Handbook for Creating a School Garden

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Introduction

When thinking about whether or not your school has an area for a garden, the answer is 'Yes!' There are lots of outside spaces that can be utilised in different ways and adapted to create spaces for planting and growing various flowers and plants. A garden doesn't have to consist of grassed areas and trees, it can be made up of planters, raised beds and rockeries that give different areas for growing all sorts of vegetables, fruit and flowers. It may be an option for your school to use an area off-site such as in a local park or garden and this can sometimes be a much better option if you're limited for space or your grounds are already being put to other uses.

This handbook has been created using experiences from seven schools across Europe who worked alongside each other to create garden spaces for schools in both urban and rural areas, using limited budgets and catering for students with varying abilities, ranging from mainstream secondary schools to all-age special schools. None of the teachers working on this project had gardening expertise and so it was crucial to the success of the project that teams were created to work on the gardens and maintain them.

Finding a suitable place around school.

Start by choosing where the garden will be situated. In order to do this, you'll need to consider a range of factors.

Accessibility: The site will of course have to be accessible to both students and teachers and this should be a main priority. If you have students with limited mobility, you might need to consider how equipment such as wheelchairs will be able to access the area and whether the students will have space to move around independently. Some possible solutions for these accessibility problems could be including raised beds or paving areas around the garden for people to move around safely. Consider whether your space has room for these features when you're deciding on your garden's location.

Amenities: Does the site have a nearby water source? This could be an outside tap or access to a hose but you could also solve this problem more cheaply by installing a water butt to store the water. Again, this needs to be thought about in terms of how much space you have as a water butt would take up much more room than a tap. In the UK, subsidies are available for schools wishing to install water solutions that will help save water.
Websites such as Water Wise, (http://www.waterwise.org.uk/save-water/) and Northumbrian Water (https://www.nwl.co.uk/your-home/saving-water/water-butt.aspx) will give you more information in this area.

Growing Conditions: Does the chosen area get enough exposure to sunlight? Ideally, the area should get a minimum of six hours of sunlight a day in order to maintain healthy plants. If your space is more shaded however, there are other options for your garden and it can just simply be a matter of choosing the right plants. Consideration should also be given to the type of shade provided. Trees can provide shade but the roots dry the soil to a greater extent whereas the same level of shade may be provided by a building and this would obviously not give the same problem. The Royal Horticultural society has produced some useful advice on gardening with different levels of sunlight and shade. Visit their website at https://www.rhs.org.uk/advice/profile?pid=934.
The condition of the soil should also be taken into account when planning your garden as this will impact on the types of plants you will be able to grow. Sandy soil will provide the plants with better drainage which would be desirable for some types of plants and others will be more suited to clay soil which provides more nutrients but needs to be worked with organic matter to stop it becoming too hard in the summer months. You also need to know whether the soil is acid or alkaline, as plants thrive in different soils. A soil pH of 7.0 is considered neutral. A pH value below 7.0 means the soil is acid and above 7.0 the soil is alkaline. Testing kits are easy to come by and simple to use.

Getting a Team Together

Once you have found a location for your garden, it is good to put a team together to help with the planning of the garden. This will also help by involving more staff in your school who will be willing to work with the garden in the long term. Use these tips to help you bring your team together and develop a good working relationship with your colleagues. (See www.allbusiness.com for more advice)

1. **Communicate Goals Clearly.**
   Research shows that people work better when there are strong, clear goals that they are working towards. If they can see where the process needs to end, they are able to work more efficiently to get there and they have ownership of the process.
2. **Shared Responsibility**
   Ensure that people in the team are given responsibility for different aspects of the project and that these responsibilities do not overlap. It's also good to make sure that each member of the team understands how their responsibility relates to the rest of the group and how it contributes to the overall aim of the project.
3. **Empower Team Members**
   Make sure other people on the team have power to make decisions as this will help them to take responsibility for the project and ensure they have the ability to carry out their tasks.
4. **Give Clear Feedback**
   Your team will work best when they are given feedback on the progress of the project and the results of their work. When this is done positively, your team will know how far along they are and which things need to be done next.
5. **Meet Regularly**
   It is important to get a good balance between meeting regularly to keep your team on track and ensuring you only have meetings when they are needed so as not to lose the momentum or the enthusiasm of the team members. They need to feel that their work is valued as well as feeling that their time is not being wasted by unnecessary meetings.

Your team will be made up of people who have a shared interest in making the project work. If you have people on your team who have experience with gardening, make sure they feel their expertise is valued and useful but also make sure people feel able to contribute ideas even if they don't have any prior knowledge of this area. Decide who will project manage the design and building of the garden and who will be responsible for maintaining the garden once completed. You will also need to have someone responsible for managing the budget and this may possibly need to include securing funding if it's not already available.

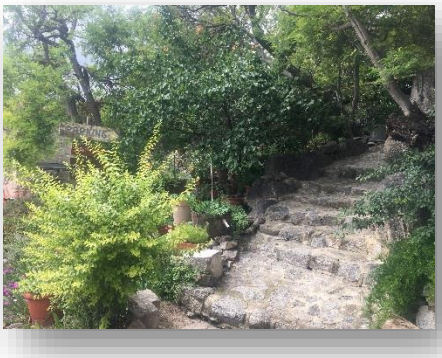
Planning Your Garden

What is the purpose of your garden?

Sensory Gardens include lots of flowers and plants that maximise the sensory impact the garden has on its visitors. The garden is designed with the visitor's experience in mind and the flowers and plants can be visually interesting, make different sounds, smell of different things or even be tasted! In a garden like this, it is important to ensure that none of the plants is poisonous or could sting or scratch as the visitors interact with the garden. If you are designing the garden with small children in mind, you may want to include plants that grow at a low level and if there will be wheelchair users, then you might consider having hard landscaping at different heights with wide gaps between beds. You may also want to consider including sculptures, outdoor instruments, feeders and boxes to attract birds and benches for people to sit and admire the garden.

Sound: Trees and grasses that make sounds as the wind passes through them are good for sensory gardens as they are low-maintenance and make soothing sounds for visitors. Plants can often play a key role in encouraging wildlife in your sensory garden and this can contribute to the auditory experience of the garden, e.g. with birdsong.

Smell: Flowers such as gardenia, sweet pea and lavender are all aromatic flowers that not only look pretty but are easy to grow and maintain. Herbs and spices are also great to include in a sensory garden and can be tasted as well as smelt.



Touch: Leaves can have lots of different textures and depending on the varieties can be hard, soft, rough, smooth, spiky or furry. Lots of plants that are native to the UK and therefore easy to grow can provide these different types of leaves, some examples include Jerusalem sage, (soft and furry leaves) lambs ears, (silky and smooth leaves) and houseleek (rigid leaves)

Taste: Herbs and spices as well as fruit and vegetables can all make great plants to include in your sensory garden. Children especially love the idea of edible plants in a garden and often will be more engaged if they think there's food involved! Some examples of plants you could include are wild strawberry, chives and rosemary.

Sight: Flowers are great for creating strong visual effects and there are lots of easy-to-grow options you could include in your sensory garden. Some examples could be sunflowers, swiss chard and chameleon plant which all provide strong colours and patterns for the garden.

Kitchen/Produce Gardens are another great idea to incorporate gardening into the curriculum. You can look at growing all sorts of different produce which can then be used in cooking sessions with the students. One thing to remember, however, when planning your garden, is the time of year the produce will be ready. If your garden is going to be used solely by the school, then plants that produce their crop during the summer will not be harvested by students as this coincides with the long summer break. It's good to choose crops that will either be harvested by mid-July or survive through the holidays until September.

Root Crops These are typically fairly easy to grow and are a popular choice when working with children. Most children are very familiar with carrots so this may be a good crop to start with. Other options include beetroot, parsnips and celery. You may need to use netting to protect your plants from being eaten by other insects and animals. Another option is to grow another type of crop, such as chives, in between the root vegetable rows to vary/disguise the smell which will stop certain species from being attracted to them.

Brassicas this family of vegetables include crops such as cabbage, sprouts and cauliflower. They are good for producing crops in colder autumn and winter months but they need tending to as they can easily and quickly go to flower, especially if their roots are disturbed. Also these types of vegetables can be hit-and-miss with children's taste buds. This is because children are much more able to detect phenylthiocarbamide or PTC, a chemical which makes the vegetable taste bitter to people who can taste it.

Onions and Legumes are another very recognisable vegetable group for children and include plants such as garlic and leek as well as runner bean and mangetout. They are fast-growing and can produce crops early enough to be harvested before the summer holidays.

Potato Family This includes varieties of potato as well as tomatoes and are probably the most popular crops for school gardens because they're fairly easy to grow and they produce crops that children like to eat. They're also easy to find a space for as they can be grown in large tubs and baskets as well as traditional vegetable beds.

Preparing Your Area

An important factor in creating a successful school garden in making sure that the children are involved and have ownership of the area. A good way to do this is to get the children involved in carrying out a survey to find out what people want in the garden and what types of things they'd like to grow. This needs to be done thinking about how big the site is and if there are any permanent features you'll have to work around. Using the above information as a guide, including the type of soil and the level of light, you'll be able to work with children to see what would be possible and give them real choices for the garden.

You'll also need to think about who will be using the garden as this will have an impact on what you might be able to include. E.g. if you're including rhubarb, it would have to be in an area where no one would be likely to eat the leaves and if this could not be guaranteed, you might not be able to include it in the plans.

Planting and Nurturing the Garden

Container based gardening: This is a great way to start a garden when you have a limited amount of space. Types of containers include grow bags, plant pots, window boxes and hanging baskets. One of the big advantages of growing plants in containers is that they can be positioned close to the classroom which can help with supervision issues. Also, plants that wouldn't survive in the British climate can be grown indoors to shield them from cold snaps and too much rain.
Plant your crops according to the packet instructions, thinking about spacing and the types of compost you'll need to use for different types of plants. You also need to think about drainage for containers, particularly if you're growing indoors. Some plant pots come with drainage built in so that the water sits in a reservoir underneath and these just need topping up to keep the plants healthy.

Raised beds: Raised beds are a great way to create an accessible garden that all children will be able to access and enjoy. A top tip for making sure it's useable, is to make the planting beds no more than 120cm in width. This will ensure that children can reach across the beds to get at the crops in the middle. Avoid making your beds too long as this will mean they are inconvenient to move around and students may be tempted to climb across them to get to the other side. There also may be planning regulations to consider when building raised beds if, for example, your school is part of a listed building.

Start by making out the area for your raised bed. This can be done using spray paint or string and steaks. You then need to dig out the area if it's grassed, turning the turf over to create a bed of soil for your planter. If it's on hard ground or concrete, you need to build in a layer of drainage which should be above ground level to allow the water at the bottom of the planters to drain away. This can then be filled with soil once you fill your planter.

Depending on the material you use for the sides of the bed, you may need to dig some foundations, particularly if you're using paving slabs on the side. Timber frames are popular and don't require a lot of heavy lifting. New railway sleepers are not usually allowed in gardens any more as they have been soaked in creosote however, if they're already in the garden, your students will be able to use

them as long as they're wearing gloves and suitable protective clothing such as overalls. Older sleepers may be used without concern about skin contact as the creosote is thought to have dissipated.

Once your planters are filled with soil and the appropriate drainage materials, you need to leave them for a few days to settle before they're ready for planting. Measure the spaces between the plants and don't over-crowd the crops as they will need room to grow and develop. This information can usually be found on the packaging when you buy the seeds. Your crops will need tending to and watering regularly to make sure they're healthy but this should be timetabled with groups to make sure that these things are being done regularly but not too often as over-watering could also damage the crop.

Additional Ideas

Once you've set up your garden, you can develop it in lots of different ways. Here are some ideas from our project that we've included in our gardens to attract wildlife and make more links with the curriculum.

Scarecrows

Children loved making scarecrows together and dressing them up differently.

Recycled Bottle Planters

These were easy to make and were effective when they were put up on the wall.

Bird Boxes

Sculptures