



Buffets of flowers

With a diverse structure and popping with colour, these spaces are a buffet for the eyes and mind, and provide food for a multitude of pollinating insects.



Benefits for nature

Raised beds or planters of fruit, vegetables, and perennial flowers on school grounds can provide food for a wide variety of insects and other invertebrates, as well as yourselves! Even in limited spaces, installing raised beds or planters offer opportunities to grow a diverse range of plants. Growing a variety of native and non-native species that flower and fruit throughout the seasons provides valuable resources for pollinators and other wildlife, especially during times when natural resources are scarce.



Benefits for people

Increased planting can greatly improve air quality and cool built-up spaces. Growing fruits and vegetables can also provide fresh produce for the school.



Is it easy to do?

Converting existing grey areas to flower beds, or adding raised beds and planters, can be easily incorporated into existing outdoor spaces. You can get creative and build your own raised beds or upcycle and reuse large containers to transform unused corners or larger areas of hard standing into productive and wildlife-friendly gardens. It is essential to consider how you can water your flowerbeds, or connect them to a rainwater downpipe with reservoir to sustain them over the holidays.



Where to start?

Even the smallest of spaces can accommodate a planter or two. The guidance below helps you to select plants, choose the best location, and get planting.

Cost

£-£££

Season

Prepare your ground or planters in winter, ready for planting up in spring.

Impact for nature

Medium

Key Vocabulary

Grey spaces

Spaces that have no, or very few, plants e.g. playgrounds, paths, car parks, tarmac and asphalt.

Green spaces

Spaces that have some plants already.

Perennial

Plants that come back year after year.

Mulching

Adding a layer of bark chippings or well-rotted garden compost and manure around the base of a plant to add nutrients and retain moisture.

If you think you'd like to add **Buffets of flowers** to your site, the rest of this document will show you how...



Planning and design

In this first phase of the National Education Nature Park, the focus is on creating new spaces for nature in areas that were previously grey, so this document explains how you can create new flowerbeds on the greyer parts of your site.

Later on you may wish to plant flowers, fruits or vegetables elsewhere on your site, but before you change any existing habitats, you will want to study what is currently living there so you will be able to measure any nature gains you achieve. Habitat packages will provide surveys and activities to explore and understand your existing green areas before you start to make changes.

For now, let's turn grey to green...



Access and connection to surrounding habitats

- If you're creating raised beds, making them high enough (approx. 45cm high) has a dual benefit. Firstly the plants will have plenty of depth to grow strong roots and moisture is retained better. Secondly, children and young people can access the beds easily without kneeling down on the ground. Seeing flowers, and the insects that visit them, at eye level provides a new perspective. This also makes flowerbeds more easily accessible for those with physical disabilities.
- Consider laying out your flowerbeds or planters to create 'stepping stones' between areas of existing natural habitat, to help flying insects to move around your site.

Designing for nature

- A long flowering period is a key goal, to provide nectar for insects. Try to select a variety of plants that, between them, provide flowers from early spring all the way through to late autumn.
- Highly ornamental flowers with increased numbers of petals that are densely packed e.g. pompom dahlias, sometimes don't provide access to their nectar to insects (often called 'double flowered'). Look for plants labelled as 'pollinator friendly'.
- Choose a sunny or partially shaded spot if you can. If you have a heavily shaded area, make sure to choose plants that are suited to these conditions.
- Avoid planting any invasive non-native plants. Advice on this is available on the RHS website.
- Composting – alongside increased planting – offers the potential for recycling garden waste and enriching soils without the need to purchase compost, and can reduce your setting's environmental footprint.

Start small

Install planters and raised beds around your site, and fill them with a variety of flowers, fruits or vegetables. Include trailing plants to make use of the vertical space. Get creative and involve learners in planning different styles, designs and layouts of your planters.

Use the largest sizes (in both area, and depth) possible for your space – they will retain moisture better than smaller ones and also provide better conditions for root development. Raised beds that are too shallow e.g. 30cm deep, will struggle to support plants sustainably – create beds much deeper than this if you can.

In deep raised beds (deeper than 45cm), you can fill the bottom part with sub-soil, and the top part with topsoil, compost and soil improver.



If you are placing a raised bed on concrete or paving, use a lining such as permeable geotextile to prevent soil washing out of the base. This should be followed by a layer of gravel to allow proper drainage. Make sure not to seal the bottom of your raised bed as this can lead to waterlogging. Drilling holes in the base of the walls or leaving gaps between the construction material will help drainage.

Raised beds can be purchased prefabricated or can be constructed from various materials. Wood is often used as it can be a cheap material but they have a limited lifespan due to wood rot. If using wood, then thick planks of pressure-treated timber such as old railway sleepers should be chosen as these will last longer than thinner planks. Brick and breezeblocks can be used and have good insulative properties but take more construction work.

When filling a raised bed, use a mixture of three parts compost, four parts sharp sand and seven parts topsoil, as recommended by the RHS.

Make raised beds more sustainable for the long term by connecting them to a rainwater downpipe so they are automatically watered when it rains. See the Catching every raindrop guidance for details on how to do this.



Make a bigger impact

While more effort is required at the outset to remove paving slabs or dig up areas of concrete, creating a new flower bed in the ground is much more sustainable long term for keeping your plants alive and coming back year after year, as they can more easily access water and nutrients. Removing paving can be a very valuable intervention as it opens up previously locked away habitat, increasing the area for nature. It also decreases surrounding temperatures and allows rainwater to drain away naturally which can improve resilience to flooding. Before removing paving, consider the locations of nearby utilities/pipes etc and trees as they may have roots under the hard-standing. The presence of tree roots shouldn't prevent you from going ahead, you just need to plan and remove paving carefully to avoid damage to the roots.

Once paving is removed, the soil will need some care before its ready to be planted. You will need to prepare the soil, removing any rubble and enriching it with sand or gravel to improve soil structure and peat-free soil improver for nutrients. If compost is being produced on the school grounds this could be used. Otherwise, local authorities can often provide compost or soil improver in bulk from their recycling facilities. The ground underneath paving will be highly compacted, so you'll need to dig and loosen it either with hand tools or machinery.



The location of the site will determine what types of plants, fruits and vegetables are likely to grow successfully. The RHS website has information on [choosing plants](#) for a range of growing situations. When deciding what to plant, consider each plant's value for nature, even if you are growing it for food. Planting a range of both native and non-native plants that flower throughout the year will provide a valuable resource for pollinators at times when native flowers are scarce. Including a range of native, locally sourced wildflowers will also support local plant conservation.

Planting into the ground will minimise the need for regular watering as plant roots can access deeper soils with more available moisture. Mulching (adding a layer of bark chippings or well rotted garden compost and manure around the base of a plant) adds nutrients and reduced the need for watering. However, some watering is likely to be necessary in periods of drought so use water from [water butts](#) if possible. Try not to use tap-water if you can. Flowerbeds and planters can also be connected to rainwater downpipes to create rain gardens. See the *Catching every raindrop* guidance for information on how to do this.

'No-dig gardening' is an approach that reduces maintenance needs while promoting better soil health. No-dig gardening focuses on covering the soil surface with mulch (well-rotted compost and manure, for example) to add nutrients and suppress weeds, and avoiding digging so as to not damage the soil structure and fungal networks within the soil that support plant growth. Search for [more information](#) on this approach online.

Safety considerations

- When building a raised bed it is important to ensure that it is structurally sound. Taller raised beds constructed from brick or breezeblock should be bonded with concrete to ensure that they do not collapse and potentially cause injury.
- You may be able to lift paving slabs yourself but removing concrete or solid paving will require professional help. If you do any of the preparation yourself, be careful of bending and lifting heavy weights – risk assess the activity carefully and bring in professional help if you are unsure.
- Soil contamination should be considered when depaving an area. This is particularly important if the area is to be used for growing food crops. Seek specialist advice if you think the soil may be contaminated.



Sustainability and maintenance on education sites

Watering

Small containers dry out quickly, so plants in small containers will probably not survive the summer holidays. Plant in the ground if you can, or create the largest raised beds that will fit in your space. Mulching can help reduce the regularity at which watering is required.

See the [Catching every raindrop](#) guidance for advice on connecting flower beds and raised beds to rainwater downpipes so they receive rainwater directly, reducing the need for watering.

Even so, in summer rainfall can be infrequent especially in the south. A solar-powered automatic drip waterer or capillary matting may be helpful to sustain plants over the school holidays. Choose a system that feeds from a water butt, not mains water, if you can.

Maintenance over school holidays

Mulching and no-dig gardening will help reduce maintenance requirements. Plant perennial flowers (plants that come back year after year) and drought-tolerant plants that will not need watering over the summer. Lavender, sedum (now called *Hylotelephium*), rosemary, salvias, *Echinacea*, *Rudbeckia*, *Eryngium*, *Echinops*, and *Verbena bonariensis* are all good options.

The RHS [School Holidays Watering Toolkit](#) also has lots of useful ideas.

Materials

Always use peat-free compost and soil improver. Products containing peat are extremely damaging to the environment and extracting peat exacerbates climate change.

Pesticides and herbicides

Many insecticides, fungicides and herbicides are extremely damaging to the environment, and some can also present risks to humans. We recommend avoiding all pesticide treatments - the 'pests' on plants are part of biodiversity too!





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