



Title: Looking after plants and animals

Part 1: Looking after plants

Level: FIRST

Links to Curriculum for Excellence

Experiences and outcomes	Benchmarks
I am learning about where living things come from and about how they grow, develop and are nurtured. HWB 1-50a	<ul style="list-style-type: none">Identifies what is needed for growth and development of animals, plants and humans.

The learning intentions and success criteria are met with delivery of all parts of this topic.

Learning intentions

- Children learn what plants (fruit and vegetables) and animals (pets) need to grow and develop.
- Children learn that all living things need to be cared for and nurtured.
- Children begin to relate their learning to their own development and growth.

Success criteria

- I know what affects the growth of plants; that plants need water, soil, space, sunlight and air to grow.
- I can describe how to care for plants and animals (pets).
- I can sequence the life cycle of specific animals.
- I can investigate factors that affect the growth and development of living things.
- I am beginning to understand and describe the things I need as a child to grow and develop.

Note: This activity links to learning activities under the topic **People who help and look after me** where children consider which people help and look after them – both in their personal/family circle and professional people.

Resources to support this activity

- Jam jars, kitchen roll and beans.
- BBC Bitesize “What does a plant need to live?” (duration 52 seconds) video and quiz: <http://www.bbc.co.uk/guides/zcmtk2p>
- BBC Science Clips “Healthy plant growth”: <https://www.bbc.co.uk/programmes/p01191xb> (duration 52 seconds)
- The needs of a plant song/animation: <https://youtu.be/dUBIQ1fTRzI> (duration 1 minute)

Whenever you use content on a platform like YouTube, please cue the film you intend to play in advance, check it is the film you want to view, and skip adverts.

Activity

1. RSHP learning is enhanced if children can sit together to start. Explain that they will be talking about how we take care of plants and looking at plants/vegetables we eat.
2. **Finding out about plants and vegetables:** Have a collection of plants and vegetables for the class/group to see and talk about. Identify what each is – find out which any of the children have tasted. Which are eaten raw? Which are cooked before they are eaten? (If possible do some tasting).
3. Have some seeds to show the class, explain that this is how every plant begins. Ask if any of the children know what to do with a seed to make it grow? Have some soil and a pot and a watering can nearby, to confirm what children say or to introduce that the seed needs somewhere to grow, then it needs water, air, space and sunlight to flourish.
4. Watch the video **Healthy Plant Growth** on BBC Science Clips. Discuss how the seed roots itself in the soil and then grows and develops. <https://www.bbc.co.uk/programmes/p01191xb>
5. **Growing broad beans.** Have the children pot some broad beans in jars – explaining that what they will see in the coming weeks is the plant grow – it starts in a jar (with some wet kitchen roll) and when it grows from a seed to a little plant they will re-pot and grow in soil. Have the children work in pairs or small groups to ‘pot’ their seed in the jar – its first home - and ensure it is cared for all week.

Instructions: Rinse a clean jam jar, leaving it wet inside. Put in a folded piece of kitchen roll and press it up against the glass. Put a broad bean seed between the kitchen roll and the glass and leave on the windowsill. Add a spoonful of water to the seed every day, enough to keep the jar moist but not waterlogged. After a few days, the broad bean should sprout. After a couple of weeks, you will have your own broad bean seedling, which can be planted out into a 10cm pot of compost or open ground. As the plant gets larger, it will need supporting with a stake. When it's about 75cm high, snip off the top. Now wait for your harvest.

Alternative method: You can grow using cotton balls, this article has photos to explain:
<https://theimaginationtree.com/growing-beans-on-cotton-balls/>

Also, see appendix to this activity for more suggestions, particularly if the children have grown broad beans in Early Level activity.

6. As an option, you could grow some jars without light, or water and observe how they fail to grow properly – emphasising the importance of each thing.
7. **To end**, watch the animation/song ‘**The needs of a plant**’ (<https://youtu.be/dUBIQ1fTRzI>, duration 1 minute). The children might like to watch again at the end of the day.
8. **Next day/later in the week:** Watch and listen to the song **What does a plant need to live?** on the BBC Bitesize website – helping to emphasise the basic needs of the plants they will care for in the coming weeks. There is a short 3 question quiz children could do together:
<http://www.bbc.co.uk/guides/zcmtk2p>

Additional ideas

- This question may arise: ***What's the difference between a fruit and a vegetable?*** The simplest answer is that fruits have seeds and they grow from the flower of the plant. Fruits are the way that a plant spreads its seeds for reproduction. Vegetables are the edible part of a plant, like the root or the stem or the leaf.
- Ask a chef, a florist, a gardener or local allotment keeper to come in and talk about the importance of plants. Depending on the time of year a local allotment keeper might have lots of fruit or vegetables to show.
- Arrange small group visits to nearby allotments.
- Children can take 'grow a bean' instructions home along with a bean.

Connecting with home

The text below could be used to communicate with home about the activities in this block of learning.

The children are learning about all the things we need to do to look after plants and pets. They are learning about how every living thing needs to be cared for and nurtured so that they grow and flourish. We will be growing beans and talking life cycles and about the pets children know – at home or elsewhere. You can also be part of this learning by encouraging children to notice all the things you do at home or in the garden to look after plants or animals.

Further learning activities are available that connect to this RSHP curriculum content

Looking after plants and animals: Life Cycles

Looking after plants and animals: Looking after pets

Practitioner Notes

APPENDIX: Article from The Guardian

<https://www.theguardian.com/lifeandstyle/2010/mar/30/1000-kids-easy-growing-projects>

The Playground Potting Shed: Gardening with Children Made Simple, by Dominic Murphy, is published by Guardian Books (£8.99)

The best easy growing projects

- theguardian.com, Tuesday 30 March 2010 00.05 BST

Broad beans

When to sow: March

One to whet their appetite for growing things. Rinse a clean jam jar, leaving it wet inside. Put in a folded piece of kitchen roll and press it up against the glass. Put a broad bean seed between the kitchen roll and the glass and leave on the windowsill. Add a spoonful of water to the seed every day, enough to keep the jar moist but not waterlogged. After a few days, the broad bean should sprout. After a couple of weeks you'll have your own broad bean seedling, which can be planted out into a 10cm pot of compost or open ground. As the plant gets larger, it will need supporting with a stake. When it's about 75cm high, snip off the top. Now wait for your harvest.

Sunflowers

When to sow: indoors: March, outdoors: late April

Big, easy-to-handle seeds and a doddle to grow. The main problem with sunflowers are the slugs and snails who, like evil lumberjacks, eat through young stems so the top of the plant collapses. For this reason, sow more seeds than you will need and prepare the children for casualties. I start sunflowers in large pots on an outside table, away from predators. If size matters and you're after a monster, go for the Russian giant variety. But there's a whole range of interesting types, including multi-headed and red flowered ones – check what they're selling in your garden centre. Your sunflowers can stay in a large container or be planted straight in the ground. Either way, they'll need supporting with a bamboo cane or tying to a fence. As for where to plant them: there's a big clue in the name.

Cress heads

When to Sow: On a rainy day

Take some washed-out egg shells that are three-quarters intact. Draw a face on the shell and fill with damp cotton wool. Sprinkle cress seeds on top of the cotton wool. Now leave on the windowsill, checking from time to time that the cotton wool is still damp. Soon your face will have its own head of green hair.

Potatoes

When to sow: March, or later, if very wet or frosty

Even if you have a small outside space, don't write off potatoes. They'll grow in any large container providing there are holes in the bottom for drainage. We use old compost bags, turning them inside out so the black interior is on show, which makes for a much classier display on the patio. You'll need one seed potato per bag, which should be filled half way with soil. Plant at least 10cm deep and as shoots peek out of the earth, gently cover them with soil or compost. Repeat this about once a fortnight until the bag is nearly full. Keep the bag well watered. You'll find seed potatoes in the garden centre sold as earlies, second earlies and maincrop. Don't be daunted by this; just buy the spuds you like the sound of.

A junk garden

When to make: Anytime

Broken watering cans, old wellies, a disused sink ... any old bit of junk will do for a container just so long as it has holes in the bottom for drainage. Let's assume you're planting a Wellington boot. Put gravel or stones in the foot; this not only helps drainage but stops it falling over. Now fill with soil. Planting options include pelargonium, zinnia, busy lizzie and petunia. Buy as young, plug plants and they'll be a lot cheaper. You can also try planting herbs – thyme, marjoram, rosemary, mint (a beast, best grown in it's own container) – or nasturtium seeds.

Baby salad stripes

When to sow: April onwards

Fill a seed tray or a deeper container, such as a wine crate, with compost. Sprinkle 3cm-wide rows of different types of salad seed into the tray, cover with a thin layer of compost and water gently. You are aiming to make a stripy pattern using leaves of different shapes and colours. Most salad leaves are suitable: until June, use lettuce varieties and bull's blood beet for a nice red colour. From July to mid-September, try rocket, corn salad, and oriental greens, such as golden mustard, red mustard and mizuna. You want seedlings to be about 1cm apart, so thin them out after germination if necessary. Harvest your leaves when 6cm high, cutting about 2cm above soil level. Water and leave, and with luck your leaves should grow back again.

Microgreens

When to sow: March-October

Microgreens are tiny, highly nutritious vegetable seedlings that you'll find in some of the smartest restaurants in the world. No matter: growing them is a piece of cake. They can be sown directly on to compost in a seed tray or pot, but are best raised on vermiculite, which you can buy at the garden centre. The growing container needs to be placed in a larger tray of water. Sow seeds on to the vermiculite and add water to the tray until the vermiculite surface is wet. Do not water the vermiculite; always water through the tray and keep the latter topped up. Grow on a sunny windowsill and harvest with a pair of scissors when your greens are a few centimetres high. Broccoli, radish, Swiss chard, beetroot and snow peas are among many veg you can grow this way.

Courgettes

When to sow: Mid-April

Seeds must be sown in warm soil so start off indoors in small pots. When two leaves have formed and a third is developing, plants are ready to go into the ground or big pots or compost bags (see potatoes above). Suitable varieties are yellow burpee's golden, venus and zucchini. The timing of the planting out is crucial. If it's cold, like last May, keep plants indoors, putting into bigger pots if needs be, until warmer late weather really kicks in. To do so, dig a good-sized hole for your seedlings, leaving about 30cm between plants. For flavour, courgettes are best harvested young, when firm to the touch, with their flowers still on them. Harvest using secateurs or old scissors to avoid damaging the plant. Don't leave this too long, or you risk harvesting watery old marrows.

Pumpkins and squash

When to sow: Mid-April

Start off like courgettes and plant into fertile ground when it's nice and warm. There are hundreds of varieties to choose from. If it's size you're after for Hallowe'en, go for the atlantic giant variety, but don't expect to eat it. For taste, I'd go for blue-grey crown princes. Pumpkins and squash typically need two metres diameter growing space, and should be grown in a sunny spot. For the largest pumpkin possible, chop off the growing tip of the plant once one fruit has formed – the plant will put all its energies into producing a whopper. Harvesting pumpkins is an inexact science. Best leave them on the plant to ripen for as long as possible, so keep your fingers crossed for a sunny September. Harvest before wet autumn gets into its stride and cure in a dry, sunny spot or on a window ledge.

Sprouting carrot tops

When to sow: On a rainy day

The next time you're preparing some veg, keep the tops of your carrots. Put on a shallow plate and add water, then leave on a windowsill. Before long your carrots should have sprouted. These greens are edible – you can treat them like parsley as a garnish or in a salad.

Bean wigwam

When to make: Mid-May onwards

You'll need three or more bamboo canes at least 1.75 metres-tall. Push them 10-15cm into the ground in a circle to make a wigwam. Tie canes together firmly about 20cm from the top. Now plant your beans. Aim for one seedling per cane, so plant at least twice as many seeds as you'll eventually need around the base. Train seedlings around the canes with string. It's worth growing some more seeds in pots as a back up, because slugs and snails adore beans and are particularly active at this time of year. The reliable French bean variety Blue Lake can be better to grow than runner beans, simply for their taste and the guarantee that they won't be stringy. However, Polestar and White Lady runner varieties are reputed to be string-free.

A ladybird house

When to make: Before late summer

Using a hand saw, cut old garden canes into 10cm lengths, then tie a dozen or so together to make a cylindrical shape. Now secure this tightly to a tree or wall, in a sunny, sheltered spot. The hollow canes should attract ladybirds when they look for winter hibernation, as well as other plant-friendly insects such as hoverflies. They also make an ideal place for solitary bees to lay their eggs.

Grow your own pesto

When to make: May onwards

First you'll need the main raw material – basil. This herb needs warmth. It can grow outdoors, but is best raised on a sunny windowledge. You'll want the reliable sweet basil, *Ocimum basilicum* Genovese. Aim for three seedlings to an 8cm pot, which means sowing three times as many seeds and thinning them out (chuck the thinnings into a salad). Pinch out the top of the plants when they reach 15cm to encourage bushier plants. For pesto you'll need two handfuls of basil leaves, 1 clove garlic (optional), 10g pine kernels, 50g parmesan, 60ml olive oil, salt. Using a mortar and pestle, crush together salt, garlic, basil leaves and pine kernels to form a paste. Add the cheese, then pour on oil, mixing all the time. Add more salt to taste. Top tip: you can also spare yourself the labour and whizz everything together in a blender.

Hyacinths for Christmas

When to sow: Autumn

This is a process known as forcing, which means tricking the bulbs into thinking it's spring. Hyacinth bulbs can irritate the skin, so wear washing-up gloves when handling them. Buy your bulbs from September onwards then put them in the fridge, wrapped in a paper bag, for at least four weeks. Next, plant the bulbs in a pot filled with compost, with the tip just poking out of the surface. Bring the plant inside into the warmth by mid November and they should start to flower around six weeks later. The blue hyacinths are best for scent (try the blue jacket variety), while amsterdams have a beautiful cerise colour.

Outdoor tomatoes

When to sow: May

You can grow tomatoes from seed but why not follow many experienced gardeners and buy seedlings. You want a dark-green plant about 15cm-high; keep it on the windowledge until late May/early June, putting it in a bigger pot when it looks top heavy. It's ready to go outside when the first flowers are opening. Plant out in a pot, soil or, better, a grow bag; a sunny wall is the best position. Plants need to be tied to a cane for support. Water when the weather is dry, cut off yellowing leaves and pinch out the little side shoots at 45 degrees between the stem and the main horizontal branches. When four clusters of fruit, or trusses, have formed, cut off the tip of the plant two leaves above the top truss. Suitable varieties include gardener's delight, Ailsa Craig, Alicante and moneymaker.