



Photo: Valerie Lamb

Family Home Learning Pack

PLANTS

Notes for parents and carers:

These home learning packs have been compiled by the Young People's Trust for the Environment to support you whilst your children are at home during the Covid-19 lockdown.

Each week, we will include suggestions for activities you can do alongside your children, as well as those that they can do independently, whilst you are working from home.

We will attempt to suggest activities which require no special materials other than those you may find around the house. It may be possible to pick up some resources during your occasional shop for essentials but please do not aim to shop specifically for listed supplies! We will also attempt to minimise the need to print out any materials.

We'd love to hear your suggestions for making the packs more useful for you, or your children's ideas for future topics. You can follow us on Facebook at <https://www.facebook.com/WeAreYPTE/> on Twitter @YPTE or on Instagram @weareypte. You can share your pictures with us using #yptelearning

In your pack each week:

- * Open ended project ideas and research topics
- * Activities to explore independently or together
- * Games to play
- * Ideas for science experiments
- * Art and craft ideas
- * Links to other learning resources
- * A use each week for toilet roll tubes...

ACTIVITY IDEAS

Growing plants from seeds:

Planting seeds is a great opportunity for children to learn about where our food comes from and the types of things that seeds need to germinate and plants need in order to grow.

Seeds are currently available in most supermarkets (look for a tall stand, usually just inside the door, or near the flowers or vegetables) and there are also many online companies who will deliver seeds to your door.

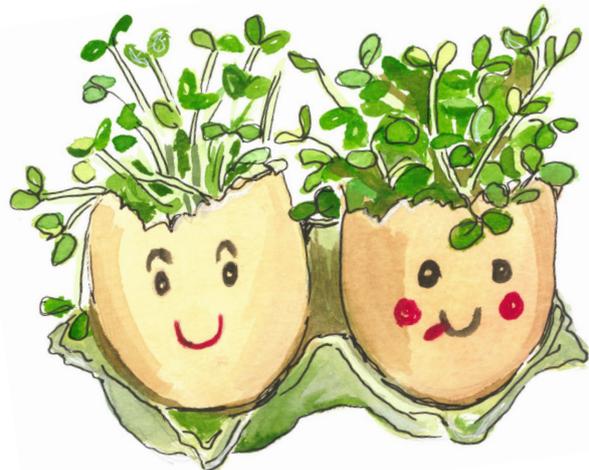
It's also possible to grow the seeds from fruits that you have at home!

Compost is also generally available in supermarkets at present, but you can also use soil from your garden or the park (**OBSERVE GOOD HAND HYGIENE - This is another great time to reinforce hand washing!**). You can also germinate some plants without soil as follows.

Growing cress:

Cress seeds will sprout without soil and the cress can then be eaten. Simply sprinkle a thin layer of seeds on to some damp cotton wool in any small container and leave the seeds on a sunny windowsill.

+ You can have fun with this by growing the cress inside half an egg shell. Draw a face on the shell and the cress will grow like hair!



+ You could turn this into a science experiment by seeing whether the seeds will germinate without water, or with water but without the sun. Split the seeds between different containers and label them 'no water' 'no sun' 'sun and water' and observe what happens to each set.

Sprouting seeds:

If you have access to any of the following, they can be germinated by popping them in a sealed jam jar and sprinkling water on them. You can eat the sprouts as long as you have used clean water and rinsed them well before adding to sandwiches or salads.

nb - you need to use the dry version - not tinned!

- * **chickpeas**
- * **most beans (don't use kidney beans for eating raw)**
- * **alfafa**
- * **peas**
- * **fenugreek**
- * **sunflower seeds (with shells)**



Germinating beans:

To observe the way that a bean grows into a new plant, sandwich the bean (again a dried one harvested or from a packet - not a tinned one!) between the side of a jam jar and a piece of damp kitchen towel. Keep the paper moist, but not soaking wet, and place the jar containing the bean into the dark to simulate being underground. Check the bean each day to watch for its roots (growing downwards) and its shoot (growing upwards). Once the shoot begins to appear, place the jar in a sunny spot.

Growing avocados:

Take the seed from the centre of the avocado and poke 4 cocktail sticks into it so that you can balance it over a small container of water. It's not vital to use cocktails sticks, so any innovative way you can find to balance the seed will do! Make sure that the wider end of the seed is touching the water and place the jar on a sunny windowsill. Once roots and leaves appear, the plant can be moved into a pot. It does take a long time for the plant to produce any more avocados, though so don't hope to see those quickly!



How to chit potatoes:

How to... what?!

Chitting a potato is just a word for getting the potato to sprout before planting it in the ground! It can be interesting for children to see that a potato left in a cool, dry place will eventually sprout. You can plant potatoes straight into the ground but some gardeners think that chitting gives them a head start. It's perfectly possible to get a crop of spuds from a supermarket potato if you're lucky!



Photo: poppet with a camera

Here's some advice from Monty Don on how to chit potatoes:

<https://www.gardenersworld.com/how-to/grow-plants/how-to-chit-potatoes/>

Measuring and comparing:

Growing plants is a great way to introduce children to comparative language such as tall, taller, tallest and to introduce the skill of measuring.

You may have rulers and tape measures at home, but if not, you can use non standard measures! Eg. How many lego bricks tall is the plant now? Is it taller than my book?

If you can access a packet of sunflower seeds, why not start a sunflower growing challenge with friends and compare measurements online?



Observe how water is drawn up via a stem:

This activity shows children the way that water is carried up the stem of a plant towards the leaves or flower.

You will need:

Food colouring
Celery OR a white flower (carnations work well)

Place the flower or celery into a glass of water with food dye added to it. A few drops should work, but the effect will be more noticeable if you add more. Observe the effects at regular intervals. What is happening? Why do you think it is happening? Encourage your child's suggestions.

The celery is perfectly safe to eat afterwards!

Colour match treasure hunt:

There are various different ways that this activity can be carried out, based on the materials you have and whether or not you have a garden. If you were already going to a DIY shop, then paint manufacturers' colour charts in a range of green and natural shades are ideal (but please don't go out especially!). You can also use colour samples cut from pictures in magazines, or even drawn and coloured with whatever pens or pencils you have available.

First - using whatever method you like from the above, prepare a piece of paper that has a range of colour samples on it.

The idea is that your child will hunt for as many items as possible that match each colour.

You might have access to a garden where your child can look for different shades of green leaves and grasses, but this could also be adapted to work as an activity indoors using any colours or objects you like!

You may want to adapt the hunt in different ways.

Ideas might include:

- How many tiny things can you find to fit in an egg cup / match box / lid
- Can you find an object from round the house beginning with each letter of the alphabet?

Lemon battery (supervision recommended):

If you have access to wires and clips, perhaps in a child's science kit, if not in your own garage or shed, you might be able to build a 'lemon battery'!

You will need

a lemon (or other citrus fruit)

a copper penny or some copper wire

a zinc covered (galvanised) nail

some wires

something to power such as a small light or buzzer.



By inserting the copper coin and the nail into the lemon and connecting wire to the nail and the coin, the lemon can be used to replace the battery in a simple circuit. You can add more rows of coins and nails in the same lemon.

Watch a good demonstration here (youtube links, supervision recommended):

<https://www.youtube.com/watch?v=0-mggylNE5Q>

...and there's a good (if speedy) explanation of why it works here:

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

(Be careful when explaining how this works as children often end up thinking there is electricity 'in' the lemon, when actually the acidic juice is just an electrolyte which attacks the zinc and copper. This causes positive and negative ions to form which causes the electrical current to flow when the poles are connected by the wire. The interaction between the juice, the copper and the zinc is what forms the electricity.)

This week's use for a toilet roll tube:



You can use a toilet roll tube, cut in half, as a handy plant pot to grow your seeds in! Simply place the half tubes on a dish, so that water doesn't spill out. The dish can be placed on a windowsill and then the tubes can be put straight into a bigger pot or the garden when the seedling is big enough.

RESEARCH IDEAS

Is a strawberry really a berry?



DID YOU KNOW:

- A fruit has its seeds INSIDE?
(a fruit develops from the ovary of a flowering plant)
- A vegetable is a leaf or root that does not contain its seeds

FIND OUT:

In scientific terms

- Which foods are fruits?
- Which are vegetables?
- Which are berries?

Did any surprise you?

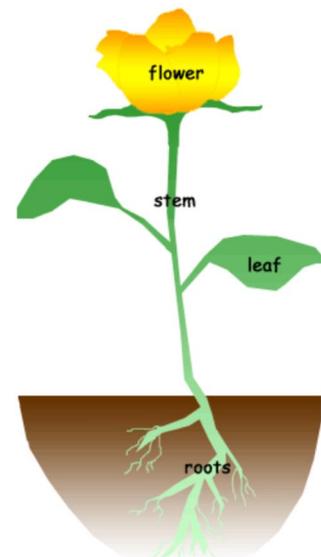
What are the different parts of a plant?

Either by observing a plant from the garden, or by reading books or online, can you draw and label the different parts of a plant?

CAN YOU SPOT:

- Leaves?
- Stem?
- Roots?
- Petals?

For an extra challenge research the different parts of a flower!



ART AND CRAFT

Vegetable printing

You can create great stamps to use with most child friendly ready mix paints using a simple potato. It works best if you cut the potato into the desired shape (be careful with sharp knives!) and then dry the surface a little on some paper before brushing on paint.

When one layer of paint has dried, you can add others over the top.



If you have some celery, you can use this to make interesting shapes. Maybe these could become the waves in the sea - or the petals of a flower, like this:





Plants in art

Lots of artists like to draw pictures of plants. Your child could make some drawings of their own. They might like to make a botanical drawing that is as realistic as possible, like a sketch you might find in a science book...

...Or they might like to arrange some plants as a still life...



...Or they could make up some completely imaginary plants and draw those!

Giuseppe Arcimboldo

Giuseppe Arcimboldo was an artist who liked to arrange vegetables into faces!

If children are very careful and don't damage the food that you will need to eat, perhaps they could have a go at creating a picture on a sheet of paper or a very well cleaned table.



They could also use pictures cut out from garden or food magazines if you have any available.

Alternatively, this great school website allows children to drag and drop pictures of fruit and vegetables to make a face online.

<http://www.middlestreet.org/archim/archimframe.htm>

GAMES

Sleeping seeds:

Much like sleeping lions, but the children pretend to be seeds which are waiting to sprout. Waiting, curled up tightly... For a long time... Once they start growing, they can emerge from the soil very slowly, with an arm or leg appearing as the shoot first, before they stand up as the fully grown plant. Depending how much work you need to get done, you may encourage the seed to stay in the soil for an extended period!

The floor is made of weed killer:

Again, based entirely on a better known game: 'The floor is made of lava' - here, the children must leap from safe base to safe base without touching the ground as they are seeds or plants and the floor is made of some kind of deadly weed killer that will stop them in their tracks.

Seeds, stems and bees:

The children find a space to stand in and then start walking round the room or garden. If you (or another child) calls out 'SEED!' everyone has to curl up small on the floor. If the word called out is "STEM!" everyone stretches up as tall as they can, on their toes, arms in the air. For "BEES!" they all run around as fast as they can, making suitable buzzing noises. Keep inventing new words and actions until no one can remember them all any more!

Get the seed in the pot target game:

Use actual flower pots if you have them, or any suitable receptacle and choose actual small beans or larger objects to act as 'seeds'. The children are gardeners and have to 'plant' the seed by throwing it into the pot. Encourage children to think up a scoring system with easier and more difficult tiers and appropriate scores for each. For example, getting a small marble into a tiny pot from a distance would score more points than dropping a large ball into a laundry basket from close range. Once they have constructed a course, they can try to beat their own last highest score.

Leaf, caterpillar, bird:

Rock, paper, scissors, but the caterpillar eats the leaf, the bird pecks the caterpillar and the leaf... wraps up the bird?! Encourage children to think of better variations with themed links and actions.

LEARNING LINKS

There are a large number of resources available for online learning at this time. We'd always recommend that you support your child with this and only follow links from reputable names. **Any links provided here have been checked for suitability.**

Find out about the lifecycle of a plant and all the things that plants need to grow with these BBC clips:

Key Stage 1:

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

Key Stage 2:

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

The **Woodland Trust** has lots of plant identification games and activities on its website:

<http://www.treetoolsforschools.org.uk/categorymenu/?cat=plants&name=Plants%20and%20fungi&col=1C8162>

This clip from the **BBC** explains what plants need to survive (*Youtube link, please consider watching alongside your child*)

https://www.youtube.com/watch?v=_RXVhiUnTA8

The **National Farmers' Union** have made this video about how carrots grow. (*Youtube link, please consider watching alongside your child*)

<https://www.youtube.com/watch?v=mRdavnBf2Gs>