



airfield
estate

Plant Workshops

Pre & Post Visit Activities





Airfield in Dundrum is Dublin's only working farm that is open to the public. Airfield is a charitable organisation, established by the Overend family in 1974, for educational and recreational purposes.

Our farm, gardens, café and heritage experience in the Overend family home, offers visitors a wonderful opportunity to enjoy and learn about food, farming and the natural work in a unique and relaxed urban environment.

Airfield's Mission is to inspire people to refresh their connection with food and the land it comes from. We aim to do this by using our farm, gardens and natural surroundings to provide a range of enjoyable experiences and opportunities for active learning.

Airfield – Our history informs our future

The Overends were a comfortable middle class Dublin family. Trevor Overend a solicitor, brought Airfield as a summer house in 1894 but decided to make it his family's permanent home several years later.

Both his daughters Letitia and Naomi grew up and remained here until they died. They both were actively involved in the farm and their extensive gardens as well as their many charitable pursuits. As a family they had always been concerned with the welfare of others and as far back as the early 1900s. Naomi, then aged eight, organised a fund-raising fete at Airfield in aid of the National Society for



Prevention of Cruelty to Children.

Airfield's story

At the turn of the century Dublin had the worst death rate in the British Isles with problems arising from overcrowded tenements, poor sanitation and a lack of nutritious food. In response to this the

Overend family, along with other producers provided pasteurised milk for the first 'clean milk' depot which supplied inner city families with a safe milk supply. The sisters were also active

members of the Victory Nurses and the St. John Ambulance during both World Wars. The Overends were instrumental in establishing the Children's Sunshine Home in 1924 (now the Laura Lynn Foundation) which was then a convalescent home for children suffering from rickets and other diseases caused by malnutrition and poor housing.



Airfield – The new future

Airfield was established as a charity for educational and recreational purposes. With this remit from our benefactors in mind Airfield has been re-designed to facilitate active learning focusing on food, farming and the land. For example our new food gardens with their pathways through espaliered fruit trees and vegetables are designed to be places of discovery, education and fun. The formal gardens contain ornamental farmstead plants (oregano/artichoke/parsley) where the public can share our passion for planting, growing and cooking local seasonal home grown food. Our food beds have been planted to excite and enthuse visitors to grow food and also to show them how our food is grown and what it looks like before we see it on our plate. The same ethos has been applied to the new farmyard where children can see at first hand the animals that provide us with dairy products, meat and clothing materials.





Introduction

Plant Workshops

Pre & Post Visit Activities

Airfield is a charitable organisation established by the Overend family in 1974 for educational and recreational purposes. We are a 38 acre working farm and gardens that also contains our heritage experience in the family home and our on-site market and café. Our education courses are facilitated by expert guides and are all curriculum based, ensuring that you and your students can make the most of Airfield and the hands-on learning experiences they have here.

Our plant workshops will take your students on an adventure through the gardens and hedgerows of Airfield to discover the life that is held within it and around it. Your students will learn about the native plants, trees and animals that live in, and form, our natural environment. Through touching, tasting and smelling plants and our knowledgeable guides, children will start to use all their senses and skills to interact with the natural world around them. Throughout the seasons of the year, children will experience a range of plant and animal life alongside the stories of how and why they are present at this time of year.

Pre-Visit and Post-Visit

In order to make the most out of your visit to Airfield we would ask that you would prepare your students for the visit by talking about the trip and what you will see and experience when you are here.

We want to promote the variety and usefulness of native plants, both food and ornamental by demonstrating to our visitors how important they are for keeping our landscape the way it is and how they can help create the food on our plates. They are also a great way of introducing numbers, shapes and colours to young children. We have attached a few resources to help you on your way.

After visiting Airfield you can use some of the activities to help re-enforce and explore some of the discoveries they made during their time with us.



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Activity 1

Parts of the plant

Plants are exciting living things. Just like people there are different types of plants, but they all have similar parts and this helps us to identify what kind of plant they are.

All plants have leaves, stems, flowers and roots, but they might look slightly different depending on the type of plant and where it grows, but overall, there are two main types of plant.

Insect Pollinated Plant:

These plants have flowers. The plants use the flowers to reproduce and create their seeds. They rely on insects to **pollinate** the flowers. The flowers are usually brightly coloured and highly scented to attract the pollinators to them. They will also contain **nectar**. This is a sugary fluid at the bottom of the flower that tempts the insects into the flower making them rub past the pollen and collect it on their bodies. When they move to the next flower they transfer the pollen.

Wind Pollinated Plant:

These plants don't have flowers in the traditional sense. These plants (like grasses) use the wind to pollinate each other. They produce huge amounts of light pollen that floats through the air and other grass plants catch it. They don't have petals, a scent or nectar as they don't need to attract insects to pollinate them.

Part A

Both types of flowering plants are illustrated on the following pages. Get the children to recognize and name the main parts of both. They can construct their own plant by cutting out and assembling the parts. They can read the function boxes and put the relevant ones beside the right part of each plant.

Part B

Use a lily flower to look at all the parts of the flower.

- Look at its colour
- See if it has a smell
- What is the orange stuff on the end of the green stalks? Why does it come off easily?
- Pull off the petals – can you see a clear, sticky liquid at the base of the petals?

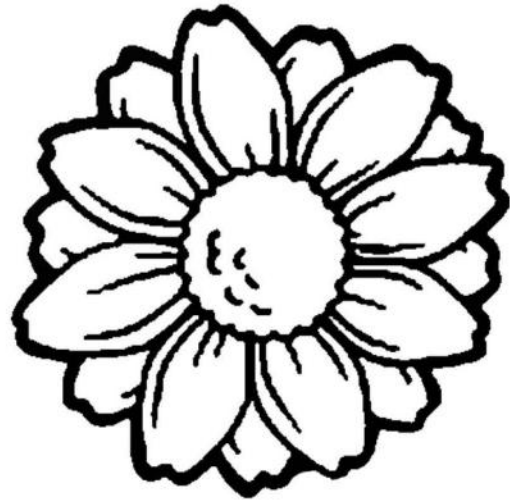
Use a grass flower (grass flowers from late April onwards).

- Look at its colour
- See if it has a smell
- How do we know insects don't pollinate this plant

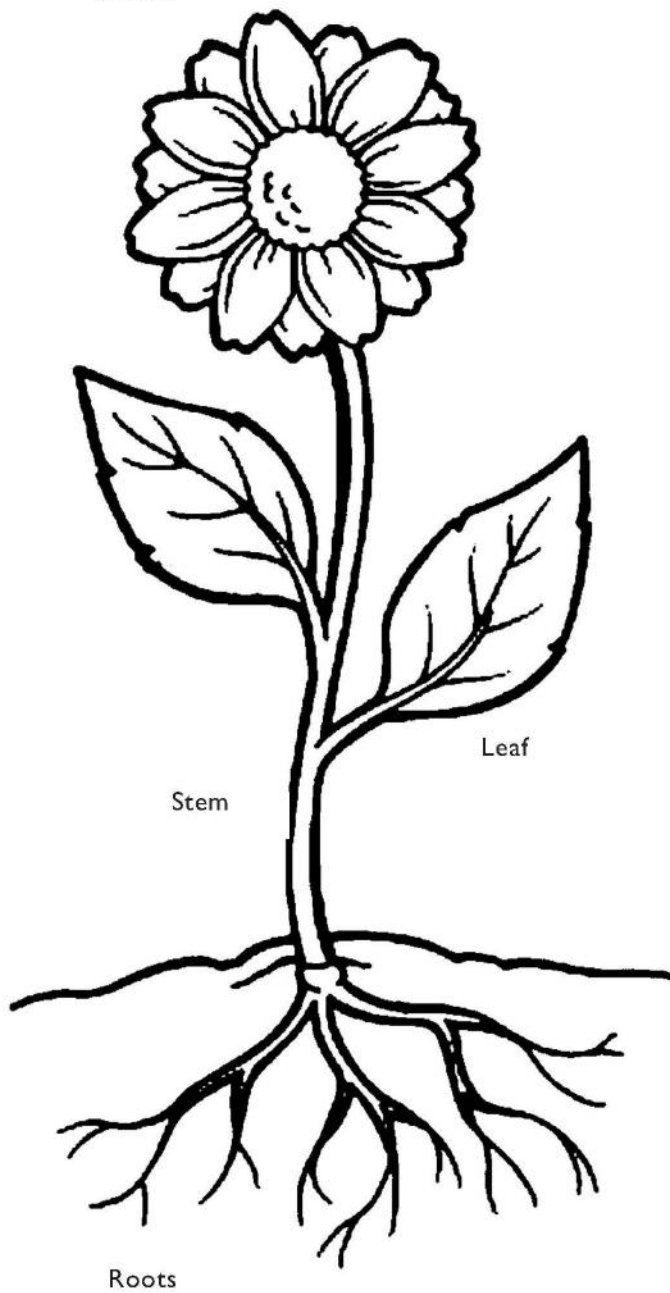
Are the parts easy to see? Why is it smaller than a real flower?

Parts of the Plant

Insect
Pollinated
Flower

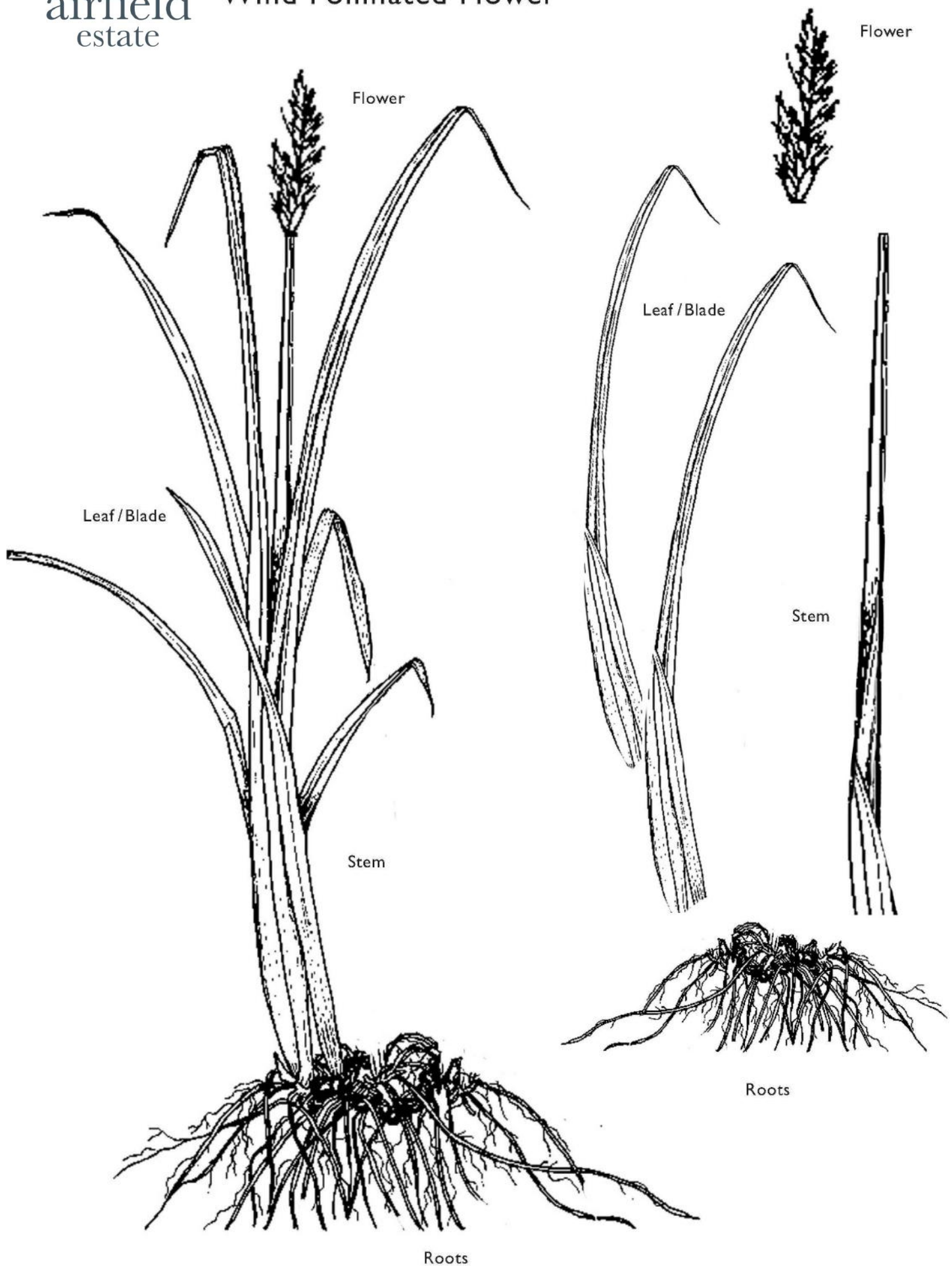


Flower



Parts of the Plant

Wind Pollinated Flower



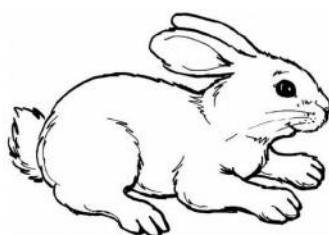
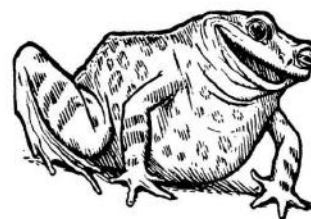
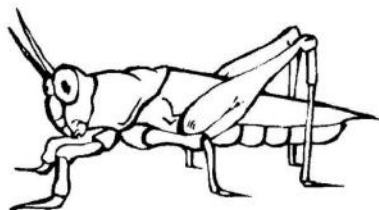
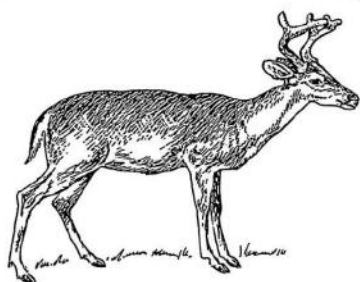
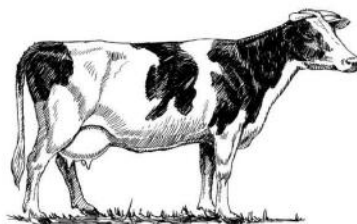
Activity 2

What's so great about grass?

Grass is abundant in Ireland as our climate suits its growth very well. Grass uses energy from sunlight and through photosynthesis, turns it into sugars that can be eaten and digested by many animals. It is therefore at the start of most food chains.

Get your class to look at the shape of grass leaves and the patterns of the veins inside. Get them to peel back the leaves on a grass plant to see the stalk to which they are attached.

Use the cut outs below and the arrows on the next page to make a food chains and a food web starting with the grass in every case.





Parts of the Plant

Function Boxes

Flowers

contain no petals
and no nectar.

The pollen produced
by the flower is light
and can float along in
the wind.

Flowers

contain petals and
nectar.

The petals are brightly
coloured and produce
a smell that attracts
insects to the flower.

The nectar is sweet
and is a food for
insects.

Flowers

Flowers

Stems

Stems

The leaf

is usually green and
takes in energy from
the sun. It changes the
energy from the sun
into food for the plant.

The bigger the leaf,
or the more of them,
the more food the
plant can make.

Stems

hold the plant upright
and the leaves grow
out from it.

It allows water to travel
up the stem into the
leaves.

It allows food made in
the leaves to move to
the other parts of the
plant.

The leaf

The leaf

The roots

of the plant hold it
firm in the ground.

They take in water
and nutrients to feed
the plant and keep
it alive.

The roots

The roots

Activity 3

Whistling with grass

This is a great skill to learn and makes sitting in the grass even more fun! Pick a blade of grass that's at least about 8 cms long. Try to use a tough piece of grass if you can with a wide blade.

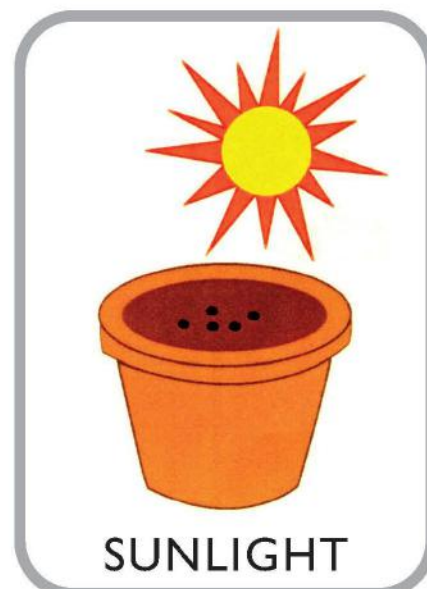
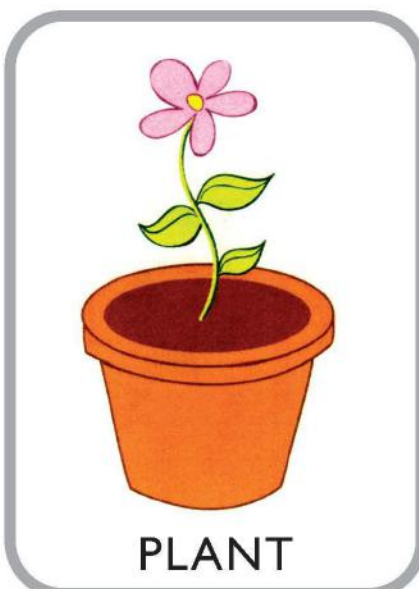
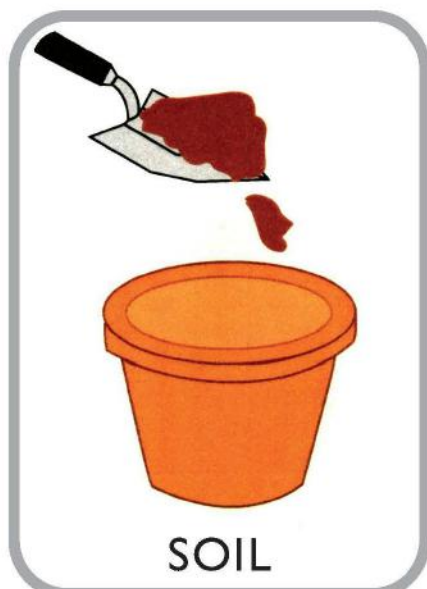
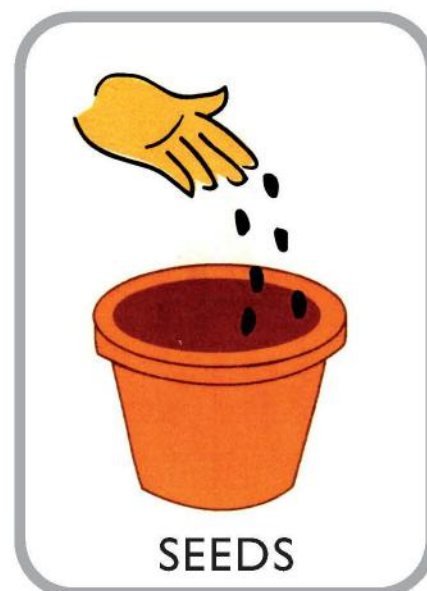
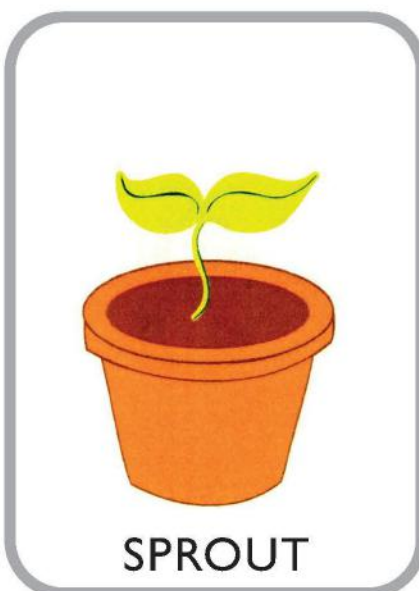
Lay the blade across the outside of one thumb. Press the outside of the other thumb against the first thumb - first, the base of the thumb, and then **the tip**. This should create a small pocket between your thumbs, with the blade of grass stretched flat in between. The blade needs to be fairly tight. Blow into the pocket (try making a small slit with your lips); this should vibrate the grass and make a squawking sound!

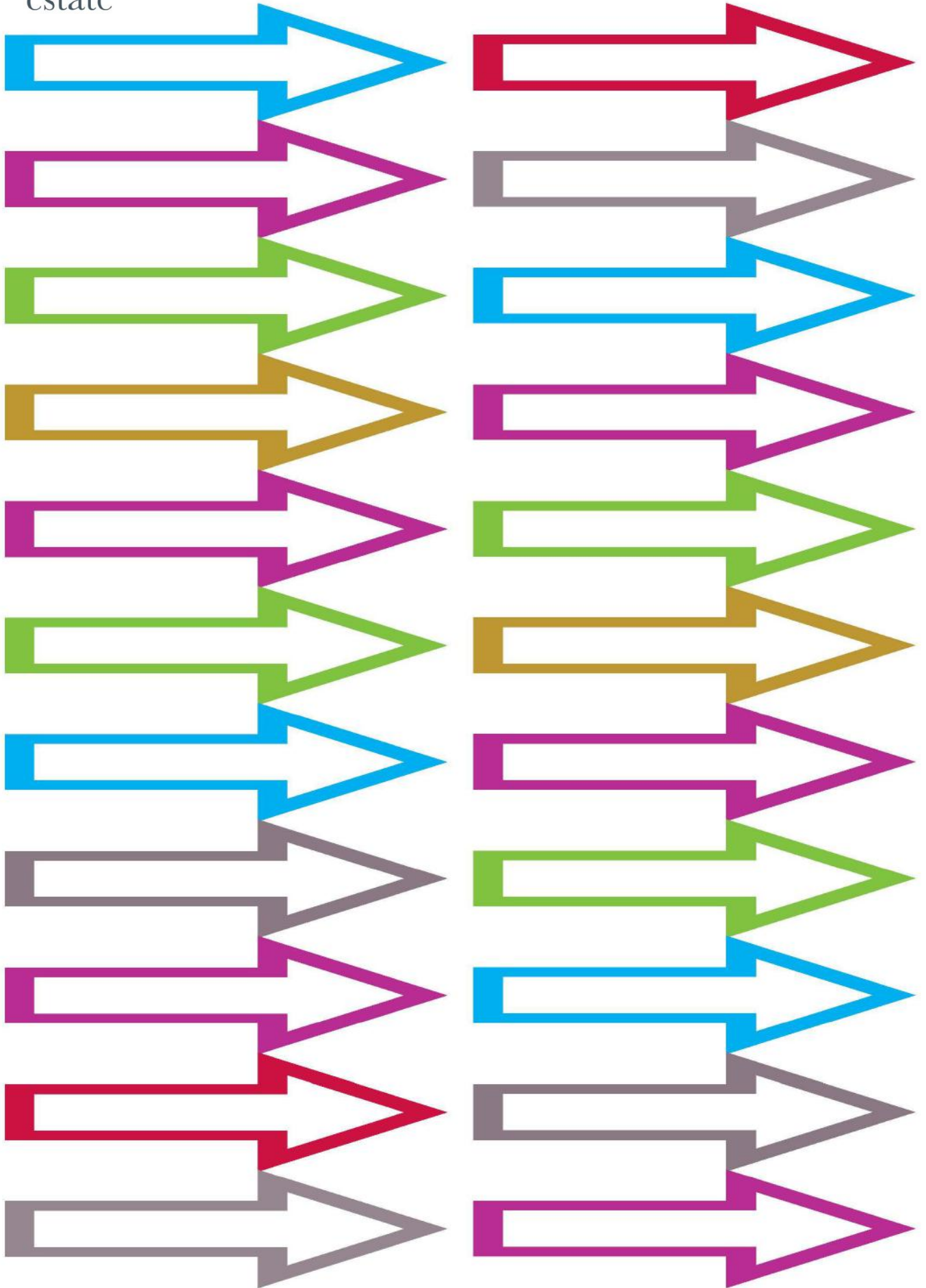


Activity 4

Sequencing cards

Use the cards below to get the class to sequence the events in relation to plant growth.





Activity 5

Build a terrarium

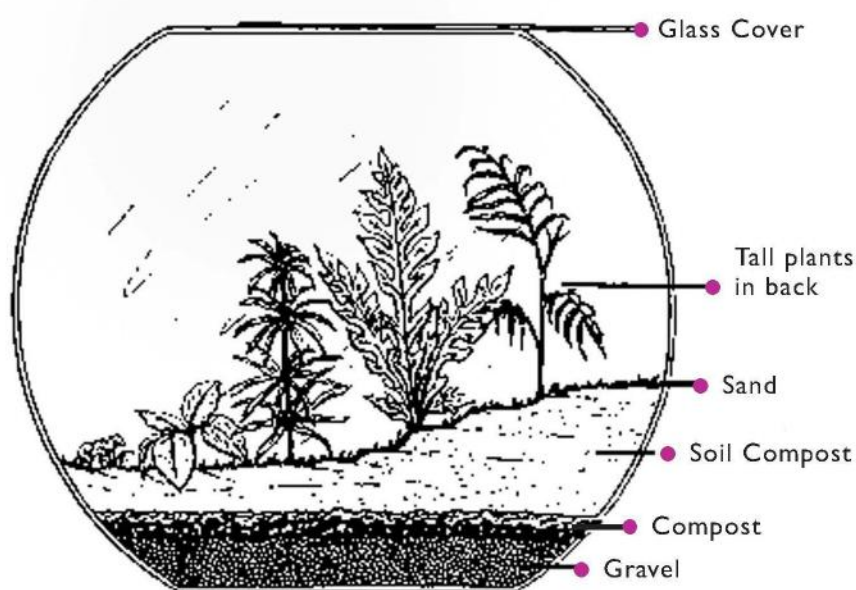
A terrarium is a nice way of getting your students to understand that some plants grow in different environments. They are also really pretty and low maintenance which means they can be a great addition to the classroom. Using tropical plants can be a little expensive, but will open up the discussion towards rainforests and the useful plants found there, as well as the impact of deforestation on countries, their soil and the world around us.

You will need:

- A see-through container, can be glass or plastic (clear is better than coloured)
- Compost
- Gravel
- Sand
- Plants – succulents, cacti, herbs (like lavender, rosemary or thyme) or mosses.

What to do:

- Wash out the container
- Put in a layer (about 4 cms) of gravel to allow for drainage at the bottom.
- Put in a layer of compost (about 2 cms)
- Put in a layer of sand (about 2 cms)
- Put another layer of compost (about 2 cms)
- Place your plants into the compost – take care not to over crowd them
- Place the moss around them or fill in with more compost.
- Lightly water and leave on the window sill.



Activity 6

Grow a carrot in a plastic bottle

Growing a root vegetable is a great way of showing children that some plants produce what we need below the ground and some above the ground. Carrot seeds germinate easily in heat and the plastic bottle allows enough space for the carrot to grow.

You will need:

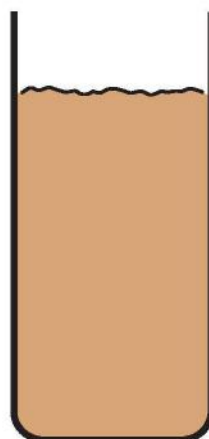
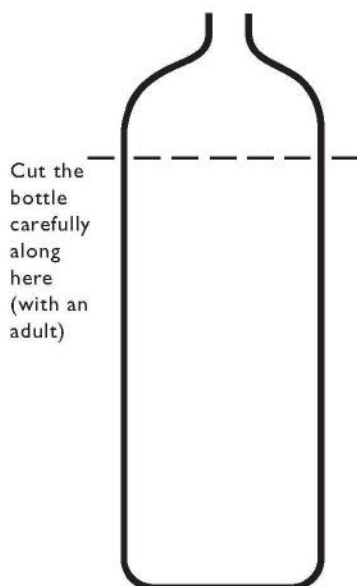
- 2 ltr. Plastic bottle
- Compost
- Sand paper
- Carrot seeds
- Water

Note:

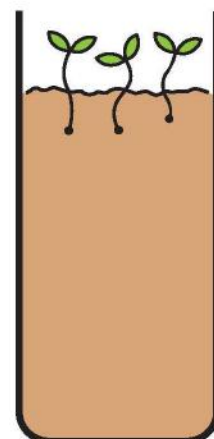
This bottle grower can be used for any number of plants. You could even create a small herb garden in your classroom!

What to do:

- Wash the plastic bottle out to remove any sugar residues.
- Cut the top 10cms from the top of the bottle.
- Use the sand paper on the cut edges of the bottle to smooth them down.
- Fill the bottom with compost.
- Plant up to 10 carrot seeds (not all of these will germinate, and then you can thin out the weaker ones later on).
- Water the seeds and leave them on the window sill.
- If you are doing this in winter, you might like to put the top part on the bottle back on, so it acts as a small green house.



Fill the bottle with compost



Plant some seeds in the compost and watch them grow

Activity 7

Change the colour of flowers

This is a very simple experiment that shows that water moves up the stem to all parts of the plant. Using a flower like a white carnation can show that water moves to all parts of the plant, even the petals, whereas using a stick of celery means you can cut it in half and see the water tubes (xylem) inside the plant that transport the water.

You will need:

- Two cups
- Food colouring
- Water
- Flowers (white carnations seem to work best)
- Celery
- Sharp Knife

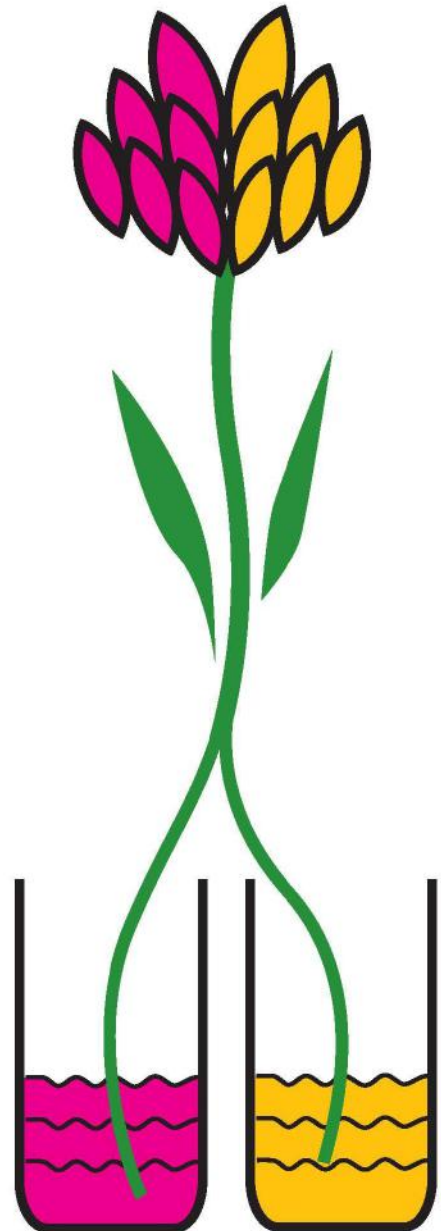
What you need to do:

For the carnation:

- Fill the two cups with water.
- Mix the food colouring into each cup separately.
- Use the sharp knife to cut off 2cms of stem.
- Use the knife to split the stalk up the middle about 10cms.
- Place each side of the stalk into a different cylinder (make sure they touch the coloured water).
- Leave for two days – ensure to keep topping up the water and food colouring if they evaporate.
- Note what happens to the flower.

For the Celery:

- Fill a cup with water and food colouring.
- Cut 2cms off the bottom of the stalk.
- Place the celery in the water.
- Leave it for two days.
- Take out the celery and cut the stem half way up
- You should be able to see the tubes (xylem) that carry the water as they will be coloured.



Activity 8

Bottle Reservoir Planter

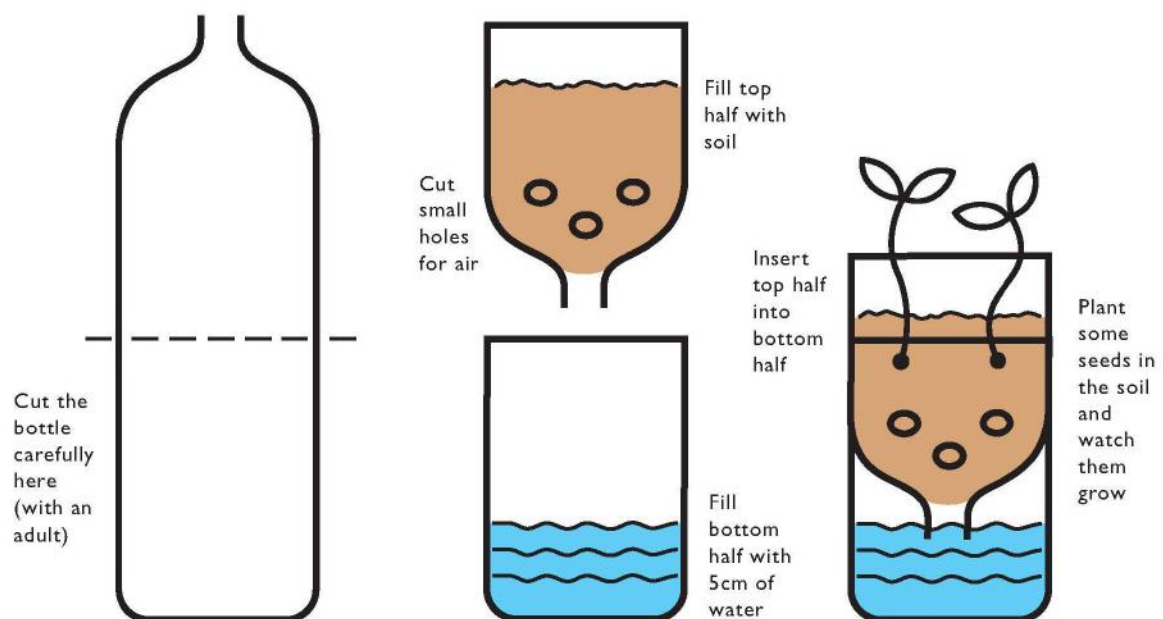
Plants need lots of water to stay alive and grow. This is an easy way to measure how much they use. As the plant grows the water disappears from the reservoir at the bottom. The plant roots may also be visible through the sides of the plastic bottle. You and your class can keep track of them growing.

You will need:

- 2 ltr. plastic bottle
- Scissors
- Compost
- Some plant seeds
- Water

What to do:

- Cut the bottle in half (as in the diagram below).
- Fill the bottom with water to a depth of 5 cms.
- Place the compost in the upper part of the bottle – make sure its quite compact.
- Place the upper part into the bottom part of the bottle and make sure the neck of the bottle is sitting in the water.
- Sow some seeds in to the compost and water them a little to get them going.
- Remember to top up the reservoir when needed.





For older students

For older students this can be a great opportunity to measure and study how the plant grows. You can measure the amount of water used by the plant and create graphs that show the rate of growth of the stem.

To do this, set up the experiment as before and use the changes below:

You will need:

- 2 x 2 ltr. plastic bottle
- Graduated Measuring Jug
- The rest as listed (left page)

What to do:

- Cut the bottle in half (as in the diagram below left).
- Fill the bottom with water to a depth of 5 cms. Measure how many mls of water there is in a graduated measuring jug.
- Place the compost in the upper part of both bottles - make sure it is quite compact. It is important to use the same amount in both.
- Place the upper parts into the bottom parts of the bottles and make sure the necks of the bottles are sitting in the water.
- Sow some seeds in to the compost of one of the bottles and put water them with 50 mls of water to get them going.
- Put 50 mls of water into the compost of the other bottle where no seeds have been planted. This is your control – always needed when doing a fair test.

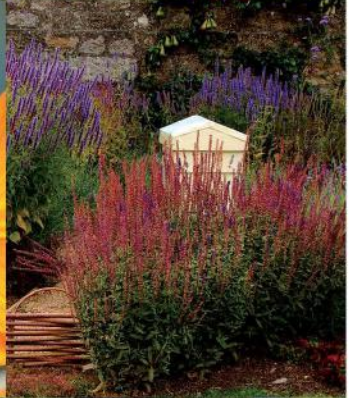
Water will be used up by the plants as they grow and you will see the level drop in the reservoir below.

It will also evaporate due to the heat of the room. This will happen in both bottles so you can calculate how much of the water you need to top up with is used by the plants for growing and how much evaporates.

Notes




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How many
plants can
you see?