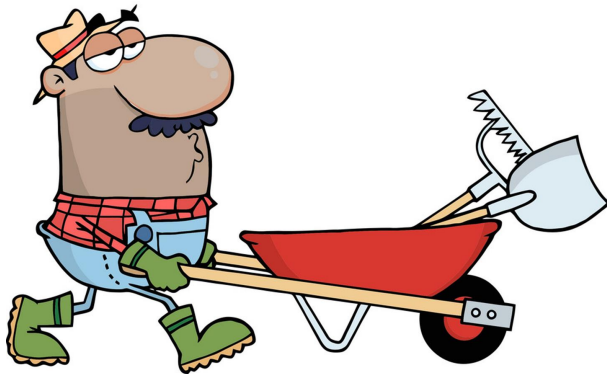


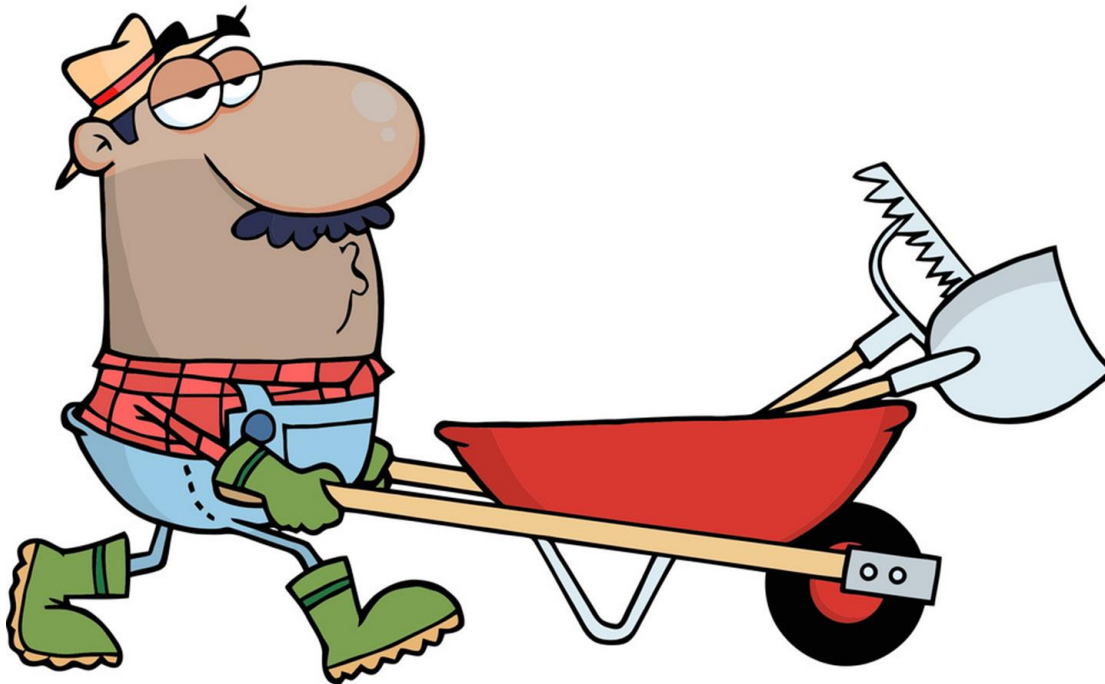
Tuesday 2nd March 2021

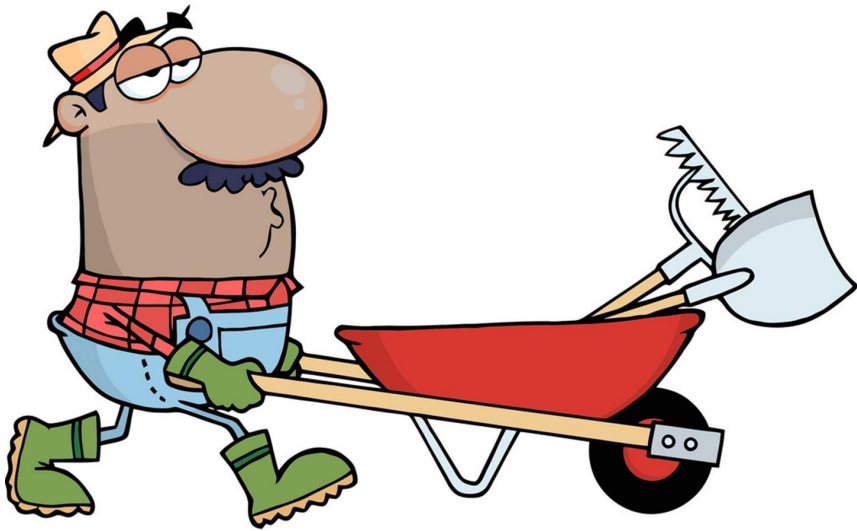
Can I explain how the needs of plants vary from plant to plant?

Write the date and title neatly in your home learning book.



Recall your learning from last week on the parts of a plant and their functions by completing the quiz.

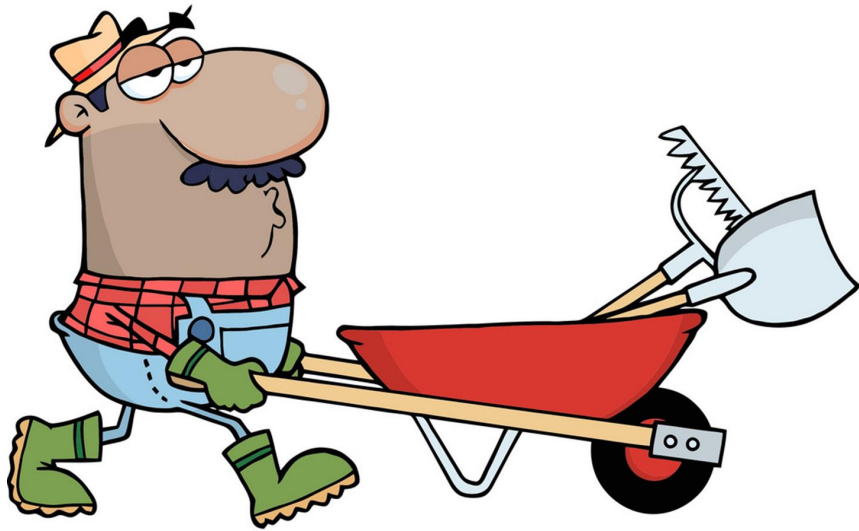




Can you name
the four main
parts of a plant?

- **Flowers**
- **Leaves**
- **Stem/trunk**
- **Roots**

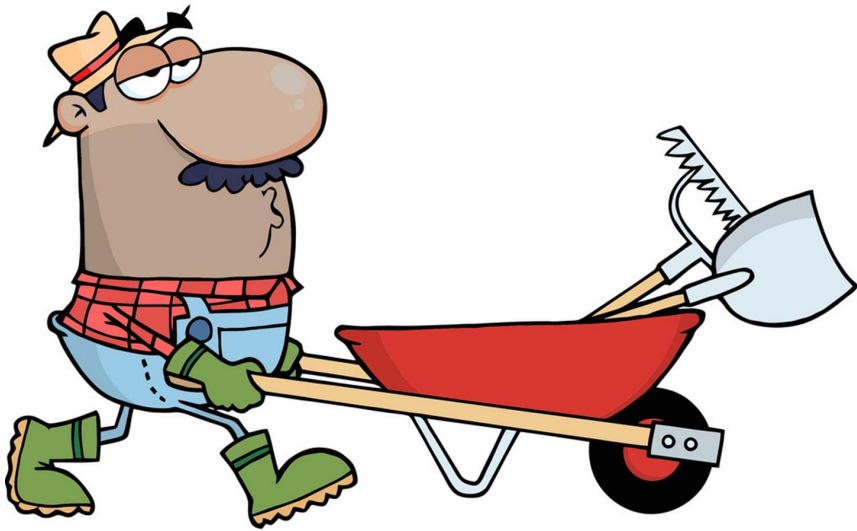
Click
here



Which part of
the plant is
underground?

**The roots are
underground.**

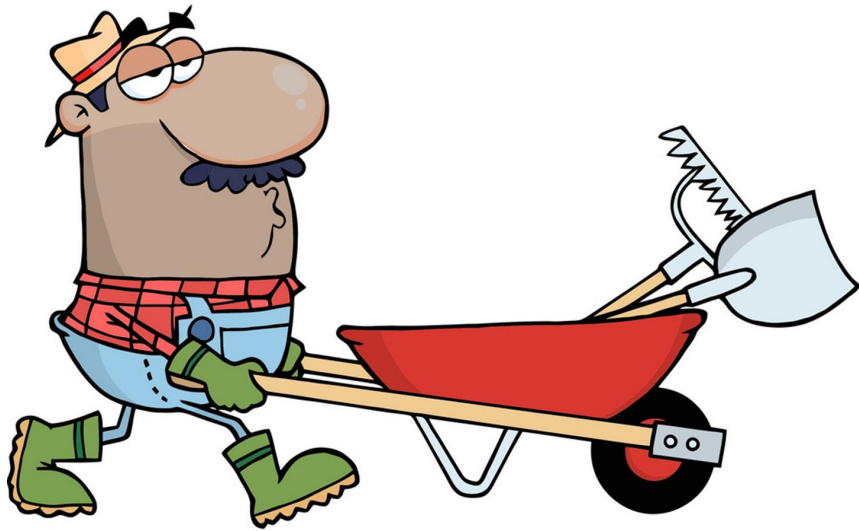
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Why is the flower
colourful?

**The flower is colourful
to attract insects.**

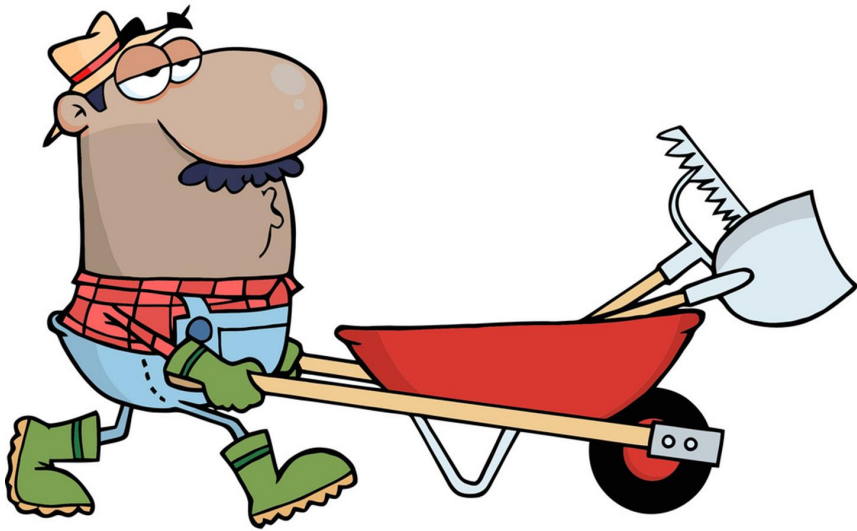
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What other
feature of the
flower attracts
insects?

**The flower also
has a smell to
attract insects.**

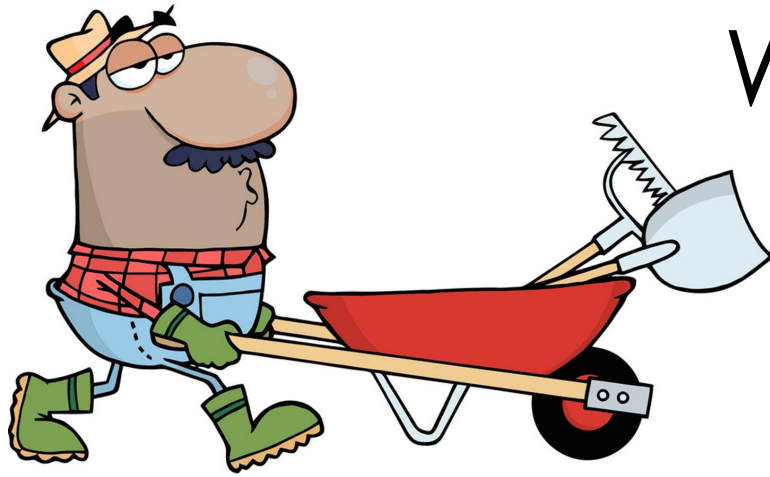
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What is the
function of
the leaf?

**The function of the
leaf is to provide
food (nutrition).**

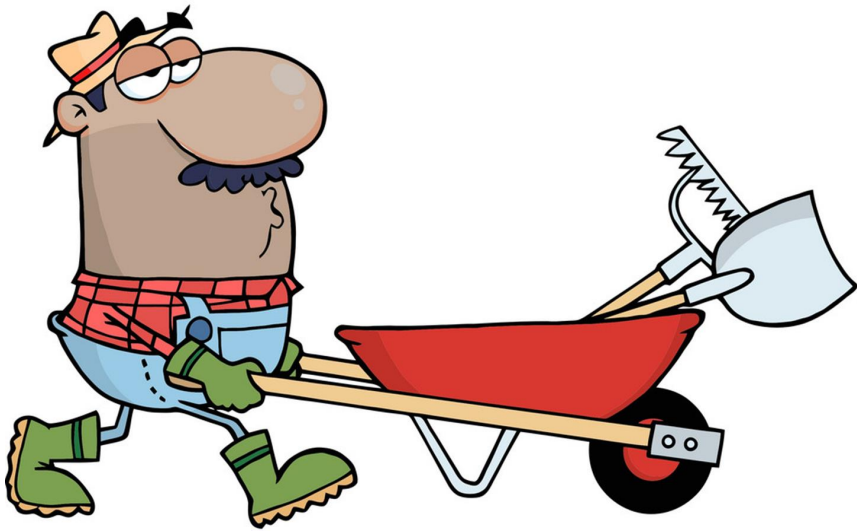
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What two things from
the environment
does the leaf need
to make food?

**Sunlight and
carbon dioxide
from air.**

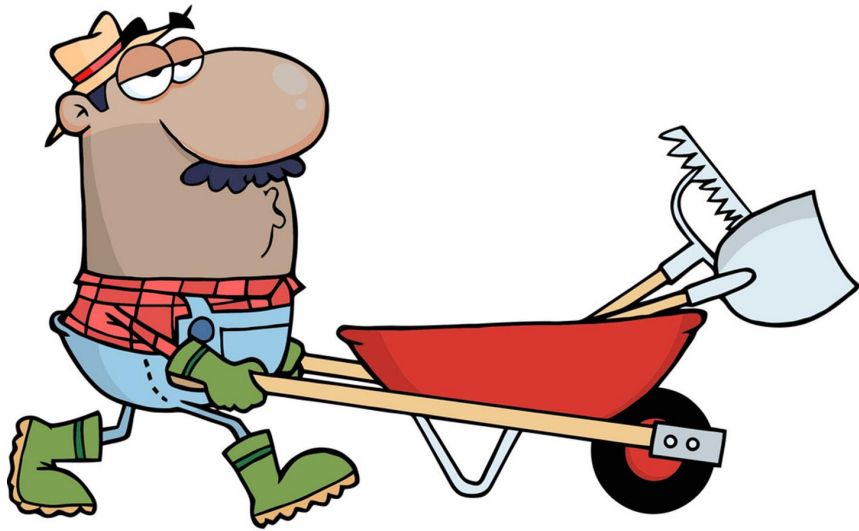
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What are the two functions of the stem?

- **The stem provides support for the plant**
- **The stem carries water and minerals from the roots to all parts of the plant.**

Click
here



What do the
roots take from
the soil?

**Water and
minerals.**

Click
here

To consolidate your learning on the parts of a flowering plant, watch the videos below and listen to the song.

https://www.youtube.com/watch?app=desktop&v=ql6OL7_qFgU

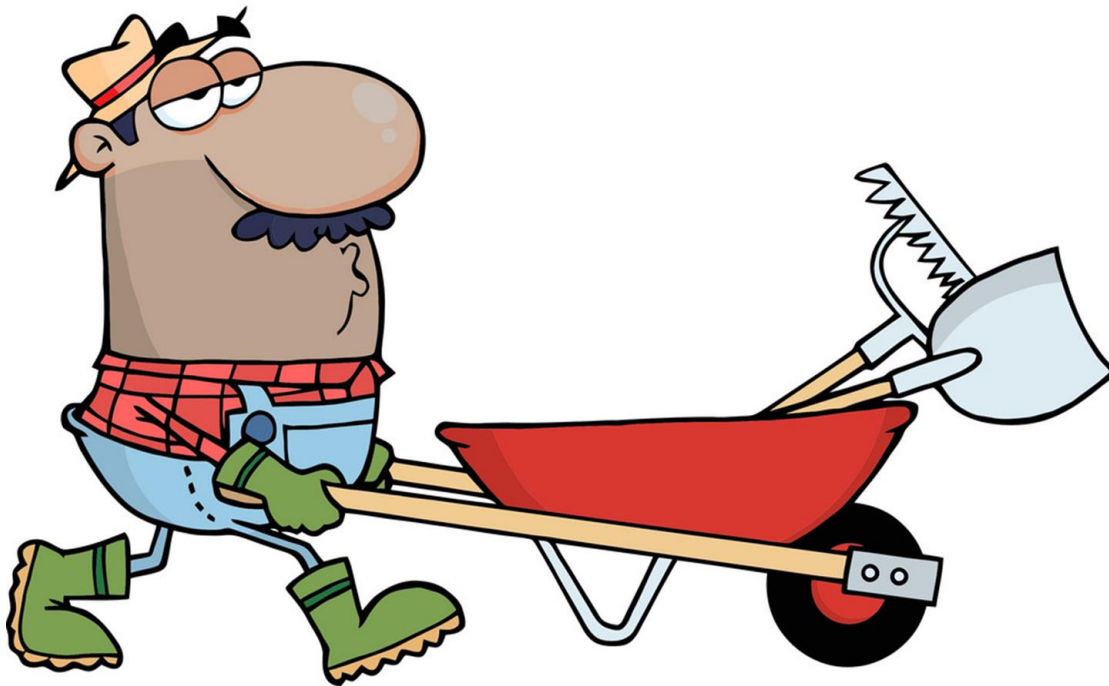
<https://www.bbc.co.uk/programmes/articles/Mf5rhbTkHLZ3fbJzScyDvC/primary-science-plants>

<https://www.bbc.co.uk/bitesize/topics/zpxnyrd/articles/z3wpsbk>

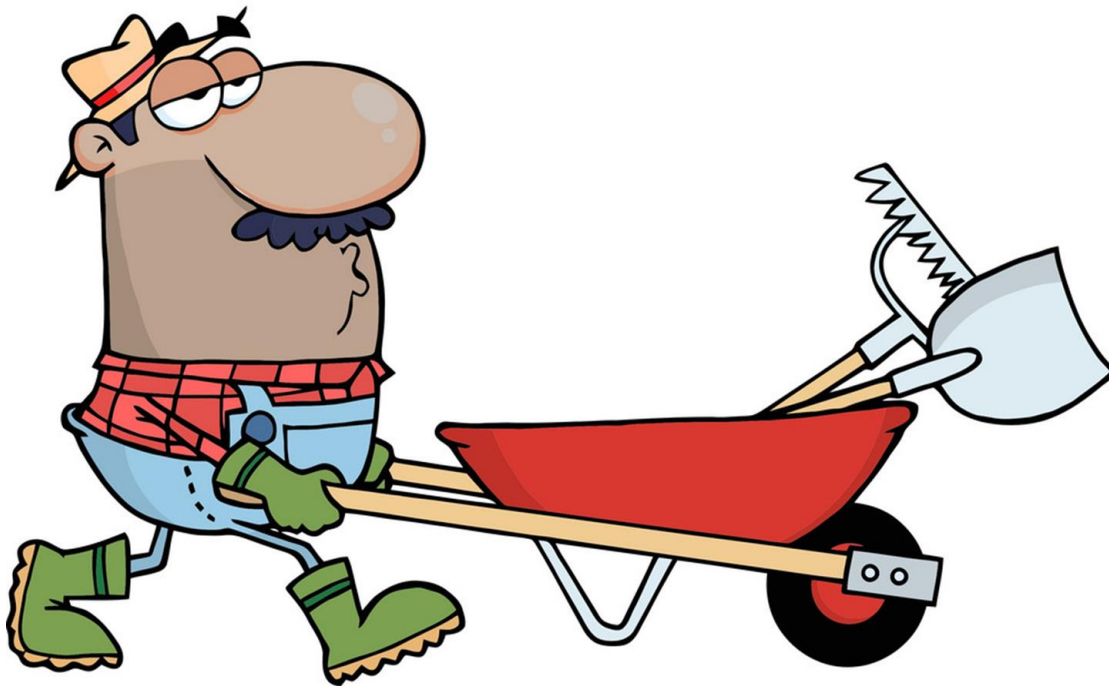


**What do
plants need
to live and
grow?**

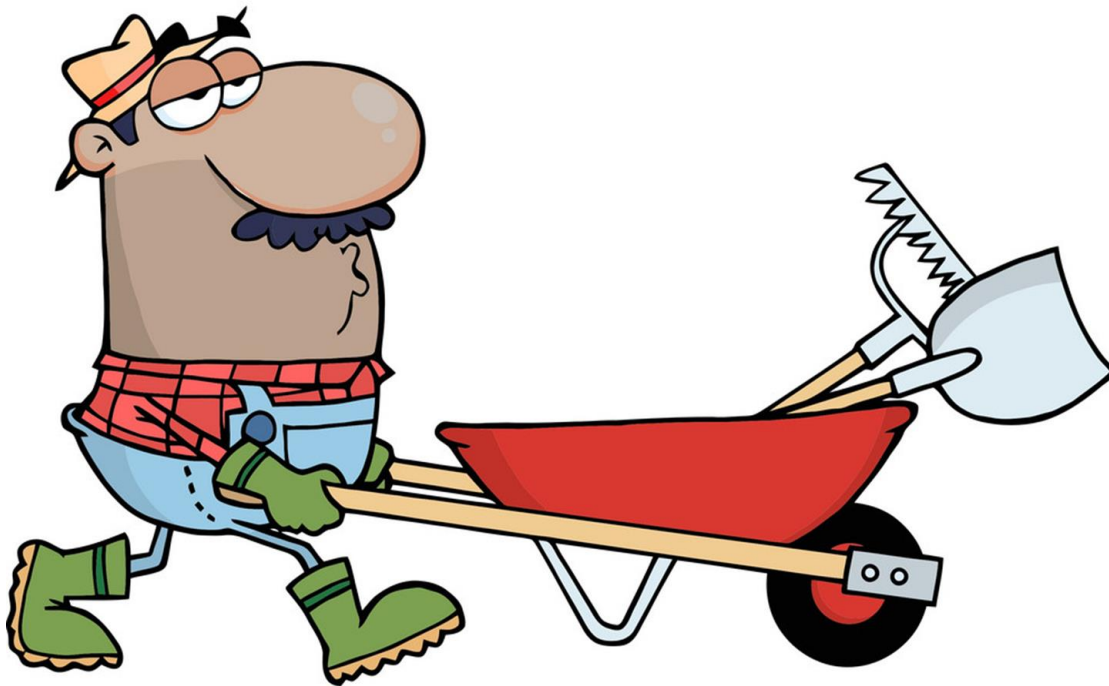
Click **here** to watch a short introductory video about what plants need to **survive**.

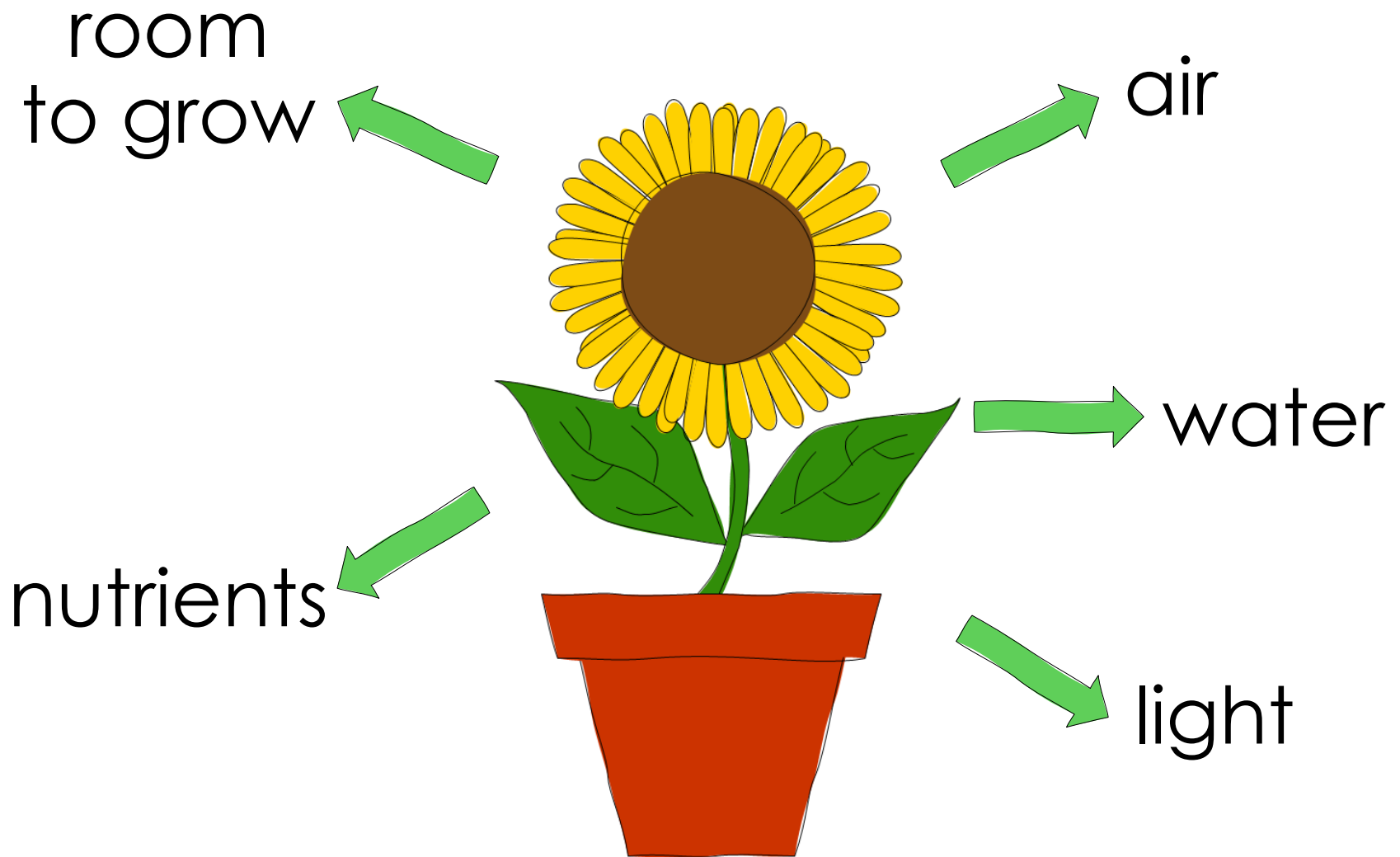


Today we are going to look at what plants need to **grow** and **stay healthy**.

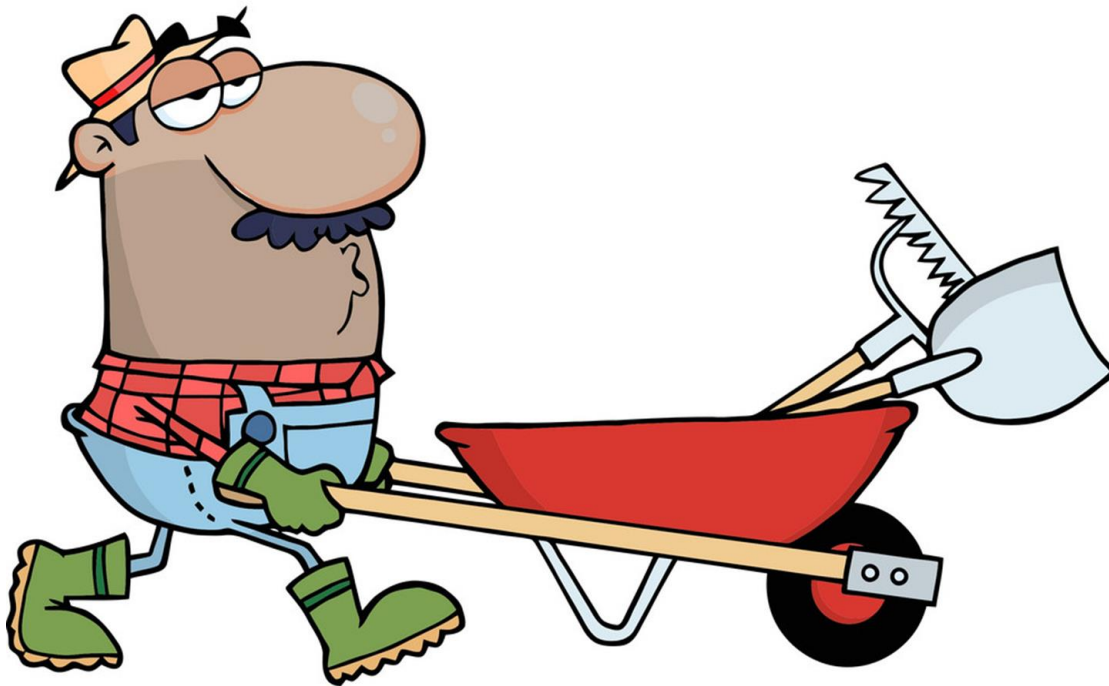


Do you know what plants need to **live** and **grow**?





Plants, unlike animals, are able to **make their own food**. To do this they need **light, water** and **air**...



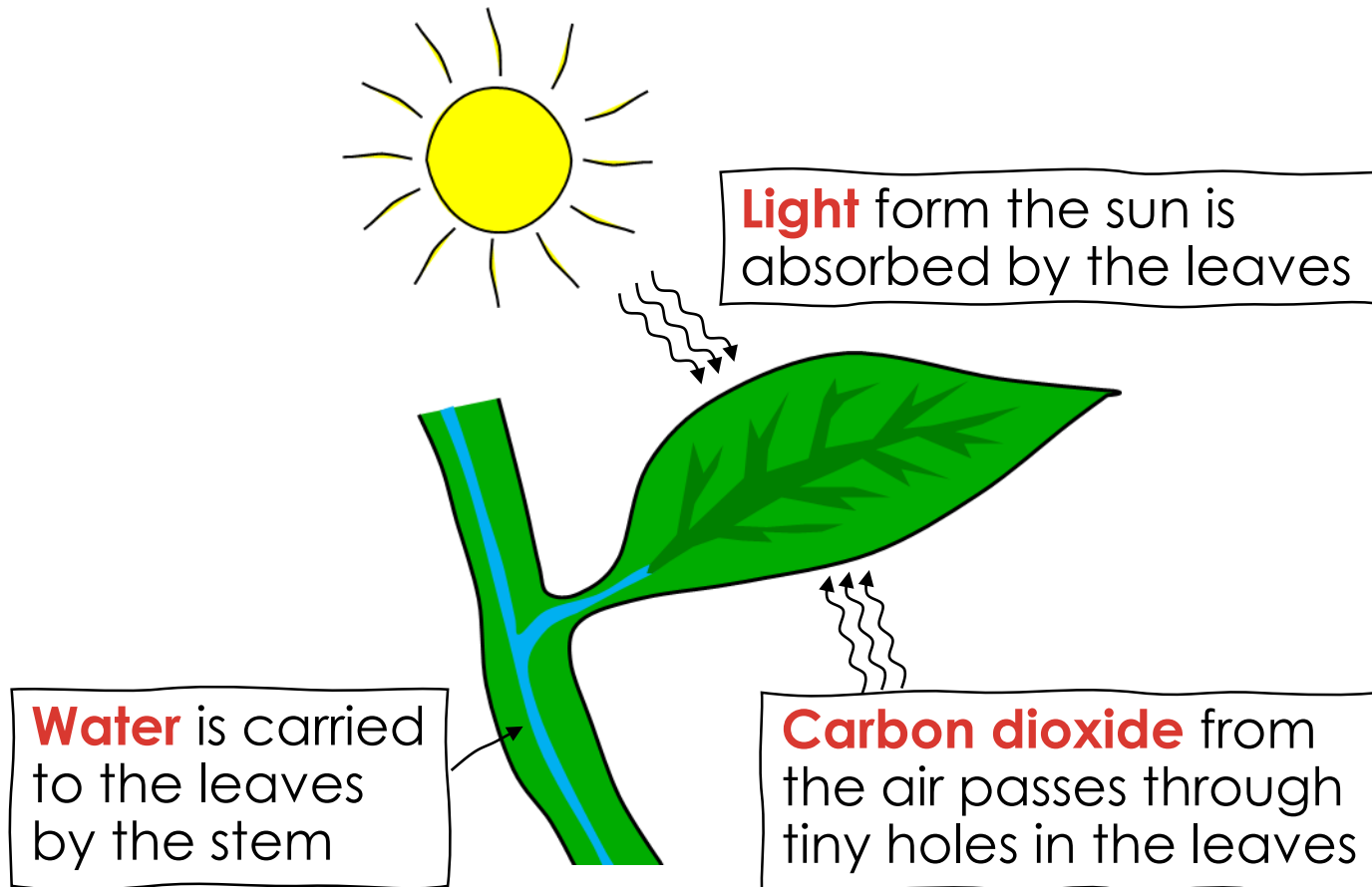
Light - from the sun is absorbed by the plant's leaves.

Water - is taken up through the roots and distributed to the leaves by the stem.

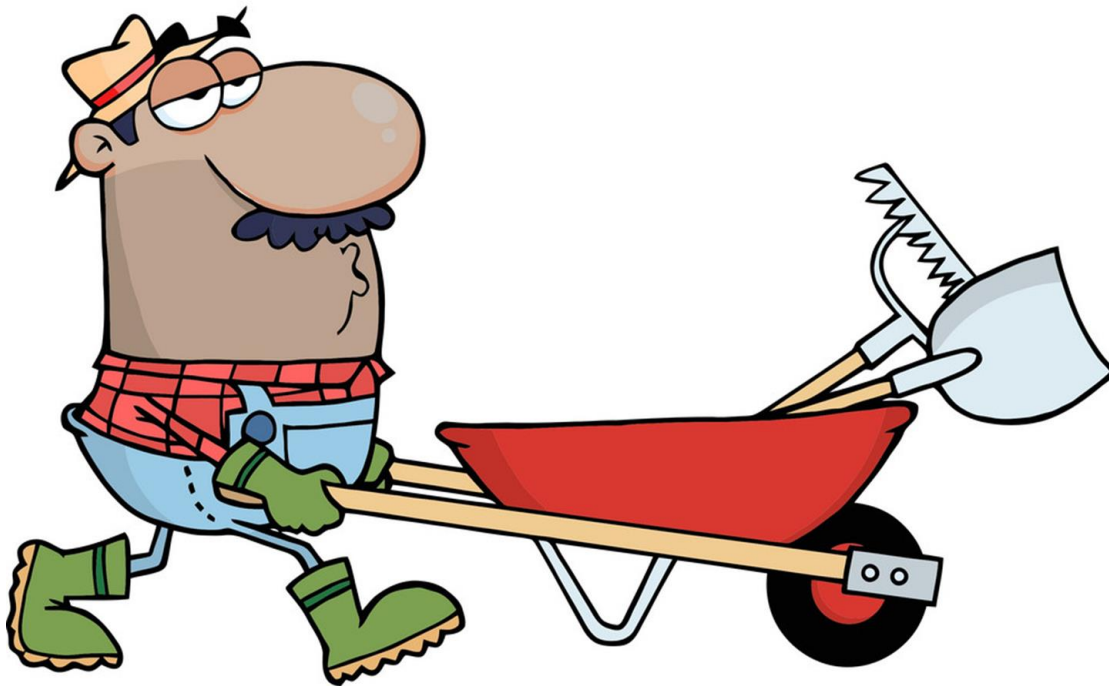
Air - carbon dioxide from the air passes through tiny holes in the leaves.

This process of using light, water and air to make food is called **photosynthesis**...

Photosynthesis



Click **here** to watch a short introductory video about **photosynthesis**.



Brain teaser!



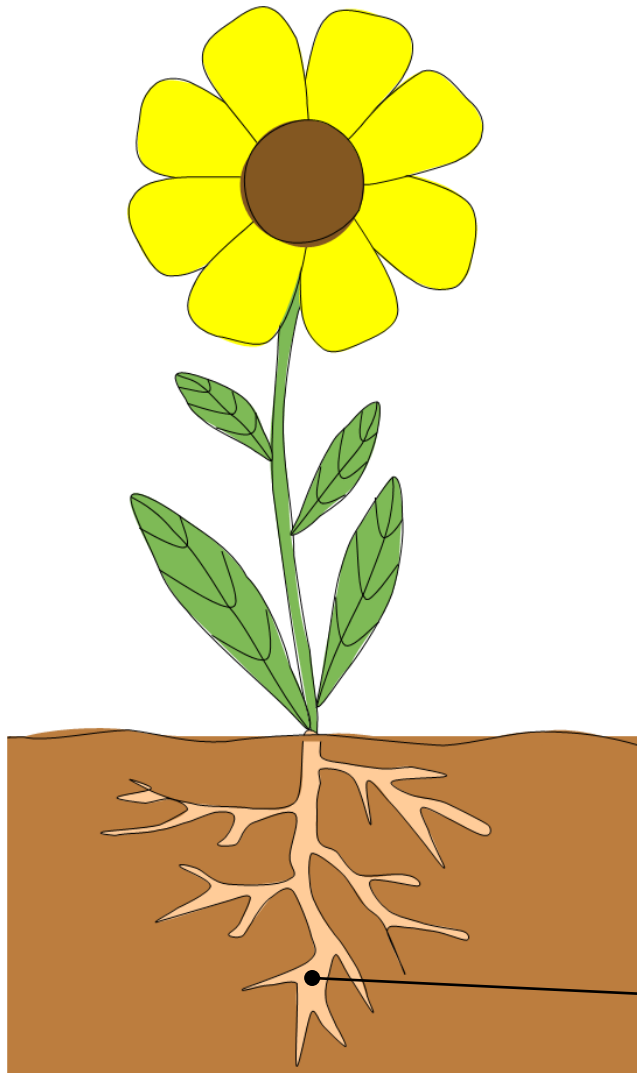
Some of the leaves on this oak tree have died. If all the leaves die, what do you think will happen to the oak tree?

Answer



The whole tree will die because it has no leaves to make food.

Nutrients



Plants need **nutrients** from the soil to grow **strong** and **healthy**. They get these nutrients from **minerals found in the soil**. Plants that do not receive the right amount of nutrients will not grow well and have discoloured leaves.

Minerals are taken up through the roots.

Room to Grow

Plants need enough **room to grow** strong and healthy.

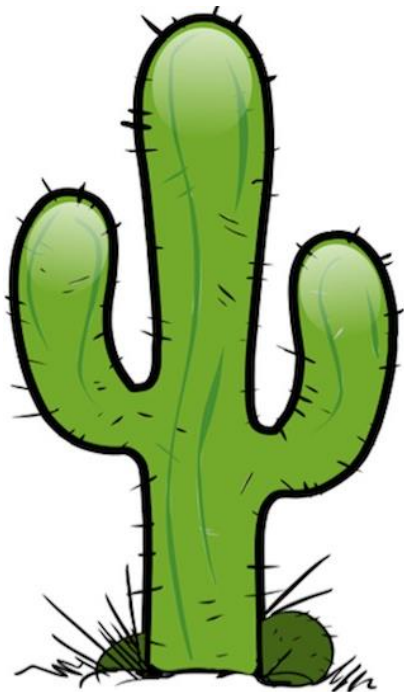
Plants that are spaced too close together will not thrive as they are competing for their basic needs...



- The plant will not have enough room for root growth
- It can decrease the amount of nutrients that any of the crowded plants can absorb from the soil
- Taller plants can block sunlight from smaller plants, preventing photosynthesis

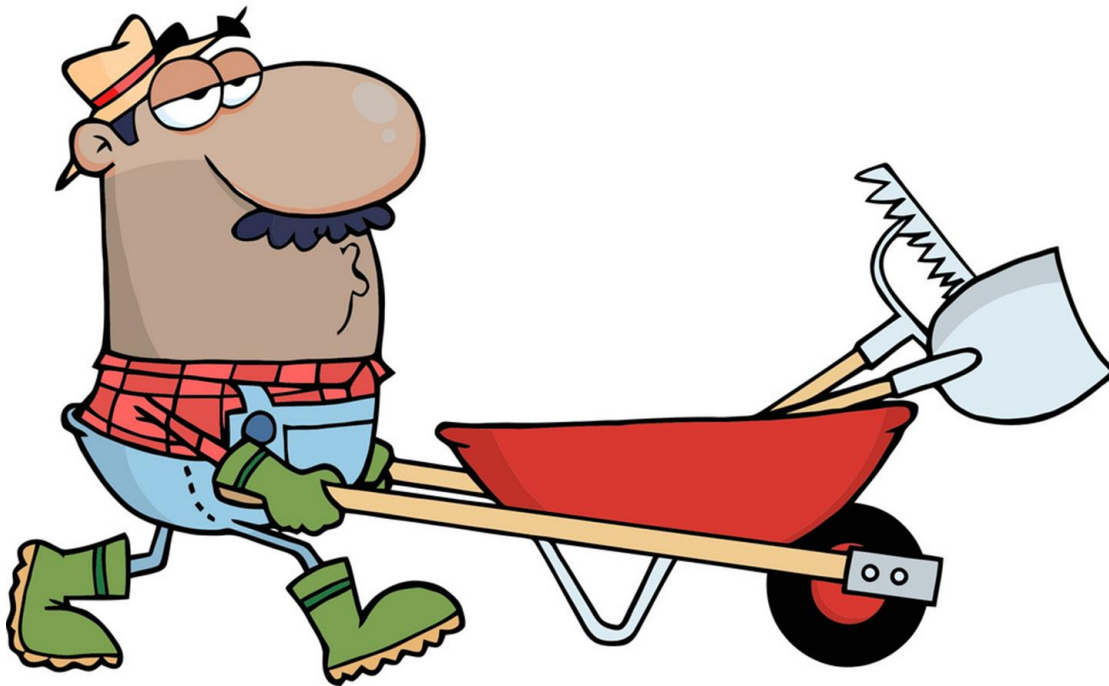
Varying Requirements

So, all plants need light, water, air, nutrients and room to live and grow. However, a plants requirements for these five things vary from plant to plant. For example...



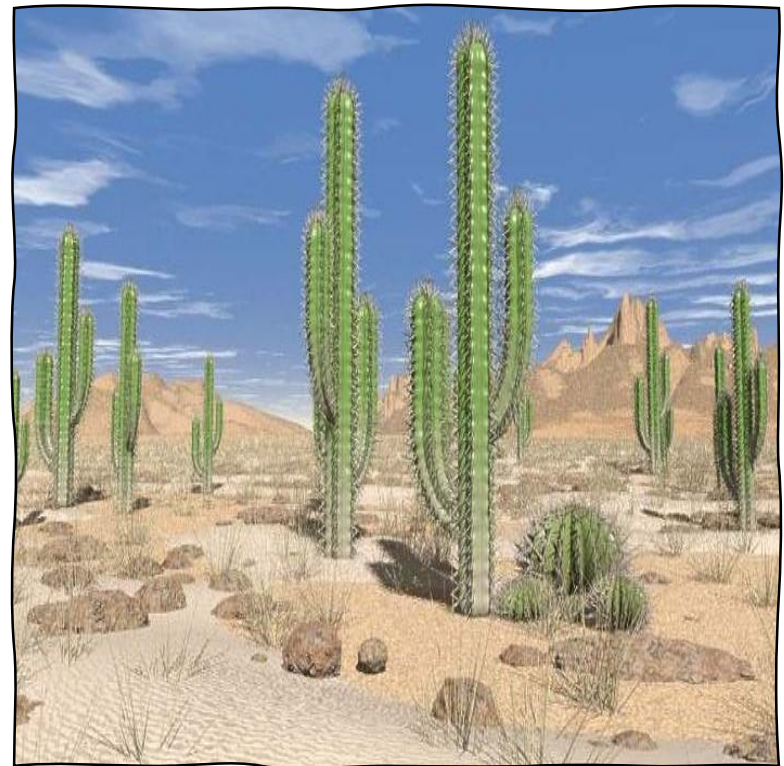
Desert plants, such as a cactus, can survive in hot and dry environments. This is because they only require a little water to survive.

Let's take a look
at how **desert**
plants survive.



Desert plants have adapted their features in order to survive in a **hot** and **dry environment**...

- Small leaves or spines to slow down water loss
- Thick waxy skin holds in water
- Some have wide spreading horizontal roots near the surface of the soil to soak up water quickly before it evaporates
- Some have deep roots to reach groundwater deep down
- Large fleshy stems to store water



Brain teaser!



The bluebells in this forest flower in April and May. Can you think why this happens?

CLUE: think about their environment and what the trees will have a lot of in summer.

Answer



The bluebells flower early before the trees grow big leaves. When the trees are full of leaves, most of the sunlight will disappear.

Seaside Plants

Seaside plants have a hard life. There is no soil – only sand to grow in. There are strong, salty winds, too. Some seaside plants can protect themselves from the wind. Others have long roots that reach down to find water.



Some plants help to form sand dunes. One of these is the marram grass. You will find lots of it at the seaside. It has long roots that grow deep into the sand. They stop the salty winds from blowing the plant away. The roots also hold the sand together, making a ridge. This ridge is called a dune.



Marram grass

When the tall grasses are growing well, smaller plants grow between them. Sea rocket likes to grow between grasses. It has creeping stems. The sand can build up around them.

Sea bindweed grows along the beach, too. This plant binds itself to the sand. It cannot get blown away. It spreads quickly – just like the bindweed that grows in gardens.



Seaside plants can protect themselves in different ways. The yellow horned poppy has hairy leaves. The hairs hold drops of water. These keep the plant damp and healthy.



In dry weather, the marram grass rolls its leaves into thin tubes. These thin tubes trap the damp air. This keeps the grass alive.



The sea holly has thick, waxy leaves. They stop the plant from getting too dry. It has prickles on its leaves – like holly.

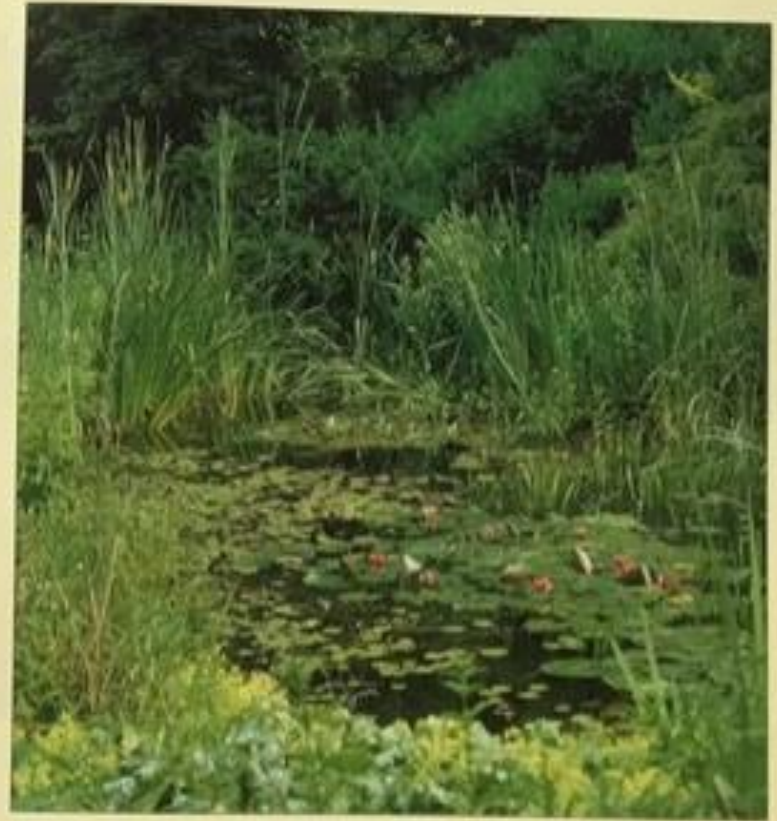


Further back from the sea, there is more shelter from the wind. Shorter grasses can grow more easily and cover the dunes. Heather may grow there, too. It flowers in autumn. Some flowers are pink or purple, some are white. Some people think that heather is lucky.



Pond Plants

Lots of people have ponds in their gardens. The ponds can be full of plants growing in the water. Some float on top of the pond. Some grow under the water so you can hardly see them.



Task

We now know what plants need in order to grow.

Using the internet research how these three plants (snowdrops, pond lillies, cactus) adapt to the environment that they live in. You can use some of the clips below too.



<https://www.bbc.co.uk/bitesize/clips/zw7tfr>

<https://www.bbc.co.uk/programmes/b0078nvx>

https://www.youtube.com/watch?v=ca99WW_v0bA



Do all plants
vary?



Pond lilies
and lily pads

Pond lilies
can adapt
to their
environment
by having
less soil
but more
water.



Snowdrop

Snowdrops adapt
to their environment
by having less
sunlight and
more shade.

Cacti
Cacti can adapt
to their environment
by having
more sunlight and
less water and
has long roots so
on and a day in
the desert, when
it rains it can
absorb water.