
How Does Your
Garden Grow?

What Do the Different Parts of a Plant Do?

1. Flowers look pretty and come in lots of different colours. They can also smell lovely. This helps to attract animals and insects that help the plant to make seeds for new plants.

2. The stem helps support the plant and keeps it upright. Water and food are taken up from the roots and transported through the stem.

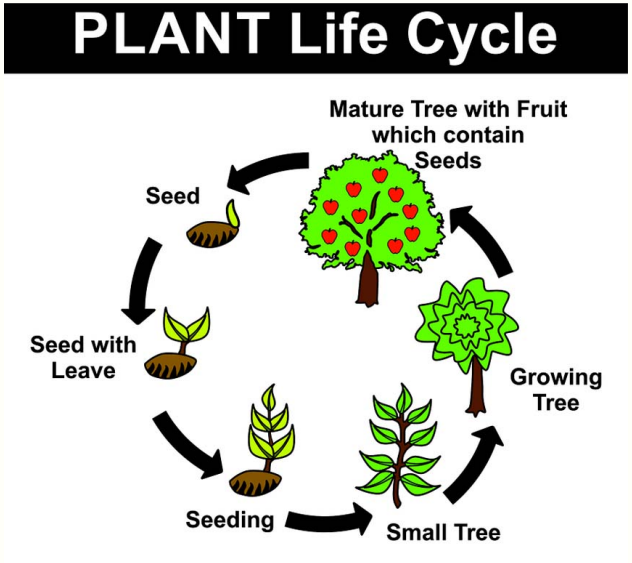
4. The roots of a plant anchors the plant in the ground and without roots a plant would fall over. Roots are also take in nutrients and water from the soil.

3. The leaves are very important they absorb the sunlight which they use to make food for the plant. This is called photosynthesis.

Life Cycle of a Plant

Find out about the life cycle of a plant by watching this clip:
https://www.bbc.co.uk/bitesize/clips/z3wsbk7

Listen carefully to what the video tells you about how seeds are dispersed (spread).



Seed Dispersal

Look at the pictures on the next page
How do you think these seeds are dispersed?

Would animals eat them and then poo them out?
Do they stick to animals and travel with them?
Do they look like they might float off in water?
Would they explode out of a plant?
Would they float off in the wind?

Write down your ideas then check your answers on page 6.

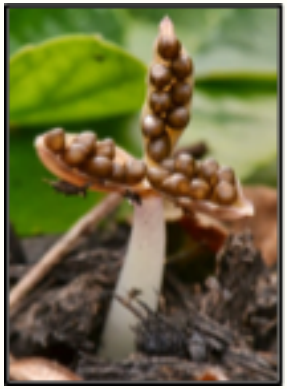
Seed Dispersal

Dandelion

Sandbur

Blackberry

Wheat



Violet

Coconut

Seed Dispersal

Dandelion sees are dispersed by the wind.

Blackberry seeds are dispersed when they are eaten by animals.

Wheat seeds are dispersed when they are eaten by animals

Coconut seeds float off in water.

Sandbur seeds are dispersed when they stick to an animal's fur.

Violet seeds are dispersed by explosion.

Can you make a list of other plants and say how their seeds are dispersed?

How to make a dandelion seed 3D clay model

You will need:
Cotton buds or pipe cleaners
Modelling putty or foam clay
Art straws

Roll foam clay into a ball.

Push a pipe cleaner into it. This will be the stem.

Then push cotton buds or pipe cleaners into the ball.
These will be the feathery bits of the dandelion seed. This is not for investigating but to stimulate discussion.

Have a go at making your own model of how a seed can be dispersed by using the ideas on this page and the next one.

How to make a helicopter seed
(like a sycamore seed)

1. Take a piece of paper like this.

2. Make three cuts as shown here:

3. Fold the paper as shown here:

4. Fold the helicopter blades on opposite sides.

Send some photos of what you do to me at info@st-jo-st.dudley.sch.uk

Links to books:

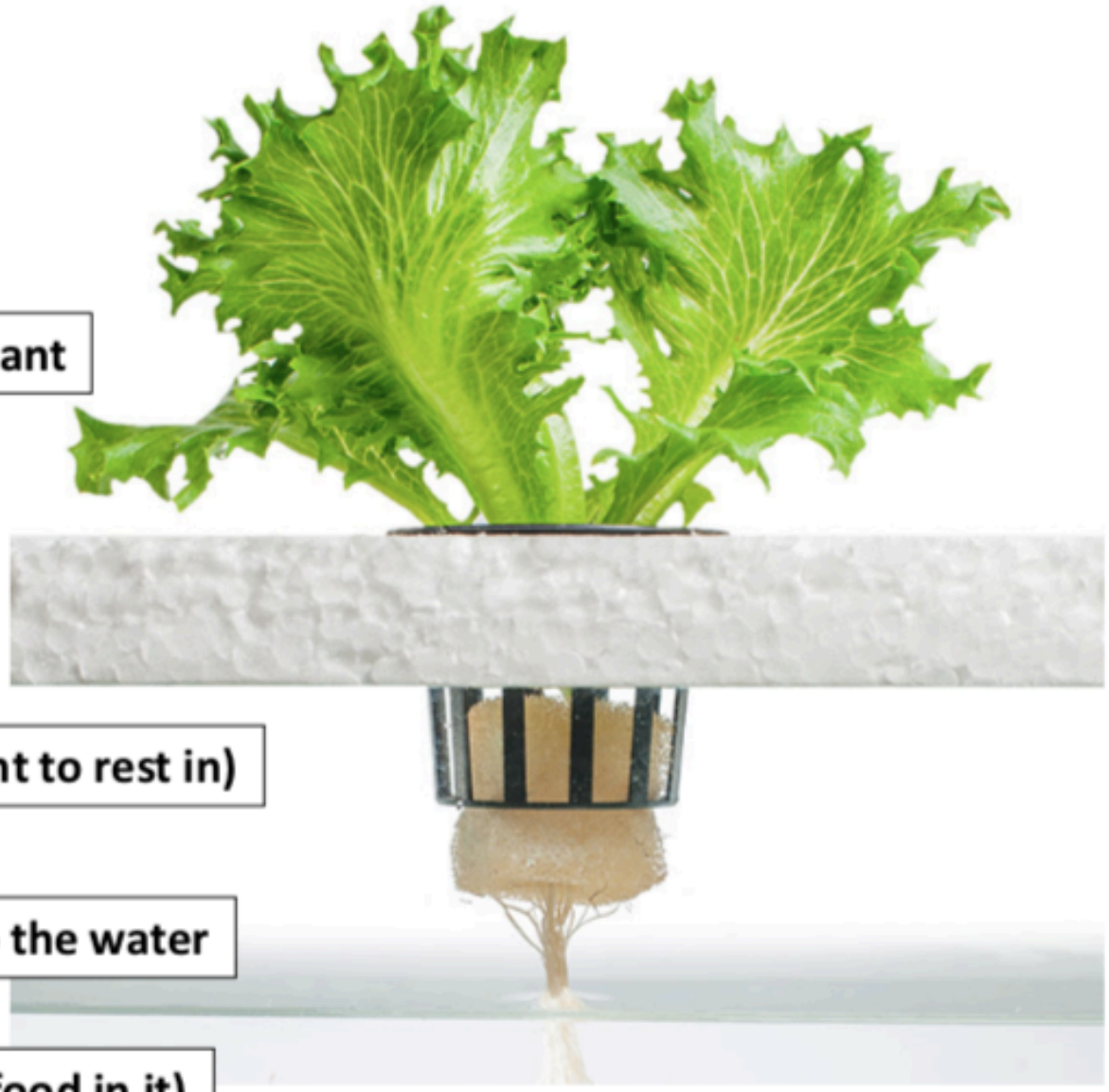
'Travelling Seeds' and 'Bees Like Flowers' by Rebecca Bielawski, 'The Tiny Seed' by Eric Carle.

Hydroponics

Watch this video at:
https://www.youtube.com/watch?v=EKx4ZwoJqXY

We often think that bulbs need soil, because in this country we usually see plants growing in soil. But plants can grow just in water, so long as the water has the right food in it to keep the plants healthy. This is called 'hydroponics' This is a useful technique in cold places with no soil, like Antarctica, and hot places with no soil - like the Sahara Desert. Have a look at the next page to find out more about hydroponics and how you can try this out at home! .

Hydroponically grown plants



Leafy part of the plant

Basket (for the plant to rest in)

Roots growing into the water

Water (with plant food in it)

Hydroponics

Hydroponics means growing plants in water.

Plants can be grown hydroponically (in water) in all sorts of ways. Sometimes they are even hung from the ceiling!

On the next page you can find out how you can grow a bean using hydroponic technology – at home.

How to grow a bean in a bag

You will need:
a few seeds
paper towel [school ones are ideal]
stapler
plastic bag [the A4 sized kind which seals at the top works best]
ruler

Label bag with your name, date and seed name.

Fold a paper towel so that it just fits inside the bag.

Take a ruler and measure 7 cm from the top of the bag and staple a row of staples from one edge to the other through the plastic bag and paper towel. If you are using very small seeds then make the staples closer together. You will have a mini-shelf- 7 cm deep. This is where the seeds are going to sit.

Pour enough water into the bag so that it will soak up through the paper towel but leave a small reservoir of water at the bottom of the plastic bag (about 2-3 cm).

Sit the seeds on top of the staples. Seal up the bag so no air can escape or get in. Tape it to the window or peg to a washing line in the classroom.

Within a few days, depending on the time of the year, the seeds will begin to germinate. Children can clearly see the growth of roots and then the shoot. As soon as the young plants reach the top of the sealed bag they can be carefully removed and potted up.

Record your results on the sheet on the next page.

Then try the same experiment but put your bean in a bag in a cupboard. Watch what happens. You can record your observations on the sheet on page 14. Compare the results.

My Bean in a Bag Diary

Today the date is:

and my bean looks like this:

Next week I think my bean will...

Today the date is:

and my bean looks like this:

Next week I think my bean will...

Today the date is:

and my bean looks like this:

Next week I think my bean will...

Today the date is:

and my bean looks like this:

Next week I think my bean will...

My Bean in a Bag Diary in the cupboard!

Today the date is:

and the cupboard bean looks like this:

Next week I think it will...

Today the date is:

and the cupboard bean looks like this:

Next week I think it will...

Today the date is:

and the cupboard bean looks like this:

Next week I think it will...

Today the date is:

and the cupboard bean looks like this:

Next week I think it will...

What happened

Compare the beans you grew.

Did the bean you grew in the cupboard, look the same as your other bean?
What is similar about the cupboard bean and the other beans? How are the leaves, roots and stem similar/ different? How would the bean continue to grow if it was kept in the cupboard? How would it change if it taken out of the cupboard?

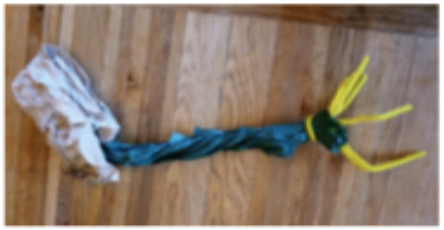
How to make
A Junk Model Bean

You will need:
Craft and junk modelling materials
Tape
Glue
Wool or pipe cleaners.

Make a stem.
Twist tissue paper and bend.

Crunch brown paper up
for the bean coat.
Tape to make it the right shape.

Use pipe cleaners or wool for
the roots.



Can you label your model?
Cut these out.

Stem

Roots

Leaves

Why don't you make a model of a bean?

Can you label all the parts?

Grow Your Own

Watch this video at:

http://www.bbc.co.uk/cbeebies/makes/mr-blooms-nursery-cressheads

Have a go at growing some cress. Before you start predict:

How long will it take for the seeds to start to grow? How long until the cress is full-grown? How big do you think the cress will be when it is fully-grown.

Have a look this time lapse clip of cress growing.

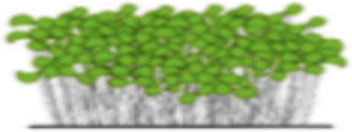
https://www.youtube.com/watch?v=qtECPtJzW7A

Were your predictions correct?

Remember after you plant your seeds, you won't actually be able to see your cress grow but it does grow quite quickly, so it is worth looking for changes every morning.

How to make

My Cress Head



You will need:
An egg shell or yogurt pot
Cotton wool
Water
Cress seeds
Googly eyes
Pen
Glue

1. Stick googly eyes on to your pot or draw with a pen

2. Fill your empty yoghurt pot or egg shell with cotton wool

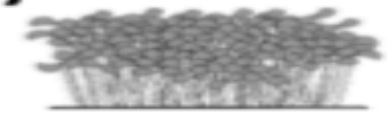
3. Leave some space at the top so the seeds don't fall out

4. Pour in a little water until the cotton wool is damp but not soaked with water

5. Sprinkle the cress seeds over the cotton wool

6. Leave your cress head in a warm, sunny position and wait for the hair to grow. If you're using an empty egg shell then the egg box is an ideal stand

My Cress Head



How is it growing?

Today the date is:

and my cress looks like this:

In three days I think my cress will...

Today the date is:

and my cress looks like this:

In three days I think my cress will...

Today the date is:

and my cress looks like this:

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Plant Art!

Have a look at this paining. It's by an artist called Giuseppe Arcimboldo. Can you see how he created this image? Have a look at this video to find out more about his work:

https://www.youtube.com/watch?v=hrHZL8pp--M

Challenge:
Can you create a fact file about his life?

Your Turn

Have a go at creating art in the style of Arcimboldo! Always ask permission before you begin and only use what your grown up says you can.

Examples:

I can't wait to see all your amazing work, Year 2. Please send lots of photos to me at info@st-jo-dudley.sch.uk

I'll be having a go at these tasks too, so please look out for what I've been up to in our Friday letter.