

Family Adventure Learning

Activities and Resources

Supporting Teaching and Learning across KS1, KS2 + KS3

Part 2

Plants – Grow Your Own

Plants in the curriculum

- Y1 Common wild and garden plants • Basic structure of flowering plants, including trees.
- Y2 How living things live in habitats and depend on each other • Name a variety of plants and animals in their habitats, including micro-habitats
- Y4 Living things can be grouped in a variety of ways • Environments can change and this can sometimes pose dangers to living things.
- Y3 Functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, room to grow) and how they vary from plant to plant • How water is transported within plants • The part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
- Y5 Life process of reproduction in some plants and animals.
- Y6 Living things are classified into broad groups based on similarities and differences, including micro-organisms, plants and animals
- Y7 Science – Photosynthesis and nutrients and water from the soil. Reproduction
+
Y8 in plants, cell biology, dependence of all life on photosynthesis. Using a variety of concepts and models to develop scientific explanations and understanding. Planning experiments to make observations, test hypotheses or explore phenomena.



Plants – Grow Your Own

Gardening in the Curriculum

Gardening with Children shares some ideas of how different gardening activities can support different areas of the national curriculum from Mathematics to English and Geography to History.

<https://www.gardeningwithchildren.co.uk/school-zone/national-curriculum/>

You can grow vegetables in your home, even without a balcony or garden – even without soil.

You can also run some Fair Tests where you change just one thing in the process of growing your vegetable and record what effect that one change has on that vegetable.



Ideas to kick things off

Carrot tops

Cut the tops off carrots, place the tops in a shallow dish of water and put them in a sunny window. Keep them watered and watch the leaves grow – they can be used in salads.



Fair Test

Test what if any effect the length of carrot top has on the amount of leaves produced. Just cut some tops 0.5cm, 2cm etc and record what you find as they grow.

Note Try planting them in dirt instead of water – just write down the length of each top on the side of the pot so you always know which length top is producing the least or most leaves.

Growing from seeds

Collect seeds from tomatoes, cucumbers, chillies or courgettes, or even collect some whole seeds used as spices (such as coriander or cumin).

Put a damp cotton wool ball in an egg carton cup, sprinkle some seeds on top and put in a dark place. Once the seeds sprout put them by a sunny window and watch them grow.



Fair Test

Test what effect more or less light has on one of your sprouting plants by placing some sprouts in bright sunshine, others in softer sunshine and others in darker location?

You can also try the exact same experiment with all the other sprouting plants to see which, if any, plants are most affected by changes in sunlight.

Growing from vegetables

Cut a few little holes in the bottom of a yoghurt or margarine container, fill it with soil, and use it this to plant the eye from a potato



Ginger eye bud



Potato eye bud



Lettuce base

or piece of ginger. You can also use the stalk from a lettuce, plant it upside down and watch as the lettuce re-grows.



Fair Test

Test what effect different amounts of water has on your lettuce base. Take 3 lettuce bases and place in 3 containers marked Sodden, Damp and Moist and put just enough water in once a day for the soil in one to be sodden, one to be damp and one to be slightly moist. Record what effect the amount of water has on your lettuces.

You can do the same test with the other plants to see which plants are most affected by having more or less water in the soil. Best to use seeds for fast growing plants such as Cress, Basil, Chives, Alfalfa or Radishes.

Growing in water

Try your hand at hydroponics – push some toothpicks into an avocado seed or sweet potato and balance it on a jar of water, with the bottom of the seed or potato always touching the water. Wait for roots and leaves to grow.



Fair Test

Test what effect detergent has on plants to see if you can save water by re-using dishwashing (or bath) water to grow vegetables. Mix different amounts of detergent in different jars – remembering to mark each jar accordingly.

See how exact you can be with quantities so that when you top up each jar you use premixed water and detergent to the same amount quantities (eg 0 drops, 1 drop, 2 drops etc per container).

Now design your own Fair Tests

Soil versus cotton wool, soil containing organic matter versus not much matter, sandy soil versus clay soil, warmer versus colder locations.

Now why not help get your entire family into growing your own food – you'll learn loads, it's fun and it'll save on shopping.

Here are some handy resources to help get you going...

Indoor gardening

BBC's *Dig In* takes you through the do's and don'ts of growing vegetables in the home.

www.bbc.co.uk/gardening/digin/your_space/balcony.shtml

Anna Burke from *She Knows* proves that you don't need access to outdoor space to grow your own vegetables.

www.sheknows.com/living/articles/1108731/indoor-vegetable-garden/



Plastic Bottle Gardening

Daisy Creek Farms and *Jag Singh* show you how to build a plastic bottle scooper, mini greenhouse, watering can, funnel, and grow bean sprouts using plastic bottles.

www.youtube.com/watch?v=SOT3cUBedSI



Store-bought Vegetables You Can Re-Grow

Jag Singh demonstrates how to use leftover vegetables to grow your own lettuce, tomatoes, chillies, ginger etc.

www.youtube.com/watch?v=ZJuXpiEjdcc



How to Collect Tomato Seeds

Gardening Know How takes you through the process of harvesting tomato seeds from store-bought tomatoes and growing your tomato crop.

www.gardeningknowhow.com/edible/vegetables/tomato/saving-tomato-seeds.htm

Plan Your Planting

Garden Organic explains how to plan your planting, including when to germinate seeds indoors and transfer your saplings outdoors.

www.gardenorganic.org.uk/vegetables-all-year-round

Out in the Garden

BBC's *Dig In* takes you through positioning and preparing your gardening bed.

www.bbc.co.uk/gardening/digin/your_space/patch.shtml

Love the Garden tells you the best time of year for planting different vegetables.

www.lovethegarden.com/uk-en/article/when-plant-vegetables-guide-sowing-and-harvesting-vegetables



Learning Resources

The BBC shows ways for the whole family to share the joy of gardening.

www.bbc.co.uk/gardening/gardening_with_children/

Innocent (Smoothie's) share lesson ideas for teachers.

innocentbiggrow.com/public/dist/docs/teachers-resource-pack.pdf