



SUMMER SCIENCE IDEAS FOR THIS HALF TERM

I hope this finds you and your families well. Below are some fun science activities to keep you going this half term as well as some lovely outdoor and wildlife projects. Have fun!

Miss Langford

For summer term our topic is 'Plants.' We begin by focusing on following target:

* identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.

You may want to try the following:



Look at the **parts of a flowering plants** using the following online resources:

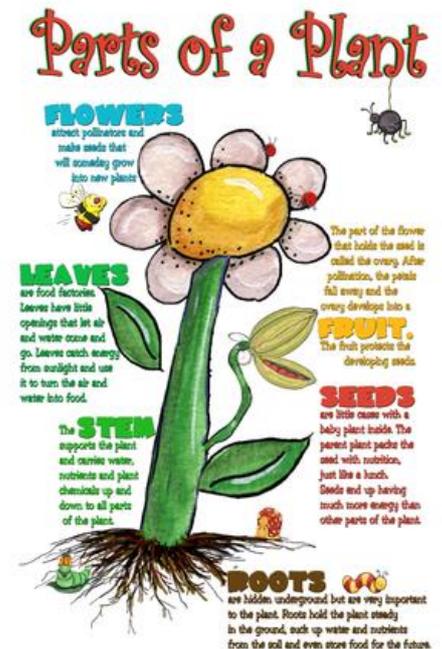
<https://www.bbc.co.uk/bitesize/topics/zy66fg8/articles/zcinp39>

https://www.youtube.com/watch?v=bLhTgTwbYMI&index=1&list=PLcvEcrsF_9zLl1enZ2h4kF396AtH90d9F

Children may want to complete their own labelled diagram, perhaps using a plants you have in the house or outside (obviously imagining what the roots may look like!)

Try to include information such as:

- *The different parts of a plant have different functions.
- *The roots of a plant take up water and nutrients from the soil. The roots also keep the plant steady and upright in the soil.
- *The stem carries water and nutrients to different parts of the plant.
- *The leaves use light from the sun, along with carbon dioxide from the air and water to make food for the plant. This process is called photosynthesis.
- *Some plants have flowers. These are involved in reproduction and produce seeds from which new plants grow.





Set up a bean experiment –



Grow your own runner beans and keep a record of observations.

You may have already started growing beans and other plants in your garden. Children however can grow their own beans and watch how they germinate and begin to grow into a seedling.

*To see the bean seeds germinate, and to be able to identify parts of the seedling as it grows I suggest putting the seed in a glass jar with fluffy cotton wool that you can keep wet. If you put the seed at the side of the jar you will be able to observe it as it germinates.

You could also plant sunflower seeds and have a competition to see whose can grow the tallest!

*When ready the seedling can be transplanted into a small pot.

*Keep a journal of observations, including sketches, days taken for seedling to germinate, day roots start to grow, roots start to grow.

Children could be creative and write this as a comic sketch where the seedling is a character, or as a more formal scientific report.

You could take photos to annotate the work. Maybe design a book from paper dyed with tea and using natural materials to bind it for a more natural look!



Explore and investigate how water is transported in plants.



Use the following template as a guideline to set up this experiment.

A note: if possible and you have some available, use a dark food dye, and from experience if you are able to get white carnations or similar on your weekly shop, they work much better than celery.

The dye may take more than a few hours to begin to work up the celery or to start to colour the petals of the flower.

You could experiment or compare with different things if you have time and access to them!

This experiment can be seen watching this video. They are very generous with the dye!:

<https://www.youtube.com/watch?v=Rz7zmSlvrtA>



Plan and carry out an experiment to show how water is transported within plants. Use the equipment listed below.

Equipment

celery stick (with leaves on if available)

water

plastic container

food dye

Method

1. Pour some water into the container.
2. Add food dye to the water, a few drops at a time, until it is very brightly coloured.
3. Place the celery in the coloured water.
4. After a couple of hours, look carefully at your celery. You may need to cut into it to notice any changes.

Prediction *(What do you think will happen?)*

Diagram *(Draw and label a picture of your experiment once it is set up.)*

Observations *(What can you see? What do you notice happening?)*

Conclusion *(Why do you think this happened? What might happen if you leave the experiment running for longer?)*



Investigating leaves and going on a leaf safari!



* Go on a 'leaf safari' at school and collect as a class different types of leaves. See if you can ID the species of plant or tree they belong to.

ID Guides can be downloaded here from the Woodland Trust:

<https://www.woodlandtrust.org.uk/blog/2020/03/tree-id-kids/>

*Discuss if plants need food / where do they get their energy from?

The function of leaves is explained well in this short video:

<https://www.bbc.co.uk/bitesize/topics/zy66fg8/articles/z9gcdxs>



Another looks at what happens if we take leaves off a plant. You could, investigate this too!

<https://www.bbc.co.uk/bitesize/clips/z2k4d2p>

This video also looks at the function of leaves (from 1:17) and also the parts of the plant in general.

<https://www.youtube.com/watch?v=p3St51F4kE8>

***Scientist demonstration** of the part of the leaf that helps make food and energy for the plant – chlorophyll.

Using a pestle and mortar and some big, green leaves with a little sand as an abrasive, crush the leaves to show the **chlorophyll** within them (discuss the purpose of chlorophyll) Use a brush or similar if possible to use the dye to make colour strokes on a white piece of paper.

Chlorophyll is a pigment that gives plants their green colour. It helps plants create their own food through a process called photosynthesis.

*Using the leaves collected stick onto sheets and write a description of the function of leaves in flowering plants.

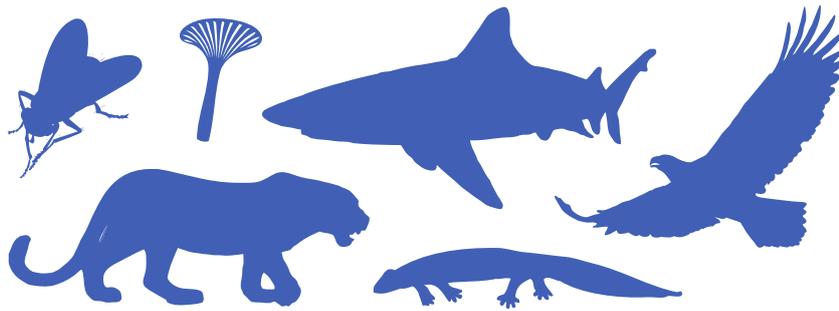
You could also create some leaf art and painting using the chlorophyll dye to brush onto paper. The more you work to release the chlorophyll, the darker the dye should be.

***Should we continue to be away from school I will send further ideas for activities about plants later this half term.**

As part of my role with the Galapagos Conservation Trust I am also currently developing a Home Learning pack all about the life of the Galapagos giant tortoise. I shall share it with you as soon as it is ready!



FURTHER SCIENCE AND NATURE ACTIVITY SUGGESTIONS:



STEM have some great ideas for short science sessions you can do with your children, called 'Starters for STEM.' These links take you to the PDF of 3 different sets of activities. You may need to sign up (free) to access links embedded on the site.

Enjoy and have fun!

<https://www.stem.org.uk/sites/default/files/pages/downloads/Starters-for-STEM.pdf>

<https://www.stem.org.uk/sites/default/files/pages/downloads/Starters%20for%20STEM%2002.pdf>

<https://www.stem.org.uk/sites/default/files/pages/downloads/Starters-for-STEM%2003.pdf>

You can even join in webinars with the **Marine Conservation Society** with exciting topics and explorations!:

<https://www.mcsuk.org/coolseaswebinars/?fbclid=IwAR3IcsDwLGE0wMJ-rnR1M-cOncJlvoZJvdVDiQ15YsAzW82rHuk-vgRvGM>



Outdoor activities focus:

*You can sign up with **Earthwatch Europe** at <https://www.wild-days.org/> and take part in daily activities your child can do outdoors:

'Every day we'll be publishing a set of structured activities and video content to guide you through around an hour of outdoor learning that you can do in your own green space (in line with government guidance!). Each daily edition has been created for children aged 4-11 by [Earthwatch Europe's](#) scientists and outdoor learning experts, to help you utilise the greatest learning resource out there: nature.

We're also delighted to have the support of many well-known presenters, naturalists and scientists, who will be contributing videos and activities throughout this project. They're guaranteed to inspire and engage your kids at the time you most need it.'