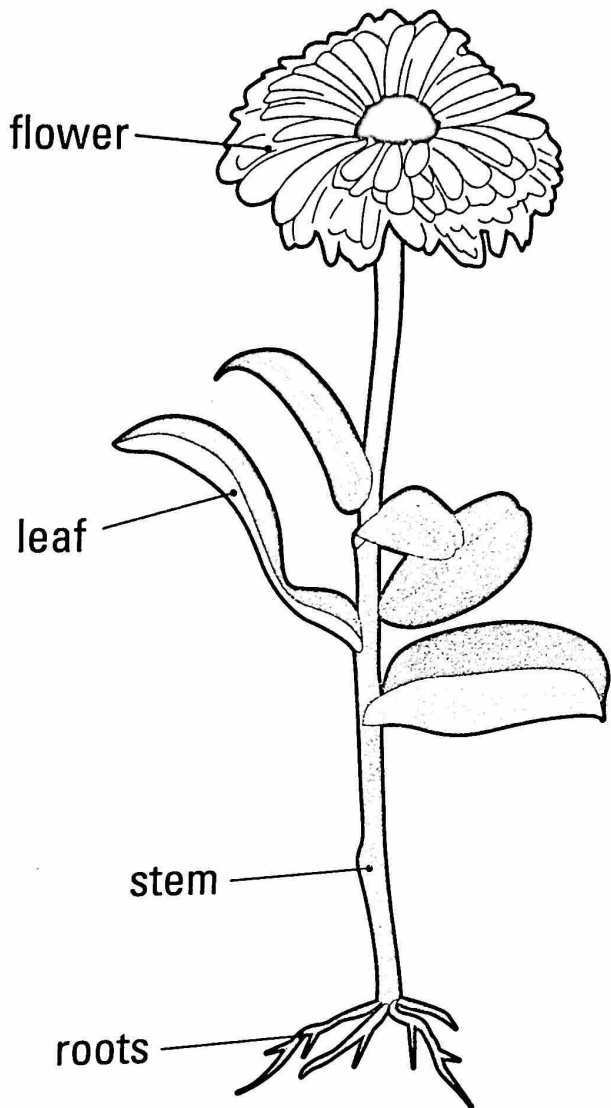


Why Do Plants Need Sunlight?

Talk about the diagrams below and read the explanation.



Light is a form of **energy**. Sunlight is energy which comes directly from the sun. Plants use the energy in sunlight to make food for themselves in their leaves.

Plants make food by turning light from the sun into food **chemicals** in their leaves. The name given to this process is photosynthesis, which means 'building with light'. A leaf is designed to do this job efficiently. Generally broad and flat, leaves act as green **solar panels** to **absorb** as much sunlight as possible.

Each leaf contains a green substance called **chlorophyll**, which gives the leaf its colour and can capture the energy in sunlight.

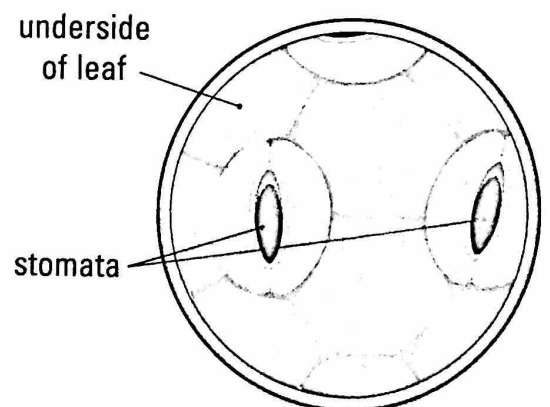
Once captured, the sunlight energy can make food. To do this, the leaf also needs water and a chemical called **carbon dioxide**. Water comes from the soil and is carried up to the

leaf from the roots through the stem of the plant. Carbon dioxide, a gas found in air, is taken into the leaf through tiny holes on its underside called stomata. The energy stored in the leaf is then used to turn the water and carbon dioxide into **glucose**, a sugary food the plant can feed on. Oxygen and water are produced too and these pass out through the stomata and into the air.

A leaf is really a food-producing factory and all parts of the plant work together to help it to do its very important job. The sugary food that is made in the leaves is carried, in a liquid called sap, to all the other parts of the plant.

No wonder then that flowers and plants seem to turn to face the sun as it moves across the sky and that most plants on Earth have green leaves and stems!

The underside of a leaf as seen through a microscope.



Examine this Explanation



Examine the explanation carefully and answer the following.

- ① Underline the sentence(s) which explain(s) what the word sunlight means.
- ② Use your dictionary to explain the highlighted words in the explanation.

energy _____

chemicals _____

solar panels _____

absorb _____

chlorophyll _____

carbon dioxide _____

glucose _____

- ③ Explain what you have understood from this description of photosynthesis, by answering the following.

(a) It happens **where**? _____

(b) **Why** here? _____

(c) **What** else is needed? _____

(d) **How** does it happen? _____

- ④ What new information did you find most interesting in this explanation?

- ⑤ What do you think would happen to a plant that was placed in darkness for a week or two?

What experiment would you do to test this?

Follow-up Activity

Discuss and research why trees are sometimes called 'the lungs of the planet'.