

Earlsdon Primary School Primary Plot Community Allotment

Rationale

We have worked closely with our local community to take ownership of and develop an allotment in our local area. Enabling all pupils to participate in our community allotment programme is a strategic initiative aimed at:

- giving pupils practical opportunities to learn about growing plants and to learn about ecosystems
- promoting the Sustainable Development Goals (SDG 3 Good health and wellbeing; SDG 11 Sustainable communities; SDG 12 Responsible consumption and production; SDG 13 Climate action; SDG 15 Life on land)
- fostering students' personal development and enhancing their cultural capital.

It promotes:

1. Connection to Nature and Environmental Awareness:

Allotment visits offer students direct interaction with nature, fostering an appreciation for the environment. This hands-on experience cultivates a sense of responsibility towards ecological conservation and sustainability, essential components of cultural capital in today's world.

2. Understanding Food Sources and Nutrition:

By engaging in gardening and observing the growth of various plants, students learn about where their food comes from and the importance of nutrition. This knowledge can encourage healthier eating habits and a greater appreciation for fresh, locally-sourced produce.

3. Practical Skills and Self-Sufficiency:

Working on an allotment teaches practical skills such as planting, weeding, and harvesting. These activities promote self-sufficiency and resourcefulness, valuable traits that contribute to a student's personal growth and independence.

4. Teamwork and Collaboration:

Allotment visits often require students to work together on gardening tasks, promoting teamwork and collaboration. These experiences help students develop interpersonal skills, learn to share responsibilities, and understand the importance of collective effort.

5. Patience and Perseverance:

Gardening is a process that requires patience and dedication. Students learn the value of delayed gratification and the importance of perseverance as they nurture plants from seeds to maturity. These character traits are crucial for academic and personal success.

6. Mental and Physical Well-being:

Spending time outdoors and engaging in physical activities associated with gardening can have significant benefits for students' mental and physical health. Allotment visits provide

an alternative to learning in the traditional classroom setting, reducing stress and promoting overall well-being.

7. Observation and Scientific Inquiry:

Allotments serve as living laboratories where students can observe biological processes and engage in scientific inquiry. This hands-on learning experience enhances their understanding of biology, ecology, and environmental science, fostering a sense of curiosity and a passion for learning.

8. Cultural and Historical Insight:

Allotments can be reflective of cultural and historical agricultural practices. Learning about traditional gardening methods and the history of allotments in the community can enrich students' cultural knowledge and appreciation for heritage.

9. Community Engagement and Responsibility:

Participating in allotment activities connects students to their local community, fostering a sense of belonging and civic responsibility. They learn the importance of contributing to communal spaces and the value of collective stewardship.

10. Mindfulness and Stress Relief:

Gardening activities can be meditative and stress-relieving. Students practise mindfulness as they focus on the tasks at hand, which can improve concentration and emotional regulation, beneficial for both academic performance and personal development.

Implementation

- All pupils will visit the allotment on a regular basis. This will promote learning in science about plants, animals (minibeasts), senses, seasons and classification. The visits will also enrich learning in other curriculum areas.
- To help pupils develop a deeper understanding of plant growth over time and seasonal changes at the allotment, a photo diary will be displayed in school.
- Growing calendars will be displayed in school so that pupils understand when crops should be planted and harvested.
- Key vocabulary will be displayed in school and at the allotment so that pupils are able to explain horticulture with an age-appropriate vocabulary.
- RHS School gardening resources will be used as pre-learning activities and at the allotment.
- Family/community visits will be planned throughout the year so that pupils develop a sense of community responsibility.
- Pupil leadership – allotment leaders will help to decide crops and to plan learning opportunities and events.
- We will work with the Lego Foundation to develop learning through play (Change X project).
- We will work in collaboration with other community partners for example Carriers for Hope so that we are able to donate surplus crops to foodbanks.

CURRICULUM LEARNING

RECEPTION

Physical development

Confidently and safely use a range of large and small apparatus indoors and outside, alone and in a group.

Understanding the world

Describe what they see, hear and feel whilst outside – including plants.

In Reception, pupils have access to a variety of plants to explore using all their senses. We have a range of sensory plants in the school grounds and at the allotment for this purpose. Sensory plants are plants that have characteristics that make them particularly appealing to explore using different senses. We will have a focus on herb herbs as children will be able to see, smell, taste and touch the herbs. The herbs beds will be in the school grounds and at the allotment.

In addition to exploring plants with their senses, pupils also have the opportunity to explore a range of natural materials, such as soil, sand, stones/pebbles and bark. We have sensory beds at the allotment.

Pupils have the opportunity to plant and care for some of the sensory plants in the school grounds and allotment. This provides them with the opportunity to use small and large apparatus (e.g. gardening tools and wheelbarrows).

Sensory plants

Sight – colourful plants

- sunflowers – colourful flowers
- marigolds – colourful flowers
- chameleon plant – variegated leaves
- Swiss chard – brightly-coloured stems (edible)
- heuchera 'Chocolate Ruffles' - purple leaves with chocolate-coloured undersides

Sound – rustling plants

- greater quaking grass – nodding flowers rustle in the wind
- nigella – puffy seed-heads that rattle when shaken
- miscanthus – creates a rustling noise
- sweetcorn – creates a rustling noise (edible)
- bamboo – stems knock together, creating a hollow sound

Touch – various textures

- lamb's ears – silky leaves
- houseleek – a succulent with leaves that are rigid to the touch

Smell – various scents

- curry plant – spicy aroma on a warm, sunny day
- lavender
- chocolate cosmos – flowers that give off a chocolate/vanilla scent
- sweet pea – strong sweet scent
- lemon scented geranium – crinkly leaves that smell of lemon when rubbed

Taste – different flavours

Children should only taste edible plants under supervision and allergies must be considered

- herbs – various flavours, often with distinct scents as well
- nasturtium – possible to make a colourful salad from the peppery orange, red or yellow flowers, as well as its leaves
- wild strawberry – small, sweet, delicious fruit
- vegetables (e.g. carrots, radishes, lettuces, peas etc. which can be eaten uncooked)

All pupils in Reception will visit the allotment in the Spring and Summer term. They will have opportunities to participate in allotment related learning in the Autumn term. The Reception outdoor classroom will have a herb bed that is replicated at the allotment.

YEAR 1

Plants

- Identify and name a variety of wild and garden plants.
- Identify and describe the basic structure of a variety of common flowering plants, including trees.

Seasonal Changes

- Observe changes across the four seasons
- Observe and describe weather associated with the seasons and how day length varies.

Year 1 pupils should look at seeds and classify them as part of their learning about the parts of plants.

Pupils should know the names of the seeds they plant and be able to describe them and the features of the plants that they grow into. Pupils will cut open vegetables and fruits to gather their own seeds which they could try to grow (e.g. tomatoes, cucumbers, peas).

Pupils in Years 1 and 2 are both going to plant and grow flowers and vegetables. It has been carefully planned so that they are growing different plants.

Links to Food Technology – fruit salad (strawberries)

Seeds that Year 1 will plant

primrose – good for pots

wild strawberry

pansies

sweet peas

nasturtium

marigolds

poppies

snapdragons

YEAR 2

Plants

- Observe and describe how seeds and bulbs grow into mature plants
- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

Living things and their habitats

- Identify and name a variety of plants and animals in their habitats, including micro-habitats.

PSHE – finance education – bulbs to be grown to sell spring flowers

Year 2 pupils should grow a range of bulbs and seeds, not just one type.

Growing plants needs to be planned carefully as bulbs and seeds need to be planted at specific times of the year. Generally, bulbs will need to be planted in the autumn term and seeds in the spring term. When deciding what to grow, it is important to think not only about the diversity of plants but also the time when the plants will reach maturity.

Pupils will link growing food (vegetables and salad) with a D&T project where the pupils will use some of their harvested crops to make some type of food product. This will involve chopping and cooking skills and can include potato salad, vegetable kebabs or ingredients for a stir fry.

At the start of the school year, pupils look at the ingredients required for their product, consider which come from plants and which can be grown, and then find out when they would need to be planted and harvested. This information will be put onto a growing calendar displayed in the classroom to remind the pupils and teacher about when seeds and bulbs will need to be purchased and planted.

Prior to planting, the beds will need to be prepared (e.g. dug over and weeded). Pupils will complete this task. This will give them an opportunity to look for minibeasts living in the soil as part of their 'Living things and their habitats' topic.

Pupils will be responsible for deciding what to plant and researching how and when to plant it. They can look at the seed/bulb packets and decide which need to be planted in full or partial sunlight, at the front or back of the bed (according to their height), and how to space them. They will then need to tend and nurture their plants for them to reach maturity.

It is useful for pupils to be involved in sowing a wildflower seed mix. They can first observe and classify the seeds in a range of ways. As they observe them grow, they can then try to identify and match the seed to the adult. This can be done by planting a small sample of the same type of seeds together in a container labelled with an image of the seed. The remaining seeds can then be randomly sown.

Once planted, pupils should look after the plants, considering how much water they require. This will provide them with the opportunity to make regular observations of their growth.

When weeding, ensure that pupils know what the plants they are growing look like so that they can identify the plants that are weeds.

YEAR 3

Plants

- Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.
- Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

Exploring growth conditions

Pupils learn about the first statement through growing a variety of plants in different conditions, either from seeds or seedlings. The important aspect is the understanding that the requirements for life and growth vary from plant to plant, i.e. pupils must study more than one type of plant. This learning can take place within the classroom context by controlling variables (e.g. types of nutrient provided [different fertilisers], amount of water, removal of air etc.) It is best to investigate using plants that grow quickly (e.g. mustard, cress, rocket, mung bean, wheat, sugar snap peas). Radishes are great as large numbers can be grown from one packet and they show limited variation, so the impact of changing variables is more easily observed.

Control plants will be grown at the allotment identifying areas of most natural light etc.

Exploring life cycles

As well as exploring the requirements of plants for life and growth, pupils will explore the part that flowers play in the life-cycle of flowering plants, including pollination, seed formation and seed dispersal.

Rapid-cycling brassicas can be grown in the classroom, as they are small plants that take up relatively little space. They produce flowers within two to three weeks and ripe seeds within five weeks.

Pupils will also plant seeds outside that will encourage pollinators into the school grounds to enable them to observe pollination (see below for some suitable examples).

Exploring conditions for germination

It is important that pupils realise that different seeds need different conditions to germinate. Most seeds grow in the dark, but some need to be exposed to light such as:

- ageratum
- snapdragons
- petunia

Create a concept cartoon for pupils to discuss the following statements:

- seeds need to be in the dark to germinate
- all seeds germinate in the dark
- all seeds germinate in the light
- seeds need light to germinate

Then provide six types of seeds that pupils try to germinate in both light and dark conditions. These investigations can be set up in a greenhouse during the spring/summer term.

Exploring conditions for growth Grow fast growing seedlings in pots (e.g. radishes, cress). Controlled investigations can be set up with these seedlings to see how they grow in different conditions (e.g. changing the amount of water, amount of sunlight, air, soil, plant food etc.)

Observing pollination Packets of seeds selected specifically to encourage bees and other pollinators are readily available.

YEAR 4

Living things and their habitats

- Recognise that living things can be grouped in a variety of ways.
- Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.

Year 4 pupils may plant a mix of wildflower seeds. They can use classification keys to try to identify and name the seeds. They can sort the seeds according to their type and plant each type of seed in a separate pot. As the seeds grow, they can continue to use classification keys to gather further evidence to confirm what they are.

When the plants have flowered and they have confirmed what they are, they can sort images of them in a variety of ways.

https://www.field-studies-council.org/product-category/publications/?fwp_publication_type=fold-out-guide
<https://www.discoverthewild.co.uk/resources>

Year 5

Living things and their habitats

- Describe the life process of reproduction in some plants and animals

This builds on the work about the life cycle of flowering plants covered in the Year 3 'Plants' topic. The 'Notes and guidance' in the National Curriculum suggests finding out about the asexual reproduction of plants. The new key learning for Year 5 pupils is the difference between sexual and asexual reproduction, developing an understanding that sexual reproduction involves two parents whereas asexual reproduction involves only one parent. This is important for pupils to understand before they learn about evolution and inheritance in Year 6; in particular, the importance of variation.

To support this, it would be useful for pupils to be involved in planting bulbs (e.g. tulips and daffodils possibly with the Year 2 pupils) and then lifting them later in the year so that they can see that each bulb has a second small bulb that has developed on the side. They will plant garlic by breaking bulbs into their separate cloves, planting these and then harvesting the bulbs later in the year.

Pupils grow strawberries and observe how they spread through runners. They can plant a potato in a sack and see how it multiplies (a stem grows from the eye of a potato and new potatoes grow from this). The potato is a tuber. Schools can sign up for the [Grow Your Own Potatoes](#) project and receive a free kit.

A spider plant is also useful to keep in the classroom as this produces plantlets on side branches. Keep the plant in quite a small pot to encourage it to produce plantlets. These can be removed and potted into new smaller pots.

Pupils should also explore taking cuttings as a way that gardeners multiply plants. This produces identical offspring as it is asexual reproduction. Two plants that are suitable for taking cuttings from are mint and African violets, but pupils should also explore others.

For information on propagation, visit the [Royal Horticultural Society's Campaign for School Gardening website](#).

Taking cuttings

The following resources are required:

- Propagation medium
- Trays with plastic covers to maintain humidity
- rooting hormone.

Leaf cuttings

Some plants, that can be kept in the classroom, are suitable for leaf cuttings.

- African violet
- Spider plant

With leaf cuttings, snip off a healthy leaf and a bit of stalk, dip the stalk in rooting hormone, and place it in moist propagation medium.

With African violets, the leaves can be suspended in water. Poke holes in paper over a container filled with water so the stems are in the water.

With sansevieria, cut a 6-inch piece off the top of a leaf and put the bottom cut edge into water. Change the water once a week and roots should start to form after about two months.

Stem/Tip cuttings

The following potted plants, that can be kept in the classroom, are suitable for stem/tip cuttings.

- African violet
- Begonia
- Geranium

Stem/Tip cuttings can also be taken from plants in the school grounds. Take cuttings either in the autumn, as the stems start to shed leaves, known as hard wood cuttings or in early spring, when new green shoots appear, known as soft wood cuttings.

The following plants that you may have in the playground are suitable for stem/tip cuttings.

- Rosemary, sage, mint, thyme
- Lavender – early spring
- Fuschia
- Geraniums
- Holly from a female plant (one that had berries)

Allow pupils to take stem/tip cuttings from a plant of their choice to see if it will grow.

Vegetable tops

Pupils can try to grow the tops of a range of vegetables (e.g. carrot, beetroot, parsnip, potato, courgette etc.)

Year 6

Evolution and inheritance

- Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.

Pupils can enhance their learning in the 'Evolution and inheritance' topic by looking at how plants can vary within a particular species. They can plant varieties of bulbs (e.g. tulip, daffodil) and seeds (e.g. poppy, tomato). They can then observe these plants to identify how they are similar (i.e. what makes a daffodil a daffodil) but also how they are different (i.e. the variation within the species).

It should be possible to buy mixed bags of bulbs containing different varieties of one species (e.g. varieties of daffodils, tulips, crocuses - plant in Autumn 2) and mixed bags of seeds (e.g. varieties of tomatoes, lettuces - plant in Spring 2).

Art – Pupils can enrich their learning in their Patterns in Nature artwork by exploring this theme at the allotment.

Key vocabulary

Year		
Reception	soil, sand, stone, bark sight, smell, taste, touch, sound herb; basil, mint, thyme, parsley, coriander	trowel, wheelbarrow, fork, pot, watering can
1	wild plant, garden plant tree, trunk, branch, deciduous, evergreen, mulch root, stem, leaf, bud, flower, blossom, petal bulb, seed, compost, fruit, vegetable season: autumn, summer, spring, winter	Broom, hose
2	seed, bulb, maturity, dormant, dead heading water, light, growth, suitable temperature, full/partial sunlight, germinate habitat, micro-habitat observe, classify weeding, sowing, tending, nurturing wildflowers	Spade Shovel rake
3	Conditions: air, light, water, nutrients, soil, flower life-cycle, pollination, seed dispersal, seed formation, ripen, seedlings, shoot variables (control) greenhouse, polytunnel germination, potting on	Peat free compost
4	Classification: identify, sort Environment, habitat Flowering, non-flowering – ferns, mosses Wildflower, seed	Fertiliser
5	Reproduction: sexual, asexual, variation, offspring runners (strawberries), tubers (potatoes), plantlets (spider plants), parent plant flower border, vegetable garden naturalists bulb – clove (garlic) cutting, propagate, rooting, pruning annuals, perennials, harden-off	Secateurs Chitting Cold frame
6	Variation, offspring, similarities, adaptation Species Classification system/key botanist	Composting, composter