



# Light

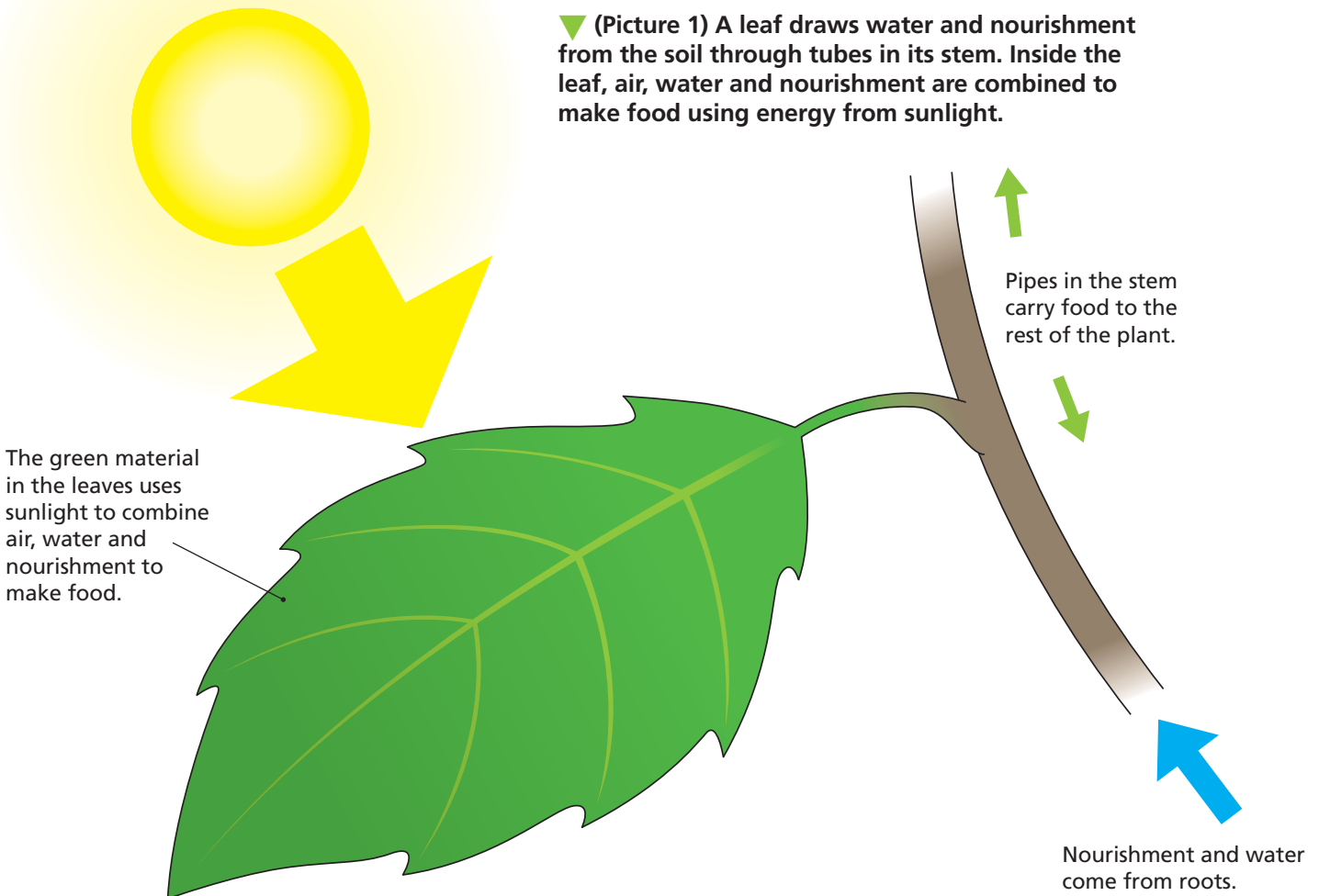
Plants use light to make food for growth. Plants grow poorly in too little light, but some are also damaged by too much light.

Plants use sunlight to make food. The secret of how they do this is the green substance in leaves (Picture 1). This is what makes plants green. The green substance works like a chemical factory, using light to change air, water and nourishment into food.

Most of the green substance that soaks up sunlight is found in leaves, but there is some in green stems, too.

## Plants move to the light

If you watched many plants you would see their leaves and flowers turn to keep facing the Sun throughout the day. In fact, plants don't just move each day to keep facing the Sun, they also grow taller, to get the amount of sunlight they need (Pictures 2 and 3).





▲ (Picture 2) Tree leaves spread out to capture light.



▲ (Picture 3) Some plants, such as ferns, need only a little light. If these plants were put in full sunshine their leaves would become scorched and the plant would die.

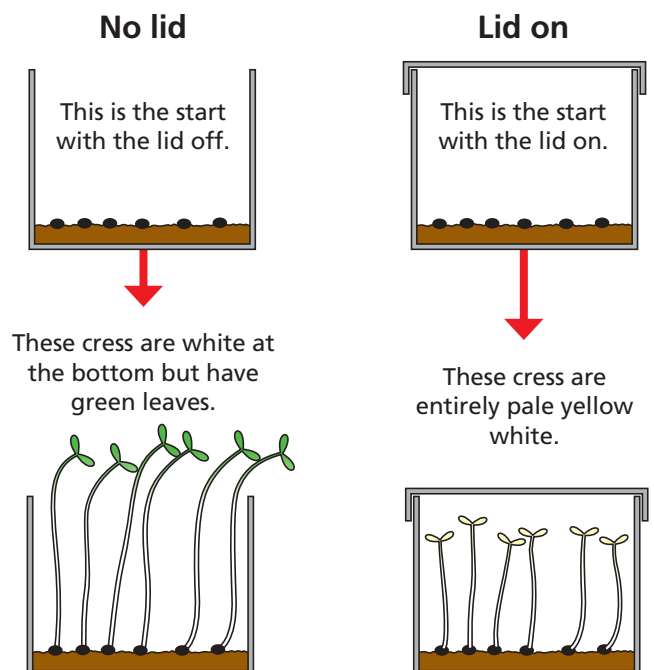
▼ (Picture 4) In this experiment seeds were put on damp tissue paper in two containers on a windowsill. When the tissue paper dried out it was dampened again.

The lid of one container was always left on, while the lid of the other container was left off. In both cases the seeds started growing, but only those that found light turned green.

## Leaves use light

A plant cannot grow unless it has enough food, and it cannot make enough food unless it can get enough sunlight. This is most important when seeds first burst into life (Picture 4).

New **SHOOTS** have some reserves of **ENERGY** in their seeds. If you put a seed in a dark place and let it sprout, you will find that its stem is thin and its leaves are tiny. Both leaves and stems are white. The green substance that gives them colour only develops when there is light. Unless light is found, the green substance never develops and the plant cannot make new food. Within days the spindly, white seedling will run out of energy and die.



## Summary

- Plants need light to make food.
- Food is made by the green substance in the leaves.