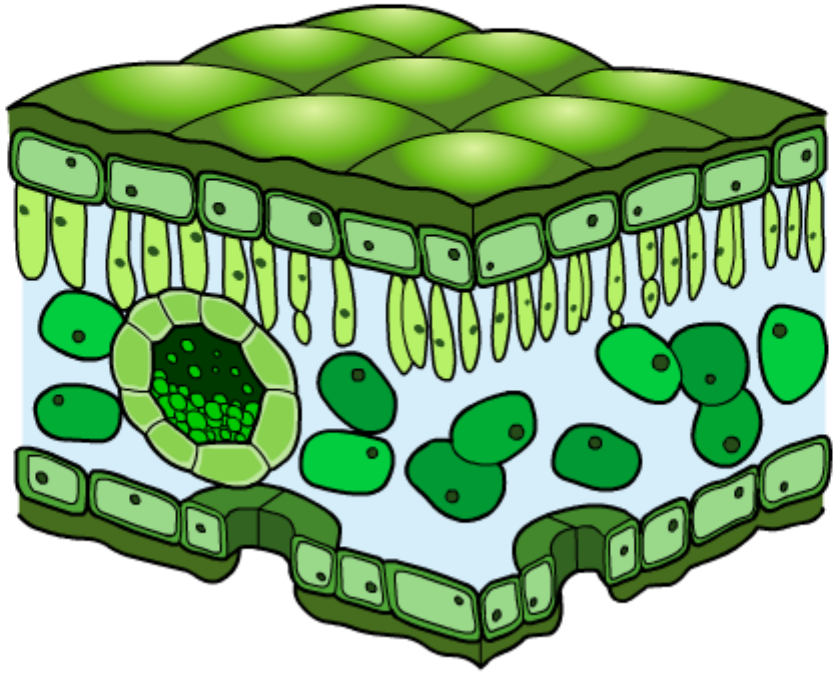
Click on the buttons to find out about the cells inside a leaf.

cuticle

vein

guard cell

stomata



epidermis

palisade cell

spongy mesophyll

What do plants use glucose for?

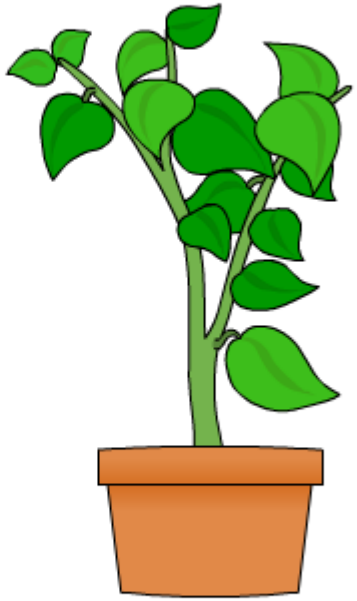
Testing leaves for starch

Does light affect photosynthesis?

How does light affect photosynthesis?

Do plants really need sunlight to photosynthesize?

Click "**play**" or a plant to find out what happens to photosynthesis in light and dark conditions.



Photosynthesis

Match the parts of a leaf to their function

guard cells	waxy layer preventing water loss
stomata	cells that contain a lot of chloroplasts
epidermis	tubes that carry water, minerals and glucose
palisade cells	holes that allow gases in and out
spongy mesophyll	transparent protective layers of cells
cuticle	cause the stomata to open and close
veins	large air spaces allowing gases to diffuse

?

solve

Photosynthesis

Complete these sentences about leaf adaptations

1. Leaves are _____ and _____ to capture lots of sunlight.

2. Veins carry _____ to the leaf and take _____ from the leaf to the rest of the plant.

3. Certain plant cells contain chloroplasts filled with _____.

gases	flat	palisade	food
broad	water	chlorophyll	stomata

hide solve