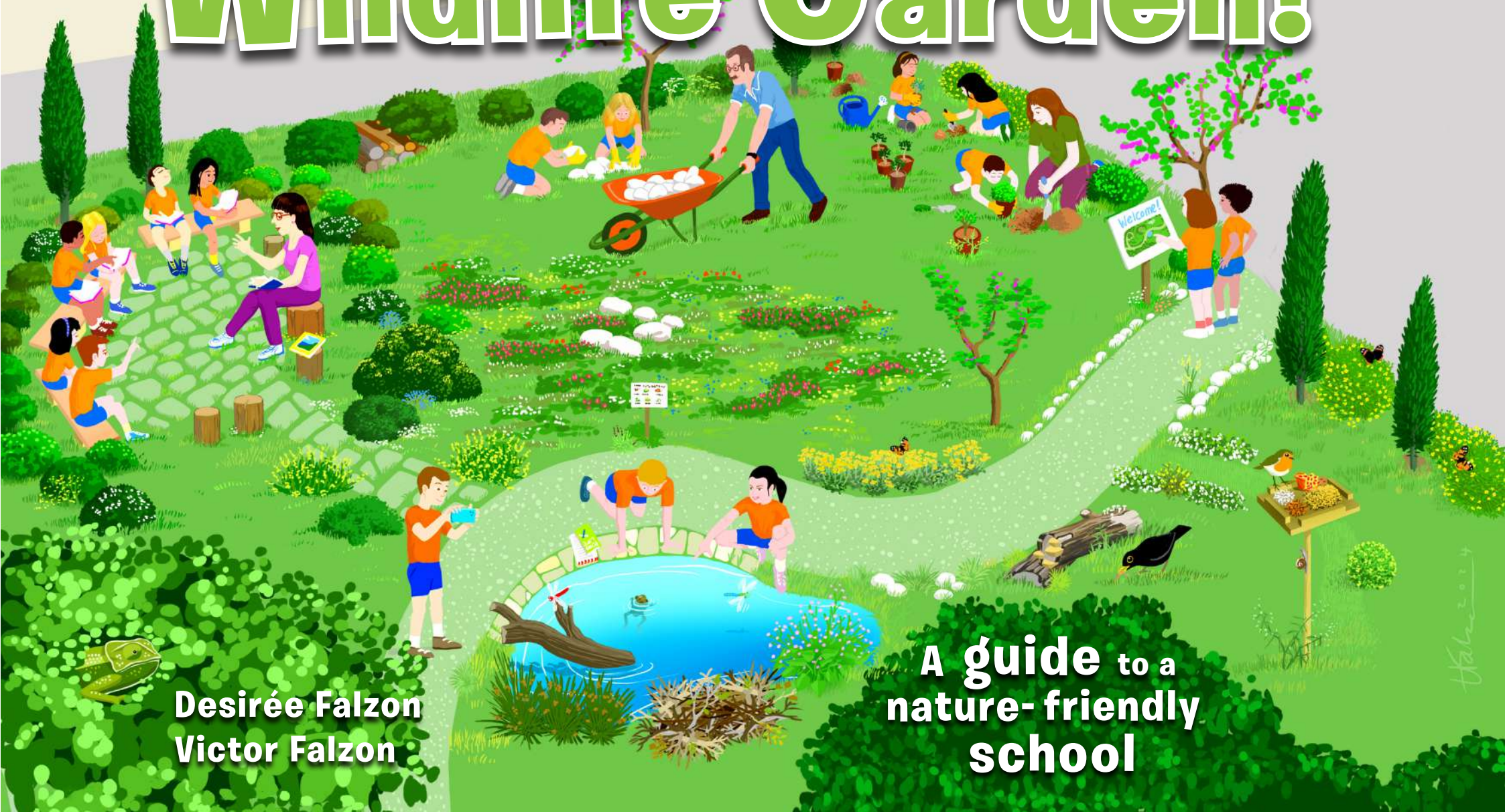


Let's make a Wildlife Garden!



Desirée Falzon
Victor Falzon

A guide to a
nature-friendly
school



Let's make a **Wildlife Garden!**

A guide to a nature-friendly school



Desirée Falzon
Victor Falzon



2024

The project

Blooming Schools

Blooming Schools is an Erasmus+ funded project dedicated to enriching biodiversity and equipping secondary school students with the tools, competencies, and skills to become environmental change-makers. This step-by-step manual for creating wildlife gardens empowers young people to raise awareness and take action with a responsible, hands-on approach. Whether you're a teacher, student or community member, this guide provides everything you need to create thriving green spaces that support local wildlife.

The partners



Blooming Schools is led by **BirdLife Malta** in partnership with **Friends of the Earth Malta**, **St Nicholas College Dingli Secondary**, **Sociedade Portuguesa para o Estudo das Aves (SPEA, BirdLife Portugal)**, **Agrupamento de Escolas de Portela e Moscavide** in Portugal, **Hellenic Ornithological Society (HOS, BirdLife Greece)** and **Station Europe** in Romania.

Special thanks to...

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Printed at Poultons on sustainably sourced paper

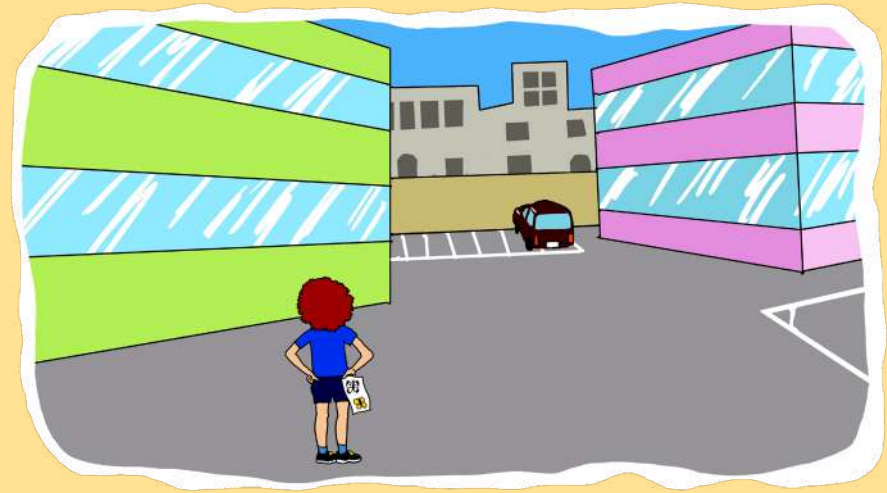


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Part 1

Introduction

This book is a guide on how a school can go about creating a wildlife garden in their own grounds. Although much of the information is applicable everywhere, the guide is mostly aimed at schools in the Mediterranean region. Part 1 is about the **what**, the **why** and the **who**.

What is a wildlife garden?

There are many kinds of gardens, and no two are alike. As the name suggests, a **wildlife garden** gives priority to nature and the organisms that visit or live in it. Although man-made, a wildlife garden lets nature dominate, rather than human structures.

When we speak of **wildlife**, it doesn't always have to mean large mammals, the kind we watch on nature documentaries. Any plant and animal that is not domestic is part of wildlife. Butterflies and poppies are just as much wildlife as buffalo and polar bears.

All living things are part of nature, but not all of them would be appropriate in a wildlife garden. Wildlife gardens focus more on native species rather than alien plants and animals bought from a petshop (e.g. goldfish) or garden shop (e.g. cactus).

Similarly, a wildlife garden is not suitable for farm animals or pets (e.g. domestic ducks and rabbits, chickens, pigeons), nor is it a place to grow vegetables.



A bug is as much a part of wildlife as a bear!



A wildlife garden is different from a formal garden, where human shapes and structures dominate



A wildlife garden is not a place for farmyard animals like ducks and rabbits



A wildlife garden is different from a vegetable garden – in a wildlife garden we give to nature, rather than take from it!



Goldfish and other non-native fish will eat the small pond organisms and destroy any foodchains forming in your pond.

Why have a school wildlife garden?

Giving something back

As we take up more land to build cities and farmland, natural habitats diminish and we lose the diversity of life that was once all around us. One of the aims of a wildlife garden is to attract wildlife by providing food and shelter. It's one way of giving some space back to nature, which is especially lacking in the highly urban setting of many of our schools.

Reconnecting

As our lives move increasingly indoors, children are suffering the consequences of a lack of nature. These include mental and physical symptoms, often referred to as **nature deficit disorder**. In a school wildlife garden children can reconnect with nature, whether actively engaged in nature-themed lessons or simply chilling in a natural setting.

Building values

Children who are disconnected from nature often fail to develop the values that would motivate them as adults to live in environmentally responsible ways. Getting involved in the school wildlife garden at school will give children the skills they need to help nature.

For these reasons, educators have a responsibility to connect children with nature. Creating and enjoying a wildlife garden in school is an excellent way to do this. This book will help you do just that. Will **you** take up the challenge?





Getting the school involved

There are many potential stakeholders in a school wildlife garden project. It is up to you who and when to engage these people, but here are some suggestions:

Planning and production stage

- core group
- landscape and wildlife experts
- parents
- teachers and students

Consultation stage

- community
- students and teachers
- parents
- committees

Implementation stage

- students and teachers
- parents
- community
- experts
- ancillary staff

Maintenance stage

- students and teachers
- parents
- community
- experts

Monitoring stage

- students and teachers

Alert!

People involved in the garden are likely to have increased pride, ownership and connection with nature, so it looks like the more people involved the better! **But** there is a downside, because the more people you engage in planning and consultation the slower the process will probably get. So you may wish to restrict parts of the process to a smaller group.

A note about teacher training

Although not part of creating a wildlife garden, it is worth mentioning that teacher training will be an important stage in ensuring use of the garden in tandem with the school curriculum. Most teaching is traditionally carried out in the classroom, with the classroom setting being the focus of mainstream teacher training. To ensure student involvement through the formal or informal curriculum, allocate human resources to finding the right professionals to carry out teacher training outdoors in nature.





Part 2

Creating the garden

A step-by-step guide to help you start a wildlife garden from scratch. There is no one way of going about it - the following pages are the fruit of experience, trial-and-error and common sense. This is the **where** and the **how** section.

Step 1. Finding the right spot

Once you have the school head's permission for the garden project, look around your school grounds and decide where you wish to set up your wildlife garden. The ideal spot would be . . .

. . . an area with soil

This is by far the most important requirement – this book is based on the assumption that your area contains soil* of some depth.



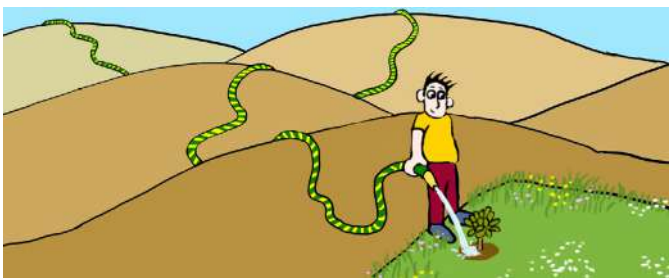
. . . in a quiet area of the school

A quiet spot would encourage wildlife to visit your wildlife garden more readily. But don't worry if your garden is not in a quiet area – much can still be done.



. . . not far from a water supply

Water for irrigation will be crucial, so the nearer the source of water the lower the cost of bringing water to the site.



. . . a good-sized patch!

The bigger your area the more things you can squeeze into it and the greener your school will be. Still, much can be achieved even in a small space.



Steps 1 to 3 are about finding, thinking, sketching, listing and planning. The actual physical work begins at Step 4.

* If your school has no green areas at all, see pages 84–85 for some ideas

Next . . . make a map

Once you find the right spot, draw a rough map of your patch (maybe enlist help from your Art teacher). Measure the perimeter of the site and calculate its area – the easiest way to do this nowadays is to download Google Earth from the Internet (it’s free), zoom in on your country, town and school, and use the handy measuring tool to calculate the area of your patch.

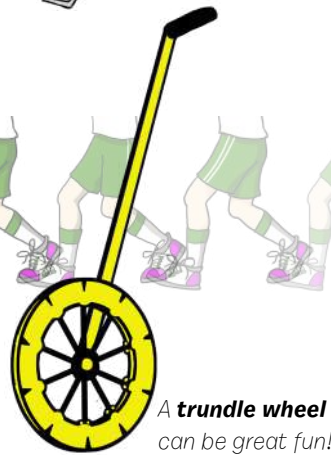


A handy **long tape measure** will get the job done too.

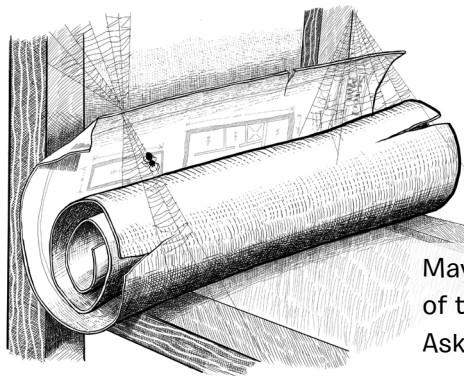
Google Earth is the easiest measuring tool but perhaps not the most fun!



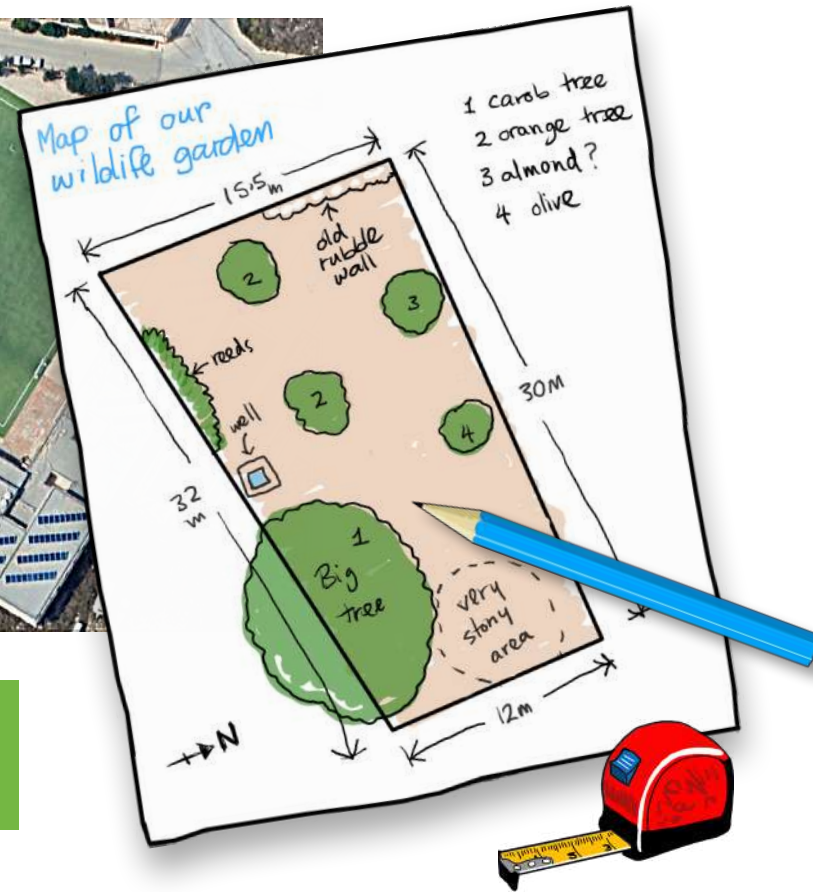
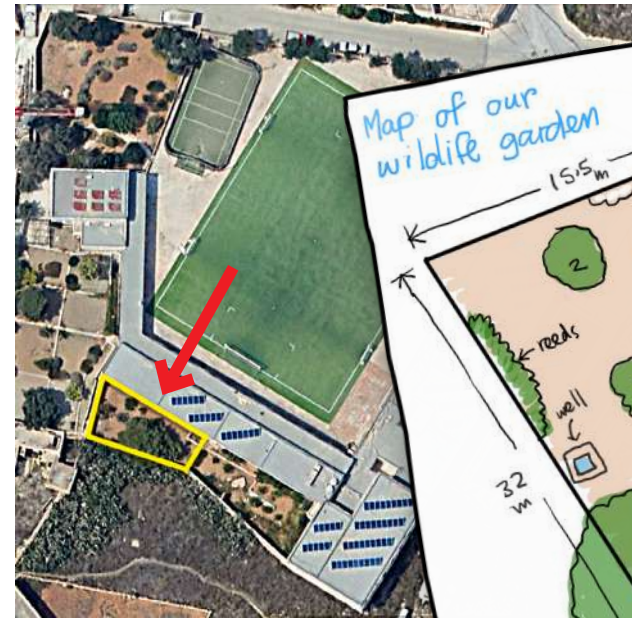
Measuring length in **footsteps** may not be very accurate but gets more students involved



A **trundle wheel** can be great fun!



Maybe there’s an old plan of the school somewhere! Ask your head of school...



Make a real-life Geography lesson of it!

Details...

- **Mark in** any trees, shrubs and other features (walls, etc.) present. Don’t worry if you don’t know the names of the plants, you can find those later.
- **Find** which way is north and check if there are areas of permanent shade. These factors can be important when planning what and where to plant.
- **Take pictures** of your area from all angles, if possible from a nearby roof too.

It’s always a good idea to have a map of your area. That way you have a definite boundary to a patch in your school you can now call “our very own project”! You can use the map to promote your project (welcome board, school notice board), make print-outs to discuss, sketch and plan with your students what goes where, reproduce it on worksheets, etc.

Step 2. Planning gathering spaces

Wildlife gardens are places for nature but they're also places where students learn and interact with nature. Some form of access and accommodation (seating) will therefore be needed. Depending on the size of your patch decide whether there's enough space for fieldwork tables, or whether you can only have basic seating for groups of students. When deciding about gathering areas consider the following:

1. Location

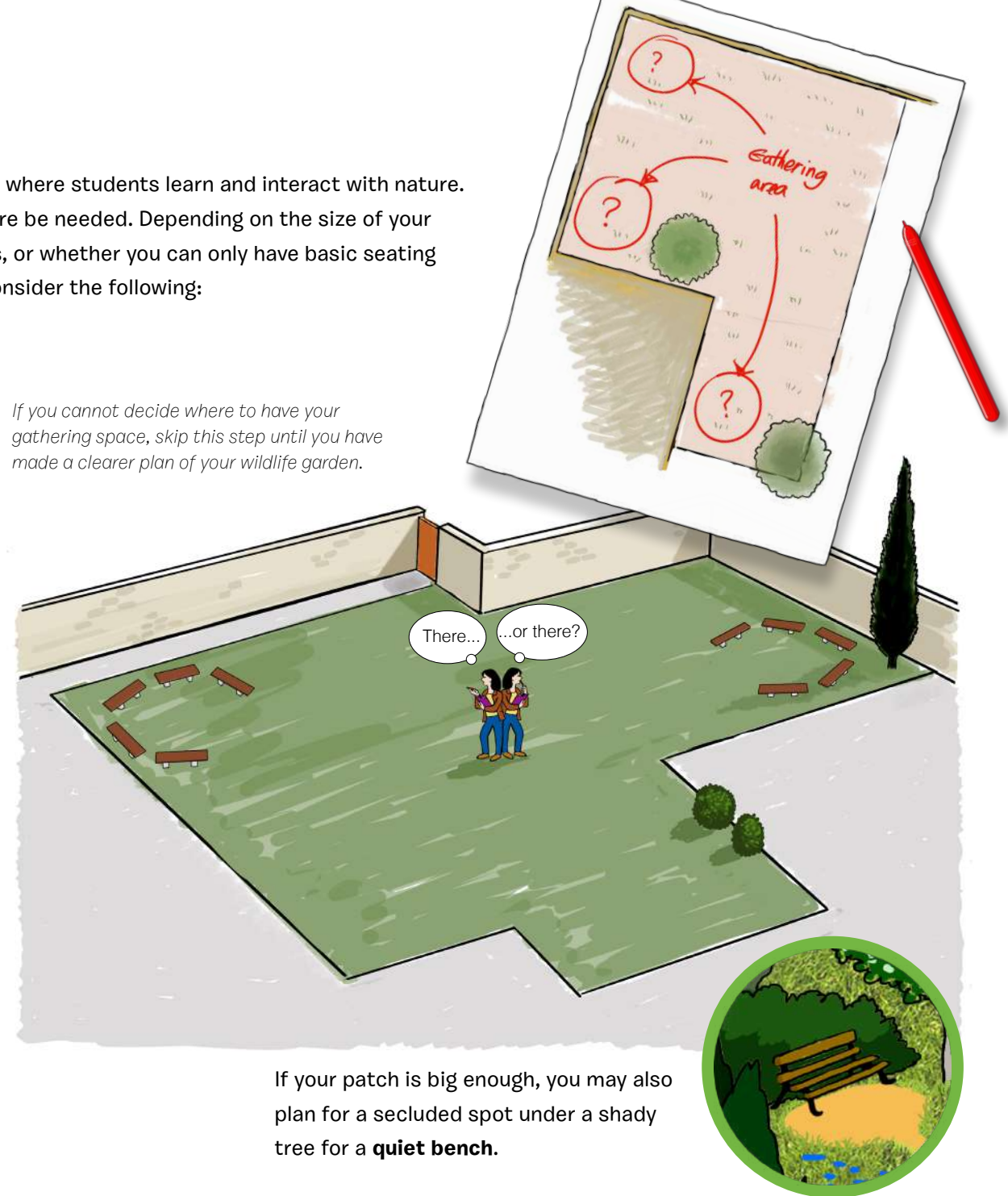
Considering our strong sunny Mediterranean climate, a shady or part-shady area would be ideal for a gathering space. So if there's a shady wall or a tree already in your area, it could be the place for your gathering space.

To minimise disturbance to wildlife, don't position gathering spaces in the middle of a proposed "habitat" (see Step 3). Eventually you may plant a hedge around part of your gathering space to screen off human presence and to muffle voices.



A nice shady tree is ideal for a seating area

If you cannot decide where to have your gathering space, skip this step until you have made a clearer plan of your wildlife garden.



If your patch is big enough, you may also plan for a secluded spot under a shady tree for a **quiet bench**.

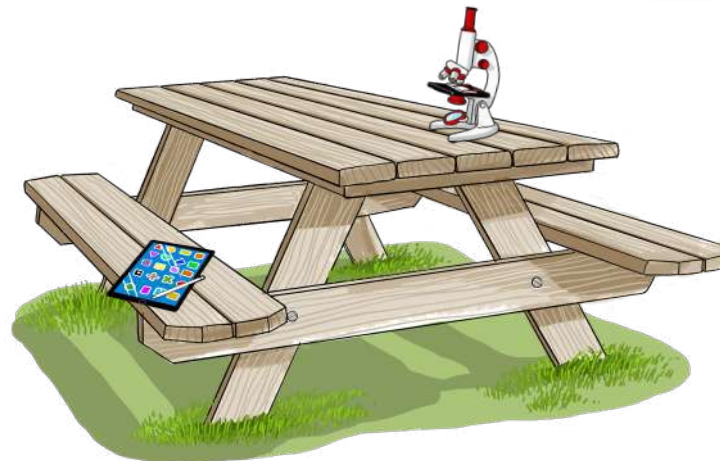
2. Size and purpose

What kind of student activity will you host in the garden? To sit and observe in small groups you can set up temporary seating using cushions or camp mats placed near an area of particular wildlife interest, e.g. a freshwater pond. For a permanent seating arrangement for a class of 20 or more, the cheapest is circular seating so students can face each other and discuss. If you are going to use apparatus (e.g. microscopes) a flat surface would be desirable, so you may need to invest in field tables, but for these you will need ample space. For short writing/sketching activity while seated, clipboards should suffice, except perhaps with very young children.

It's possible that your garden will be too small or too narrow for a permanent seating space. If the place is too small, don't make it any smaller by trying to squeeze in a seating area – just let nature have it all!



A circular seating arrangement is ideal for reading lessons, discussion, etc.



Field tables are best for craft activity or if you are going to use apparatus or examine objects, etc. They are however bulky, expensive and take up a lot of space, especially since you'd need three or four to accommodate a whole class.



Field tables are ideal for activities where a flat surface is necessary



Cushions or camp mats can be used for temporary gathering spots

Step 3. Planning habitats

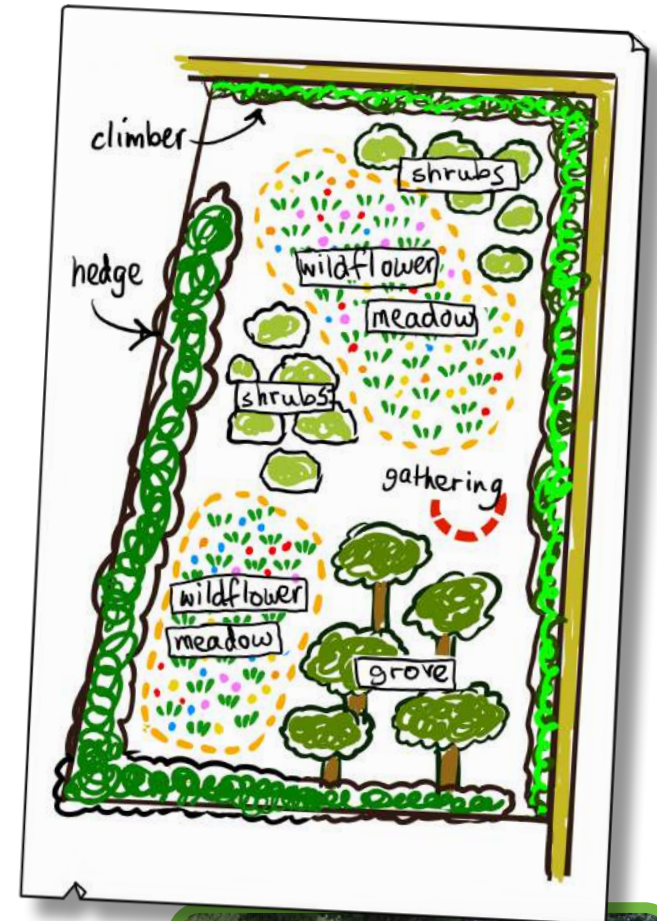
Habitats are where animals and plants live, so if we want to attract creatures to our wildlife garden we have to think about habitats. Habitats are determined by the **physical characteristics** of the place, such as sunlight, shade, exposure, gradient (how slopy the place is), temperature, soil type, soil depth and humidity. These factors determine the **vegetation** that grows there.

The habitats in your wildlife garden will depend on what you plant in it. Since you're going to create these habitats yourself, it's a good idea to know what plants would be suitable for your patch.

Have a think!

Stand in your patch, look around and be aware of its physical characteristics. Go through the questions on pages **14-16** and see how different plants have different needs. Have a browse through the Plant Guide on pages **46-70** to get an idea what sort of plants would grow happily in your garden. No need to decide all the species you will need at this stage.

Is there space for trees? If the place is very sunny, an evergreen would maybe be ideal – or a deciduous species if there's lots of shade already. Is there space for some shrubs, maybe a thick hedge to screen off a busy street next to the school? How about a nice sunny patch for wild flowers, perhaps with some low mounds of earth to make your landscape more interesting? Mark these ideas roughly into your map: these will be your main habitat zones. Discuss it with your students. Don't worry if you change your mind and your plan later, plans take time to mature!



Low mounds of earth here and there break up the flatness of your wildlife garden

Many sizes

Some habitats are huge, like oceans and mountains, but habitats can be small too, such as a dead log lying in the grass or a pile of stones. We call these **microhabitats**. Although small, microhabitats can still provide shelter and refuge for many small living things. Maybe we can't have a rainforest in our wildlife garden, but microhabitats can be set up in even the smallest garden. It will be exciting to find space to fit as many of them as we can.

All these **microhabitats** can happen in your wildlife garden!



Dead logs



A pile of stones



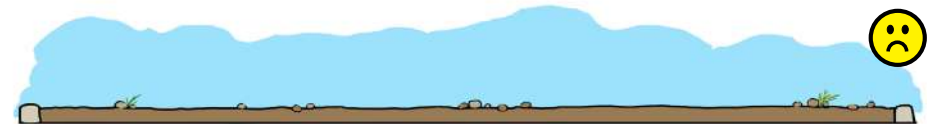
A pile of twigs



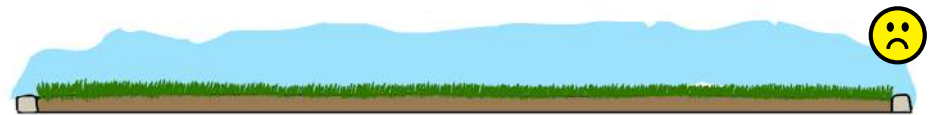
Leaf litter

Variety

Different plants and animals live in different habitats, so having two habitats will have more variety of creatures (we call this **biodiversity**) than having one habitat, three habitats better than two, and so on. Our wildlife garden should aim for as much biodiversity as possible because it makes the place more interesting. Variety will also create a wealth of learning opportunities.



Bare soil Very little biodiversity - a brown desert!



Turf or lawn Very little biodiversity - a green desert!



A wildflower meadow Good biodiversity!



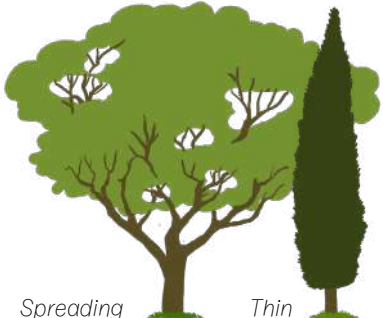







A wildflower meadow + shrubs Very good biodiversity!



A wildflower meadow + shrubs + trees Excellent biodiversity!

Landscape characteristics	Ask	Action
<p>Sun patterns</p> 	<p>Which areas are always in the sun, or get the afternoon sun?</p> <p>Which areas are permanently in the shade?</p> <p>Where does the morning / late afternoon sun fall?</p>	<p>Such areas are suitable for sun-loving plants and wild flowers.</p> <p>Such areas are suitable for plants that thrive in shade.</p> <p>Areas that get weak or short periods of sunlight are suitable for plants that need good lighting but are not tolerant of too much sun.</p>
<p>Rainwater and drainage</p> 	<p>Does the area receive floodwater and remain boggy for an extended period?</p> <p>Does the area receive rainwater regularly from surrounding streets?</p>	<p>This would be a great place to create a pond and plant marsh-loving vegetation.</p> <p>Consider creating the infrastructure for a rain garden, to collect, treat and recharge storm water into the ground.</p>
<p>The soil</p> 	<p>How has your soil been treated before this project?</p> <p>Does the soil dry out seasonally?</p> <p>Is the underlying bedrock close to the surface?</p> <p>Is the soil deep?</p>	<p>If your soil has been trampled hard, you will need to till and break up the soil before you start planting. This will let air into the soil so leaves can decompose.</p> <p>This is a good place for a wildflower meadow, as most meadow plants are annuals that dry out in the harshest seasons.</p> <p>This area is suitable for plants with shallow roots and adapted to hot and dry conditions. Very shallow soil and stony substrates are good for reptiles. Consider creating a reptile-friendly stone pile.</p> <p>Deep soil is good for trees and large shrubs.</p>
<p>The wind</p> 	<p>Which is your prevailing or strongest wind direction?</p>	<p>If your garden faces that direction you may need to plant tall hardy shrubs to act as wind breakers. Plants do not generally like windy spots as they lose more water from their leaves.</p>

Plants	Ask	Action
<p>Trees Trees are long-lived plants, growing tall from a main trunk and developing a canopy of leaves. They provide shelter for wildlife in canopy, bark, trunk, leaf litter and among roots; and food in flowers, fruit and seeds. A group of trees can also create a microclimate.</p> 	<p>Is it evergreen (always in leaf)?</p> <p>Is it deciduous (sheds leaves seasonally)?</p>  <p><i>Some trees are deciduous, like this fig tree</i></p> <p>Is it tall or short? Spreading or thin?</p>  <p><i>Spreading</i> <i>Thin</i></p> <p>What sort of fruit and seeds does it make?</p> <p>What sort of flowers does it make?</p>	<ul style="list-style-type: none"> ● Suitable for areas where you want to create shade, make an aesthetic statement or define a boundary. ● Suitable for roosting birds. ● Suitable for allowing light to penetrate to ground level or through to windows in winter. In summer the area under these trees will be fresher than the surroundings – a great place for animals (and people!) to relax. It will also be a little bit more humid than the surroundings, and a great microhabitat for some herbaceous (non-woody) plants to grow. ● Suitable for creating leaf litter for mini wildlife and for student activity with leaves. ● Suitable for observing dramatic seasonal changes. ● Choose the shape according to the physical needs of your patch.  <p><i>Catkin</i></p> <ul style="list-style-type: none"> ● Fruit-bearing trees are great for attracting birds and other wildlife. ● Does it make catkins (long hanging clusters of small flowers, usually wind pollinated) or single flowers (usually insect pollinated)? Due to hay fever issues, insect-pollinated species may be more suitable for schools.

Plants	Ask	Action
<p>Shrubs Shrubs are often perennial (live several years), mostly evergreen, grow from several branches and have a spreading shape. They provide shelter, flowers, fruit and seeds.</p> 	<p>Is it tall, medium or short?</p> <p>What are the leaves like?</p>	<ul style="list-style-type: none"> Plan your shrub size according to position: have taller shrubs as sound, wind or visual screens as well as for aesthetic effect; medium shrubs for landscaping purposes such as zone markers, and short shrubs for path borders. Vary your shrubs: texture, size and aromatic properties are all learning opportunities, especially for younger children or kinaesthetic learners.  <p><i>Low border shrub</i></p>
<p>Meadow plant A mix of wild flowers and grasses, which can be annual (living less than a year) or perennial (living for several years). Provides for wildlife above and below ground, especially during growth, flowering and fruiting season.</p> 	<p>Would you like an area with annual plants?</p> <p>Would you like to have herbaceous (non-woody) shrubs?</p>	<ul style="list-style-type: none"> For some annuals to grow, you may need to till or rake the area every year, as many annuals are opportunistic species that colonise disturbed ground. Experiment by tilling/raking one part and leaving another area untouched. See what grows in each area and observe the difference between the two. Which has the most variety? These plants survive harsh summers or winters by shedding the parts above ground (leaves, stalks) and staying alive underground in the form of a bulb or similar storage organ, to re-emerge when the appropriate season arrives. Do not till this area or you will disturb or uproot them.  <p><i>The bulb stores the plant's nutrients underground</i></p>



Before you begin....

Before starting your project, do a survey and make a list of what plants you find already growing in the area – not just trees and shrubs but also any wild flowers you find growing. If you don't know the name of the plants take photographs and ask an expert for help with identification.

It's good to know what plants you have, so a few years down the road you'll be able to compare the situation before with the situation after – and be proud of the big difference you made!



Step 4. The nature trail

Steps 1 to 3 dealt with planning and deciding. The nature trail will be the first phase of the project to be actually completed.

Now that you have the gathering spaces and the habitats more or less established in your plan, you will need a nature trail. A **nature trail** is a basic footpath to access the various habitats in your wildlife garden for study, observation and enjoyment, as well as for maintenance. Importantly, it also reduces trampling and disturbance.

Flow



Have a think how you wish visitors to move around in your wildlife garden.

- Where will the entrance to your garden be?
- Will there be a separate exit, or will the path circle back to the entrance?
- Are there any areas where you would like nature to stay relatively undisturbed?

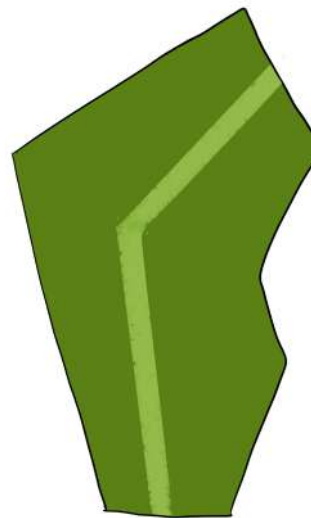
Plan your path to pass by the habitats you have planned. A winding path looks more natural than a straight path cutting your garden in half, but winding takes out more precious land from nature, so find a nice balance. Much depends, of course, on the size of your patch.



Place the entrance somewhere visible, and later you could set up a welcome sign at the entrance to give your garden an identity and more publicity.



A winding path looks nicer and more natural and interesting, with different views and angles as you walk and discover things round every corner. It also increases length and duration of the nature experience.



Too little!

Boring, not natural and with limited access



Too much!

Too much disturbance with hardly any space left for nature



Just right!

A few curves, with not much land taken from nature

Width

The wider the path the more land you will take from nature, so always go for the minimum possible width – a width of 100–110cm should serve your purpose, with ample space for wheelchair access too.

Here's how...

Our nature trail should be all-season and therefore accessible and trouble free even after heavy rain. A trail made simply of compacted (walked-on) earth is sometimes enough. In such a case this step will be very easy to complete, because all you need do is simply line the trail with small stones on either side. In this way you establish the trail and everyone can start using it right away. And you're done!

But it's not always so easy. Many soils get soggy especially in persistent wet weather. To avoid complaints about dirty shoes messing up classroom floors after a garden visit, you may need to create an all-season bedding. For this we recommend a bedding of **aggregate**, which is a mix of gravel and builder's sand.



Line your nature trail with stones on either side. Looks cool!



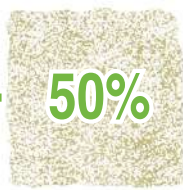
Digging the trench is not specialist work – all you need is a hoe, a spade and a rake.

Before you start laying the aggregate, get your school handyman or gardener to dig a shallow (5cm) trench along the trail – you and your students can help along too. This will serve as a tray to contain the aggregate so it won't spread sideways. The soil removed can be piled in low ridges on either side of the trail – these will be great for planting a border hedge later! A low border hedge will define the nature trail even more and discourage visitors from going off the path.

What's aggregate?



gravel 1cm
(žrar three-eighths)

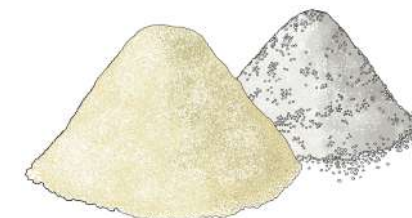


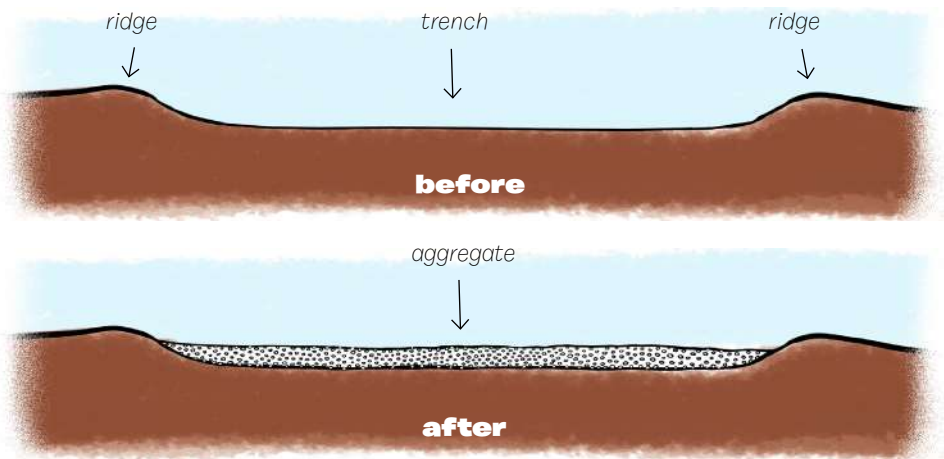
builder's sand
(ramel)

The ideal mix for our bedding is 50% gravel and 50% builder's sand aggregate. The sand compacts the mixture while the gravel keeps it from becoming too compact and will let rainwater seep through. Gravel alone is not a good idea either because without the sand it remains loose and will be kicked all over the place. Gravel on its own is also noisy and crunchy to walk on – never a good idea in a wildlife garden!

How much of the stuff will I need?

A layer 4–5cm deep is enough. To calculate how much you need **multiply the length (L) of your trail by the width (W) and the depth (D)**. So, a path 50m long, 1m wide and 5cm deep will work out ($L \times W \times D$) as $= 2.5m^3$. So you will need $1.25m^3$ sand and $1.25m^3$ gravel. You can order this material (maybe ready mixed) from a quarry and it's not expensive. You may also buy it in sacks from some hardware stores, who may also do delivery.





Laying the aggregate doesn't require professional input – children can do it!



Laying the aggregate is not specialist work. All you need is spades, rakes and willing hands – and a wheelbarrow if possible.

Don't place waterproof membrane underneath the aggregate as it's important the aggregate stays water permeable and binds with the soil underneath. A membrane would defeat both purposes.

When freshly laid the path may at first look white, unsightly and unnatural; it will also feel a bit soft when walked on. But after a week or two of use (especially if it rains) it will become compact, smooth, lose its brightness and become part of the garden scene. It's also maintenance free and fully wheelchair-friendly.



All you need is a spade, a rake and (ideally) a wheelbarrow



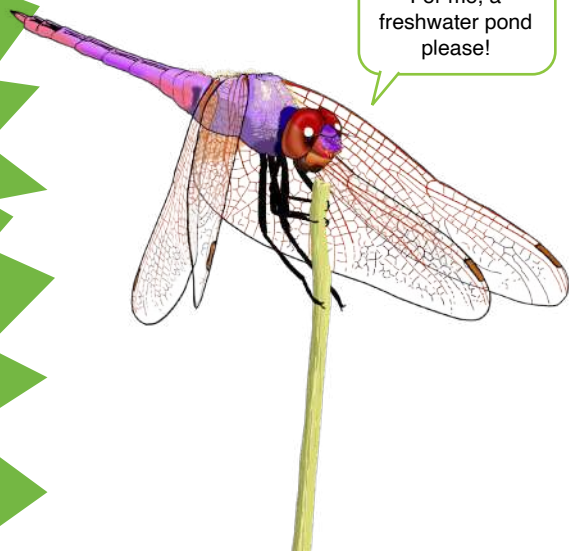
We don't recommend...

There are many alternative ways of bedding your path but most are either expensive or involve extensive use of plastic (e.g. interlocking cellular paving), which should be avoided. Some schools may opt for stone or concrete paving. Apart from requiring expensive professional laying, these options will have a less natural feel and look more formal. Where other options exist, concrete should be avoided as it is not environment friendly. Pallets are sometimes used to create a boardwalk kind of path. The problem with pallets is that the wood will rot away and will need replacing. It may also be a bit noisy to walk on.

Step 5. The features

Although marked here as a step, there is no need for the features to be set up all at one go. Adding features to your wildlife garden can be spread over a number of years so more students can be involved in the project.

All animals need **food** and **shelter** to survive. If you provide both of these factors you will ensure that your garden will be popular with wildlife. When you plant trees and shrubs and let wild flowers grow you are of course already providing lots of food and shelter for many creatures, but there are several things you can add to make your garden even safer and more attractive for wildlife. The following pages will give you some ideas about these features. Some of them can make great student or community engagement projects to keep everyone involved.



Stone pile

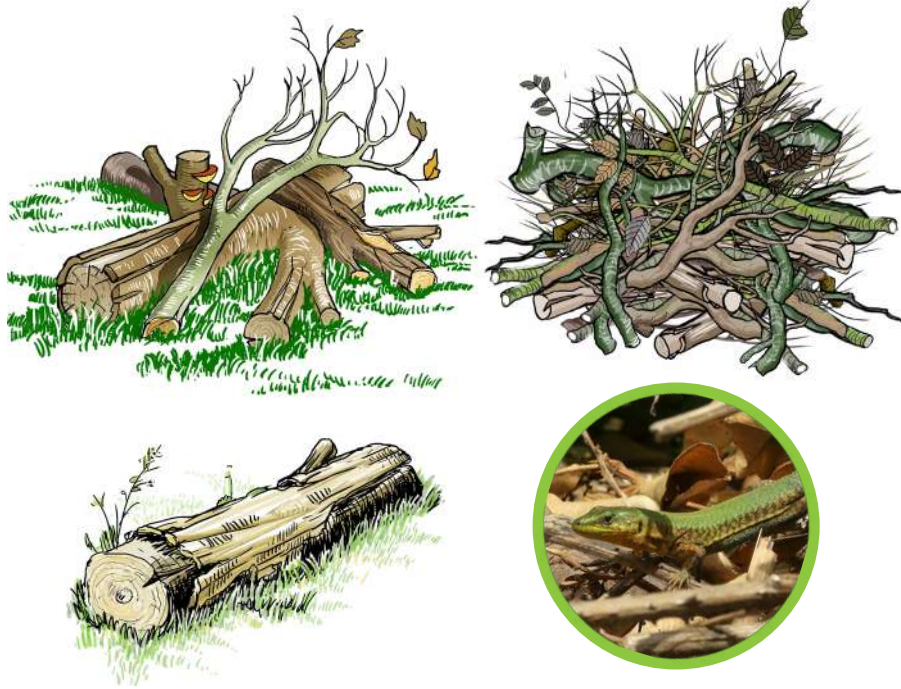


Piles of large and medium sized irregularly-shaped stones topped with smaller stones. You may add soil loosely (so wild flowers can grow in the cracks among the stones) and maybe plant a few suitable shrubs or bulb species, while leaving most of the stones exposed. Allow students to look under *some* of the stones for minibeasts, but always keep some areas off limits to disturbance, to serve as proper wildlife refuges. Make sure students return stones to their original position.

Suitable for...

Important escape place (especially if there are cats) for reptiles such as snakes, lizards and skinks; also great for reptiles to sunbathe on top while the warm stones heat up their belly; also good habitat for minibeasts such as spiders, snails, woodlice, earwigs and ants.

Log and twig piles

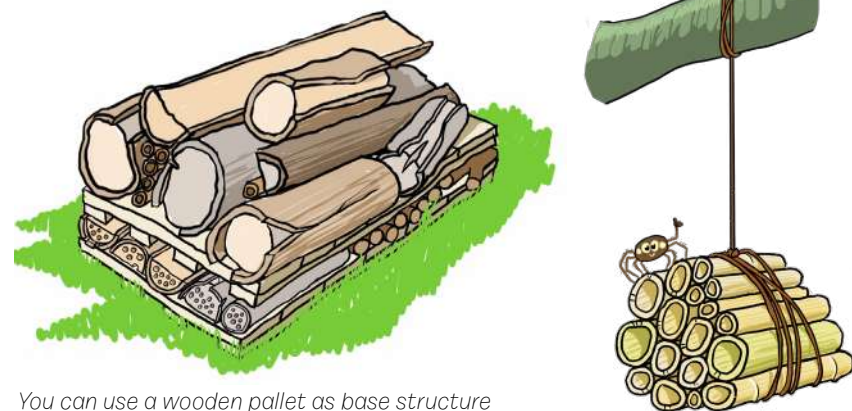


Logs piled loosely on the ground, some with soil lightly thrown over to settle between cracks, others with no soil. Placed ideally in a shady area and perhaps sprinkled with water from time to time to encourage fungus and slime moulds to grow. Allow students to look under *some* of the logs for minibeasts, but always keep some areas off limits to disturbance, so minibeasts can have some proper privacy. Make sure students return logs to their original position.

Suitable for...

various bracket fungi, slime moulds, bark beetles, silverfish, woodlice, webspinners, spiders, earwigs and other minibeasts; also, lizards, geckoes and skinks can hide among logs and even hibernate if they find cracks cosy enough for winter sleep.

Bug hotels



You can use a wooden pallet as base structure and pile it with logs and other bits of wood

A bundle of hollow reed stems hanging from a branch can make excellent homes and shelters for spiders. For solitary bees and wasps bung one end of the stems with mud because they prefer one entrance to their nest.

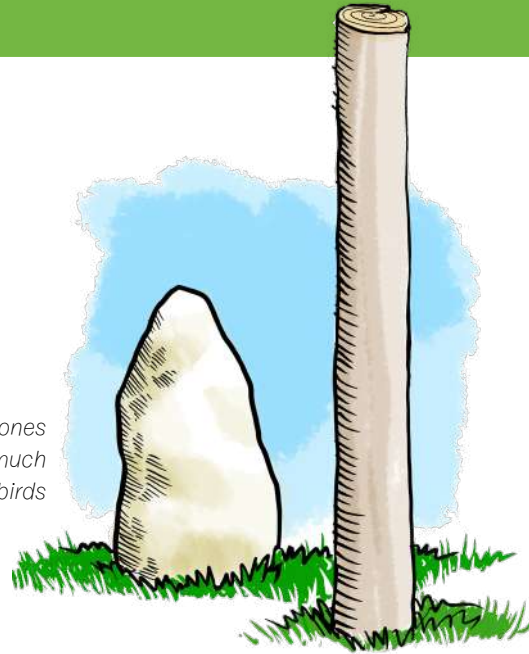


Bug hotels come in many shapes and sizes and made from various material, although wood is always best as it's natural and renewable. They can be free-standing, hung on a wall, tied to a tree trunk or suspended from a branch. Some garden stores stock them but it's more fun to build your own.

Suitable for...

different species of invertebrates. Several species of solitary bees and wasps can nest in them or overwinter in them and possibly survive the colder wetter months thanks to the shelter they provide. Larger ones will attract small reptiles like geckoes and skinks.

Pole perch



*Standing stones
are also much
loved by birds*



*semi-collared
flycatcher
(žanžarell tal-ivant)*

Treated garden poles of various heights, randomly stuck into the ground in different habitats, especially near features that attract birds, e.g. bird tables. Birds like to perch on tall vantage points, which give them a good and relatively safe lookout spot from where to watch out for possible dangers on the ground, as well as to spot others of their own species.

Suitable for...

various birds like sparrows, flycatchers, robins, finches, chats and redstarts regularly use poles as perches. Geckoes and lizards too climb to the top for a quiet siesta. Ideal subjects for students starting out in nature photography.

Leaf litter



Leaf litter is a mass of dry or decomposing leaves that fall from trees and collect underneath them. With the help of minibeasts, fallen leaves slowly break up and in this way return their nutrients to the ground as **humus**, enriching and fertilising the soil naturally. Unfortunately many people treat leaf litter like ordinary garbage and remove it from the soil instead of treasuring it.



Suitable for...

millipedes, woodlice, beetles, earthworms and other detritivores, minibeasts that consume the leaves and slowly return their nutrients to the soil to form excellent humus. These invertebrates in turn attract their predators, such as birds, shrews and hedgehogs.

Bird table

Keep a simple open design, with no roof or walls: birds need to feel safe while eating and do not like enclosed spaces, especially when near the ground or with people close by.

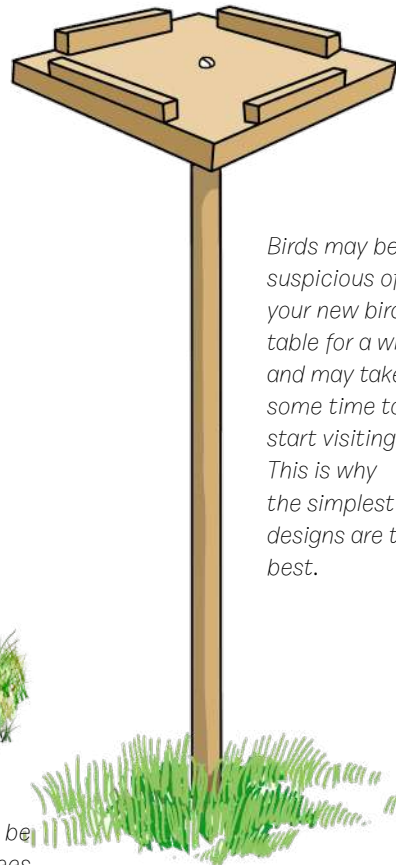
Place a stick in the water and rest it against the edge, so small creatures that fall in can crawl out again



For summer, a regular water supply will be much appreciated by birds, lizards, even bees and wasps. Fill a shallow container with water, place it on the ground and watch the creatures come for a drink or a bath! Place it somewhere in the shade so the water won't heat up or evaporate too quickly. Top it up regularly.

Suitable for...

autumn, wintering and resident birds.



Birds may be suspicious of your new bird table for a while and may take some time to start visiting. This is why the simplest designs are the best.

See pages 76-77 for instructions to make a bird table

Nest box



See page 78 for instructions to make a nest box

A purpose-built box with an entrance hole, and hung on a wall or a tree to provide nesting space for birds that like to nest in cavities. An optional extra would be a live-feed camera installed inside the box so students can watch the secrets of nest-building and raising chicks from class.

Suitable for...

Spanish Sparrows (*ghasfur tal-bejt*), possibly spotted flycatchers (*žanzarell tat-tikek*) and tree sparrows (*gahgah*)

Bat box



Entrances at base

Specially constructed boxes that are suspended on walls, with narrow entrances at the base where bats can crawl in to sleep during the day.

Suitable for...

bats that live in your area, especially pipistrelles. Bats are part of the ecosystem, harmless and beneficial to people. All our bats are insectivorous and consume huge numbers of mosquitoes and other insects we consider crop pests.

Trellis



Even a mesh trellis can turn a featureless wall into a great habitat for plants (here with common honeysuckle) and for invertebrates

Free-standing or wall-fixed metal or wooden frame with criss-crossing slats set up for climber plants. Ideal for turning a featureless wall into an eye-catching and wildlife friendly habitat. The wooden versions can be home-made.

Suitable for...

climbing and clambering plants to grow on, spread and flower and fruit over a wide area, in this way attracting more insect pollinators.

Compost bin



A container with air holes and a lid, ideally with no bottom so it can be placed directly on the soil for organisms to pass from the ground and help with the composting. You can buy these ready-made from gardening stores, or build your own tailor-made compost bin from wooden pallets.

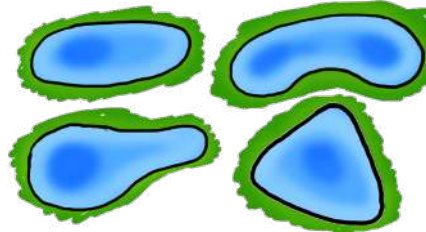
Suitable for...

entire food webs, with many herbivores such as snails, detritivores such as woodlice and millipedes, and the carnivores that eat them, such as devil's coach horse and centipedes. The warmth of a compost bin as the material rots also attracts reptiles such as skinks and geckoes.

Freshwater pond



Shallow freshwater ponds are ideal for schools since they are safe for children. You can buy pre-formed ponds of regular or irregular shape and of various sizes and depths. Or you can dig your own and line it with polythene sheeting. Check local agricultural suppliers for wildlife friendly materials.

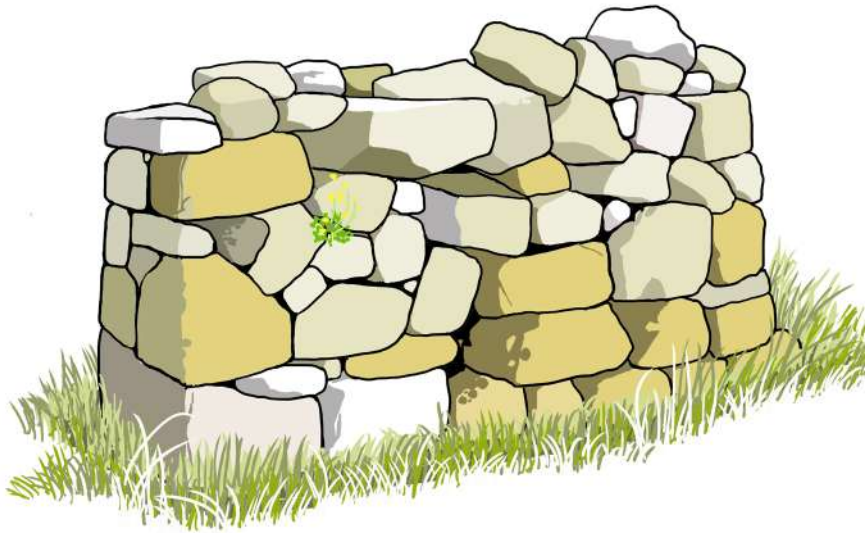


*If you're making your own pond, keep to basic shapes like oval, kidney, spindle shape, etc. Don't complicate the shape too much or you will have problems when you come to laying the polythene sheeting. Go to pages **80-81** for instructions to make a pond.*

Suitable for...

entire food webs, with herbivores feeding on pond vegetation and carnivores feeding on the herbivores. Examples include frogs, dragonfly, damselfly, diving beetle and hoverfly larvae, freshwater snails, mud-dwelling worms, water boatmen, diving beetles, fairy shrimps, etc. - and the occasional snake hunting for amphibians. Also attractive to birds as a drinking and bathing centre.

Rubble wall

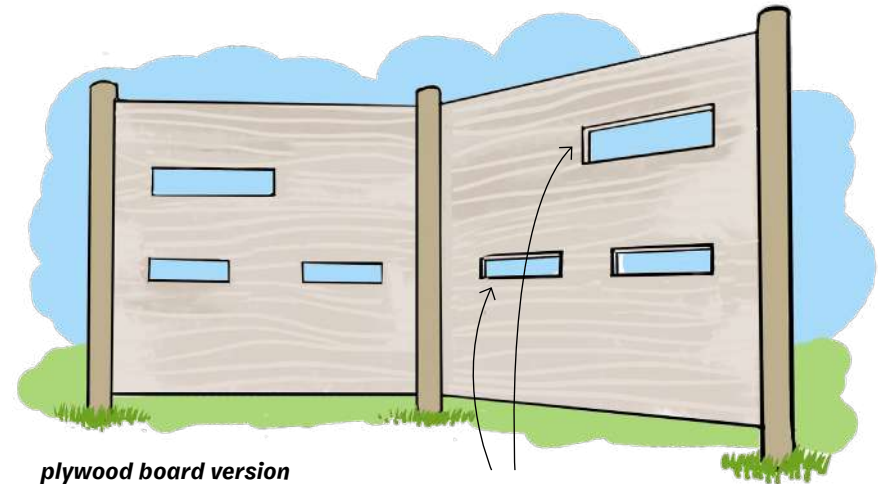


A few metres of dry-stone wall add life and habitat to your wildlife garden, as well as a point of interest and a convenient perch for birds. It may look like little more than a pile of stones on top of each other, but a rubble wall actually requires special skill and experience to build properly and safely, so it would need to be built by a professional. The rubble wall can be free-standing in the middle of your wildlife garden, or built against part of a featureless wall to enhance its biodiversity potential.

Suitable for...

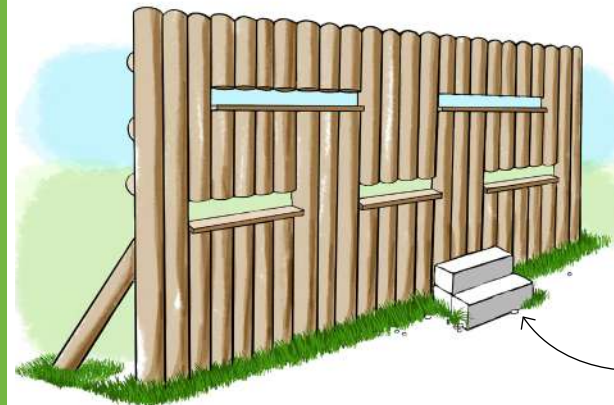
geckoes, lizards, snakes, skinks, snails, spiders, birds (for perching), wildflowers, lichens and mosses

Birdwatching screen



plywood board version

Viewing slits at various heights for children of different ages



timber pole version

Alternatively, simple steps can be provided

A screen made from plywood board or vertical timber poles, with viewing slits for watching birds (or other wildlife) without scaring them away. This feature helps reduce disturbance to wildlife that may be resting, feeding or nesting nearby.

Seating

By now you should have decided where your gathering space (if any) will be. There are various forms of seating. Log seating is the simplest and most natural, followed by straightforward stone-and-plank, and all the way to field tables if you feel the need for them.



Basic seating can be made with stone blocks (or logs) half embedded in the ground with a plank fixed on top. A number of these can be set up in a circle



Log seating is the most natural looking but logs may be hard to acquire.



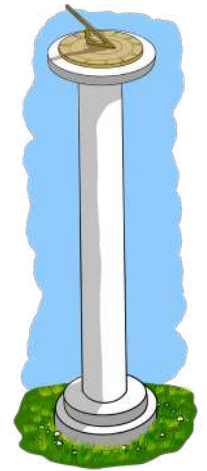
Seating made from pallets is an exercise in recycling



Avoid plastic furniture!



If your area is large, there may be space for other features, such as a sundial or a weather station. These are not wildlife features but they are fun, educational and relevant, as they help students learn and understand natural processes.



Don't overdo it!

Although features can be fun, do not overclutter your garden with human structures at every turn: remember this is a **wildlife** garden. To test this try taking a few photographs in the garden without any human structure showing. If you find it impossible, maybe you need to reduce the human element in some areas, and let nature dominate.



Step 6. Planting and watering

It's time!

By now you should have a general plan of your wildlife garden, with your **nature trail** (Step 4) and your **gathering space** (Step 5) in place. You have also more or less planned what **habitats** (Step 3) you want and where, so now we can begin creating those habitats. Time to get planting!

Variety

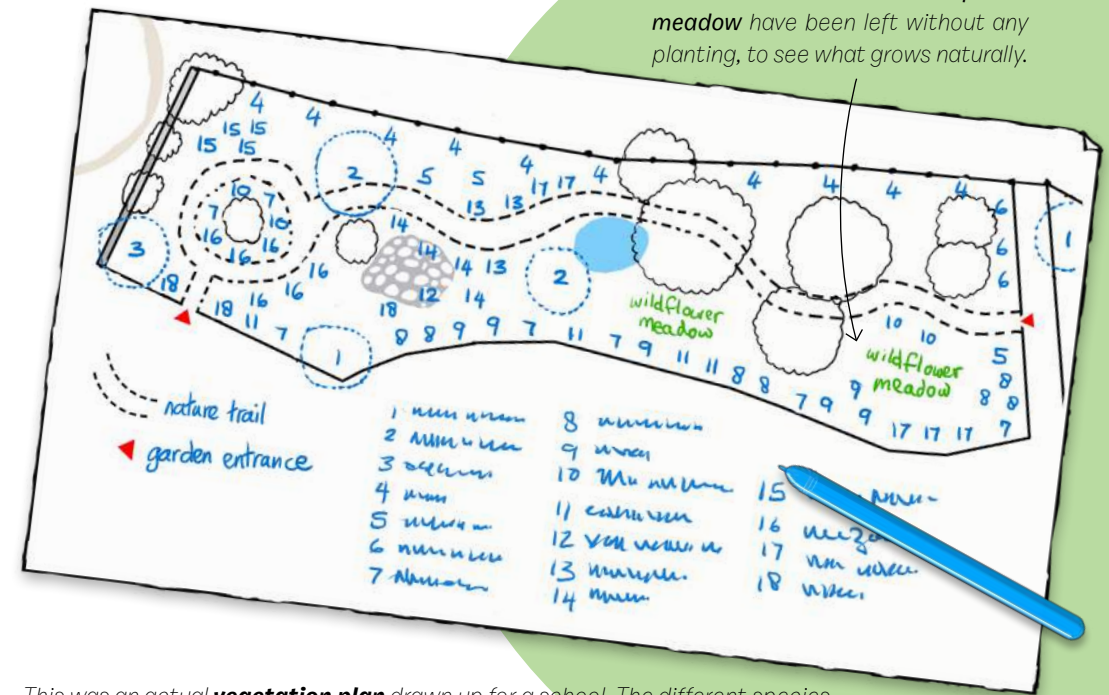
Plants always attract animals, so whatever and wherever you plant in your garden, it will always be better than bare earth. But since your patch is probably not large you should find ways to get the most out of it.

Different plants attract different animals, so you should go for a variety of species so you'll have more **biodiversity** in your garden.

Food all year round

Most plants flower in spring, but insects that feed on pollen or nectar need to find flowers all year round or they won't survive. It's true that many insects have short lifespans and die after a few months, weeks or even days but climate change is disrupting nature's patterns and insects keep turning up in the wrong season. So it's a good idea to have different plants that flower in different seasons. It also means you'll have colour in your garden all year round. The **plant guide** (pages **46-70**) gives details of flowering seasons and their pollinators.

Plants with different flowering seasons also have different fruiting and seeding seasons. This is excellent news because fruit and seed also attract wildlife, especially birds. In this way you will have wildlife all year round, creating a whole calendar of learning opportunities.



The areas marked **wildflower meadow** have been left without any planting, to see what grows naturally.

This was an actual **vegetation plan** drawn up for a school. The different species of plants were number coded. Species 1-3 are planned trees, with a dotted circle to show the approximate space their canopy will take up; the rest are shrubs or bulb species. The blue patch indicates a proposed freshwater pond.



The plan... the list... the quantity

Browse the plant guide and on a plan of your garden mark in the species you think would be suitable. Remember all plants need their space, so don't pack them too tightly together (unless you want a very thick hedge of the same species). This way you will get an idea how many plants of each species you need.

If you don't feel well acquainted with plants and find this exercise a bit daunting don't worry, there is **no need to plant all your garden at one go**. Take it more slowly, spread the planting over a number of years. This way

- you'll have time to get the feel of growing a garden
- maybe get to know an expert for some advice
- more students can be involved over a longer period
- you spread the purchase, a good idea especially if budget is tight.

Before we move to planting...

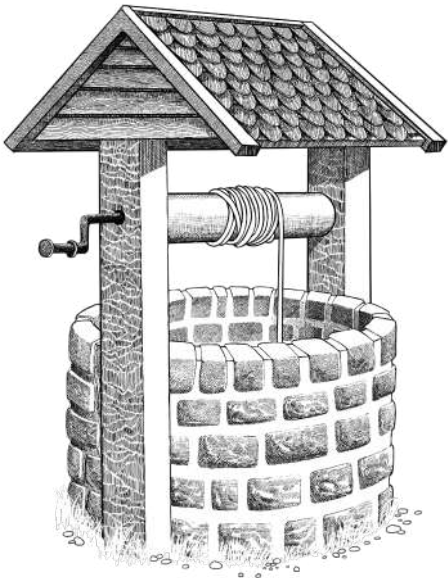
What about watering?

Water is key to the survival of our wildlife garden. In our increasingly dry climate you cannot rely on rain alone to water your precious plants – you need to step in during the rainless months. If you don't water your garden regularly (especially in the first years) your plants will die and it will be a waste of effort, time and money – and a great disappointment for everyone, especially the students.

So it's important you **don't start planting** (or even order or have plants delivered) unless you have a reliable watering system in place.



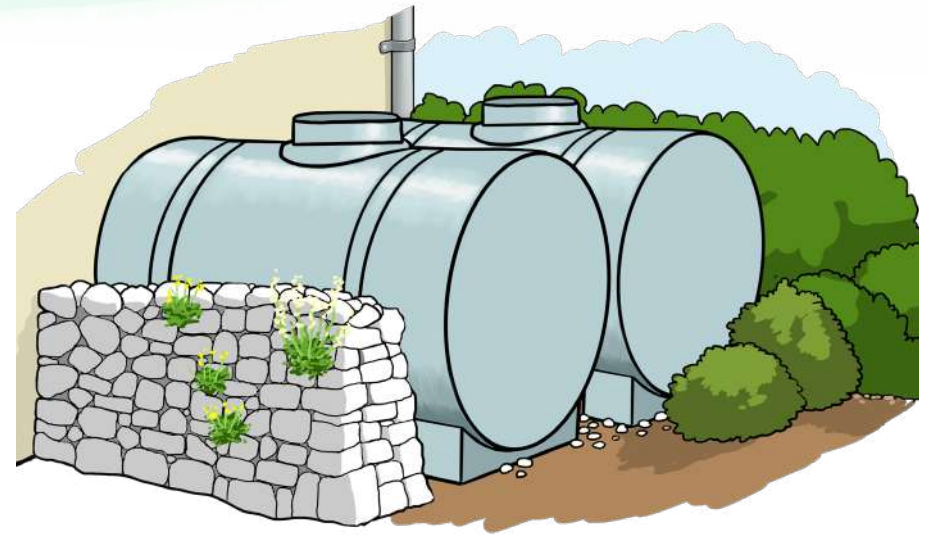
Involving students in watering and care of plants and important on all fronts (and great fun), but is it sufficient for the plants?



Where will the water come from?

What is your water source? Does your school have a well? A well would be best, as well water is pure unchlorinated rainwater and, unlike tap water, takes no energy to produce or to distribute.

Alternatively, find an area in or near the garden where to instal water tanks. These can either be connected to the school's roof drains to receive rainwater runoff, or be periodically filled by bowser.



Water tanks are bulky and can be unsightly, but they can be screened off by a rubble wall or by growing vegetation around them, which also helps keep the water cooler.

Irrigation system

You may think you can manage a bit of watering using cans and hoses, especially with help from the students. This is of course lovely, great fun and to be encouraged... **but** what about holidays, especially in summer when the plants are thirstiest?

To ensure regular watering also in summer you need an irrigation system connected to a reliable water source. If there isn't one, you will need to employ a professional (plumber or gardener – or a handy member of the community!) for a morning to instal one for you.

Drip irrigation is by far the best system for our region, as it takes the precious water directly where it's needed. It is much better than sprinklers, which are wasteful since much of the water gets lost through evaporation (sprinklers are also more suited for lawns, which is not what you want).

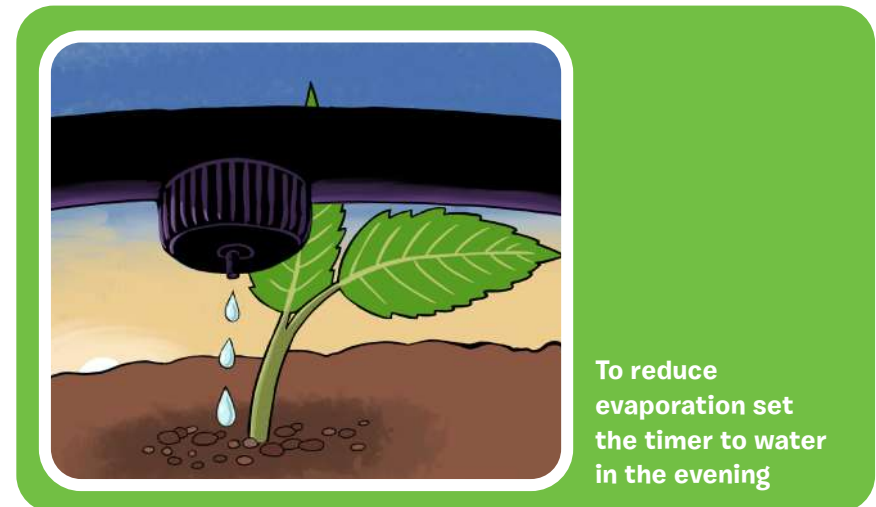
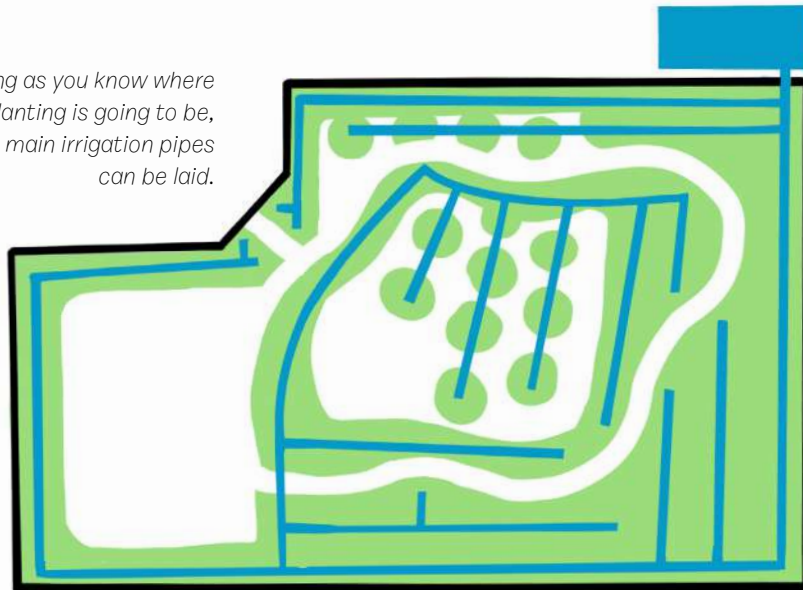
Before installing the irrigation system you need to have your **vegetation plan** (page **29**) in place. Even if you're maybe still undecided on the species or quantity, you should by now know where the planting is going to take place. Once this is clear, the irrigation pipes can be laid in your planting area, so that when the plants come there's a ready system just waiting to be switched on!

Since schools tend to have shutdown periods, it's important that your irrigation system includes a timer, so it can be set for the holidays. Many school garden projects fail due to lack of watering during holidays, so do not leave this critical job to volunteers who may not always be available.



A battery-operated timer is an important component of a drip irrigation system, so you can control how often and at what time your plants are watered.

As long as you know where the planting is going to be, the main irrigation pipes can be laid.



To reduce evaporation set the timer to water in the evening

Sourcing

So now you have your list of plants and how many of each you need. The quickest way to obtain the plants is to buy them from a local nursery. If the supplier has smaller (younger) specimens, go for these rather than the larger ones: younger plants generally adapt more readily than older ones when transferred from a sheltered nursery to the open ground. Larger (older) plants will also need deeper holes and more watering. The younger specimens are also usually cheaper.

Planting

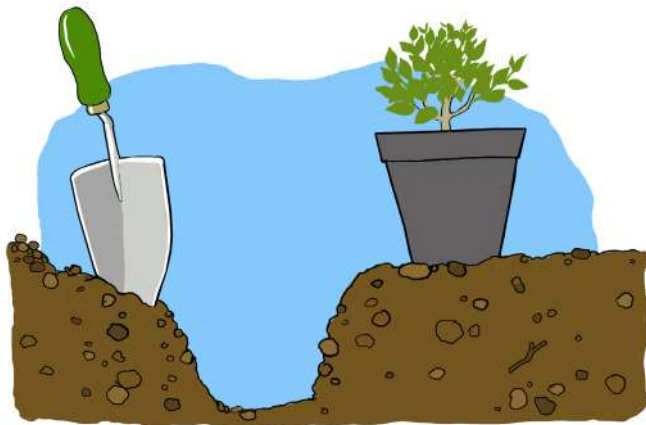
Now that your plants are at hand and your watering system is in place, it's actually time to plant! Planting is easy, as long as you treat the young plants gently at every stage of the process. Make sure to involve students so the plants become their very own 'babies'. Supervise at all times as they will be using garden tools - hoes can be large and ungainly for small children to negotiate. Garden trowels are much better.

The best time for planting saplings is autumn so the rain can take natural care of your young plant. But if your watering system is up and running, you can plant even in high summer.



At the plant nursery go for the smaller specimens

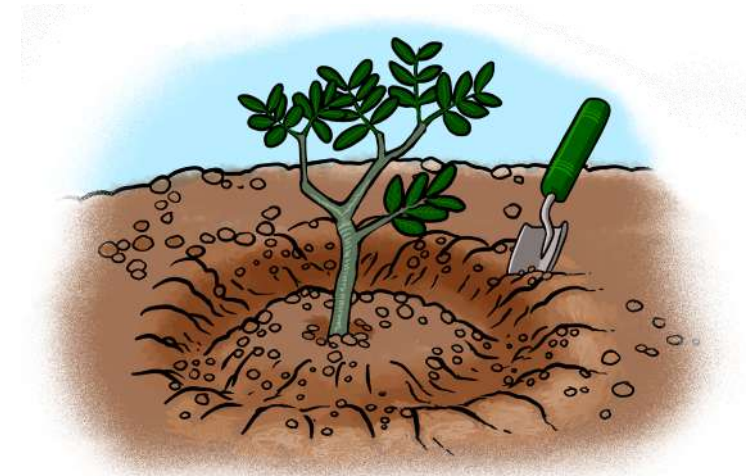
Planting is easy...



Make a hole in the soil with a hoe or garden trowel. Make the hole roughly as wide and deep as the pot your plant came in.



Turn the pot upside down and carefully coax the plant out. Squeeze or tap gently around the base of the pot so the sapling slides out with as much of the ball of soil intact. This way the roots won't be exposed or damaged.



Lower the plant carefully into the hole, fill any spaces around with soil, and gently but firmly press the plant into place. Dig a shallow trough around the plant and water it at once.

Growing your own

You will probably not find some of the suggested plants in a nursery, since they may not have commercial value. To obtain these you may need to grow them yourself. Many plants can be grown from **cuttings**. This is best done in winter, when many plants are dormant. Other plants can be grown from **seed**. You may wish to collect seeds from the wild but make sure you know when and how to go about it, or you may damage the wild plants. See pages **82-83** for some tips.



Keeping the water in

One big problem with watering plants in a dry country is evaporation from the soil. With drip irrigation we already solve part of this problem, but to reduce evaporation even more and keep our soil cooler we can do **mulching**. Mulching is when you spread a layer of dry vegetation material on top of the soil. In this way the heat of the sun will not hit the soil directly and less moisture will be lost from the soil. If you mulch the area around our young plants, their roots stay humid and healthy.



Go native!

A **native** (or **indigenous**) species is a plant or animal that occurs naturally in that part of the world. Native species are well adapted to the climate of their particular region, e.g. native Mediterranean plants are adapted to hot dry summers and mild winters.

Alien (or **exotic**) species, on the other hand, are plants or animals brought over by humans from another region. Bringing alien species into local nature is never a good idea as they may spread and take the place of native species and possibly drive them to extinction – such aliens are called **invasive** species.

In our wildlife garden we should focus mainly on native plants to reflect local nature as much as possible. Native plants will survive our weather better and require less watering than, say, tropical plants. Exceptions must be few, and if you're going to make an exception (e.g. an alien shrub that's super attractive to bees and butterflies) you must ensure it does not pose a threat to the native plants. Some alien species are so invasive they are actually illegal to plant – check the ERA website for lists and regulations.

Step 7. Costings



Wildlife gardens are relatively low cost projects, with the highest costs tending to centre around irrigation. Go through all the steps in this guide and draw up your list of items needed. The checklist below will help you plan. For each item, decide whether you will need to engage professional help or can rely on in-house skills.

- Irrigation system (water storage, pump, pipes, timers) + installation
- Seating + installation
- Material for footpath + delivery + laying
- Plants + preparation of soil (digging of holes, mulching, etc.)
- Material for pond + installation
- Features, e.g. bird tables, trellises + installation
- Reference books (wildlife field guides)
- Wildlife monitoring equipment, e.g. cameras + installation
- Student gardening tools, e.g. watering cans, shovels, gloves
- Maintenance tools, e.g. hedge trimmer, grass cutter
- Compost bins
- Signage (welcome board, plant name tags, etc.)



Step 8. An implementation and funding plan

A wildlife garden is a living, ongoing project that has a starting date but no real completion date. Its gradual nature of development is of great advantage both for implementation as well as for funding.

Opportunity for engagement

There is no strict formula on how to create a wildlife garden but the way suggested in this guide is a tried-and-tested way. The **Case Studies** (pages 37-45) illustrate some of the projects successfully set up.

A long-term implementation plan is only as exciting as you make it. If done thoroughly, every phase completed can be celebrated as part of a process, without anyone losing interest or thinking the project is taking too long. Make your implementation plan visible and known, so any replacement in school administration can take up where the previous left off.

The gradual development means that not all effort is concentrated at the beginning. Implementing all the phases will take years and while it may look slow for some who expect quick results, the slow process is actually an asset as it allows continued opportunity for student engagement even several years into the project.

Funding and fundraising

The step-by-step development of a wildlife garden also helps pace out funding. Rather than one big spend at the start of the project (which may be too much for a modest school budget), expenses are spread over a number of years. The most reliable funding source is the school's own budget. If your budget is small, keep the annual outlay low. Meanwhile you can boost your garden budget with fundraising events, such as:

- Special days (e.g. Dress-down Day, Board-game Day, Crazy-hair Day) that teachers and students sign up for against a small fee
- Bake sales, pot-plant sales, etc.
- Fundraising appeal among parents
- Donations appeal from the local business community
- Funding appeal from companies with a social responsibility mission
- When raising funds, it helps to specify beforehand what the money will be used for. Propose a particular feature for your garden (e.g. a freshwater pond, a toolshed, a small greenhouse/nursery, a fieldwork table) and let it be known that the funds raised will be spent on this. If you can quantify beforehand how much the feature project will cost, publicise the amount at the event so there will be a target figure to reach.



Step 9. A long-term maintenance plan

A common cause of failure of school garden projects is lack of a long-term maintenance plan. Two aspects of the wildlife garden will be essential to ensure lasting success

- knowing what will need maintenance
- planning who will do it

The table on the right is a basic guide to regular maintenance jobs in a wildlife garden, with an estimate of how often such maintenance would normally be needed. Naturally, you will need to adjust this plan to your particular garden.

Do not skip this step – wildlife gardens need care.



Simple jobs, such as weeding, can be done by the students themselves

job	Maintenance by	How often
Irrigation system	Expert (plumber/gardener)	Annual checking
Pond	Expert (handyman to repair potential leaks; wildlife gardener for pond vegetation upkeep)	Annually
Vegetation – trees	Expert for heavy pruning	Annually
Vegetation – shrubs	Students as part of learning	Annually
Vegetation – wildflower meadow	Students / gardener	Annual raking/tilling (selective)
Vegetation – grassland	Gardener	Annual grass-cutting
Animal homes	Students as part of learning	As needed
Seating area	Expert (handyman or adults in the community)	Annually or less
Soil	Depending on habitat, students as part of learning to rake soil, spread compost, etc.	Annually in select areas
Compost bin	Students as part of learning	Throughout year
Wildlife monitoring	Students as part of learning	Throughout year
Labels	Students as part of learning	Throughout year

Keep record

Make sure you document and date the step-by-step process of how you set up your wildlife garden: the phases, where you sourced this and that material, whom you consulted, what issues cropped up and how you solved them, and other useful details. Your records could be an important guide for future teachers seeking perhaps to enlarge the garden, or revive it in case it falls into disuse.



Part 3

Case studies

A selection of success stories about school wildlife gardens that have been set up and are in use today. All four case studies are

Dinja Waħda Gardens (see box). 



Ġonna Dinja Waħda (Dinja Waħda Gardens) is a BirdLife Malta initiative that helps schools improve their grounds to attract nature, as well as to connect children with nature.

BirdLife has confirmed through research the positive effects of outdoor learning. Student involvement in these garden projects stimulates the development of knowledge, values and skills towards a sustainable lifestyle. A growing number of schools are creating such sites, four of which are showcased in the following pages.

The school has a green belt virtually all around its built area. The west side was targeted for a wildlife garden in reaction to plans to turn the place into a car park. To save this area from tarmac, one of the teachers enlisted BirdLife Malta's education team to create a design for the area.

The wildlife garden plan was carried out in several phases over a period of 10 years, starting in 2003 with the laying of a nature trail. This was followed by planting of native trees and flowering shrubs and the setting up of a gathering space with a fieldwork table. Watering was at first conducted by a very active break club and by BirdLife Malta volunteers, but over summer a drip-irrigation system was installed using water from the school well. In 2012 part of the area choked with an alien climber was cleared and turned into a reading garden with circular stone seating surrounded by shrubbery and trees.

The implementation plan involved students from the initial planting right up to the present day, with an active break club doing various activities from maintenance to plant propagation. Although the garden is now largely mature, several areas need regular upkeep, including annual trimming, grass-cutting and minor planting projects.

The garden was named The West End as it lies along the west perimeter of the school. Funds were drawn largely from the school budget.



Plan of the wildlife garden at Mrieħel Secondary School



Roof view of the garden, with shady shrub area at left, wildflower meadow at right, and woodland area further in



The nature trail was the first phase of the project, here already dug and marked out in preparation for the aggregate layer



Stone seating in the "temple" reading area



Instruction about composting



Roof view of the same area, eight years apart (note field table in use)



On-site assembly of "home-made" field table



Construction of the freshwater pond under way - apart from polythene liner this pond was also given a cement base



Grasscutting is carried out annually in the dry season to reduce fire hazard



Periodic maintenance of the pond to control spread of vegetation



Students involved, here planting rosemary

The idea was initiated by a teacher and an assistant head, both interested in nature. Originally part of a citrus orchard, the area of largely bare soil was planted with native trees and shrubs, and a beaten-earth trail established that wound through the garden leading from an entryway to a shady gathering area under a large carob. As the site runs adjacent to a play area, a thick hedge was planted along its border. The garden was used by some of the teachers during lessons, and watering and maintenance done by students during break. Drip irrigation was considered beyond the school budget in those days, so watering in summer was seen to by one of the teachers, who lived nearby.

For 10 years the garden continued to mature but stopped being used after key persons moved from the school. Luckily the area was not destroyed and in 2022, thanks to support from the BirdLife Malta gardener team, the site was revived and is now in use again by teachers for outdoor through-nature lessons. Teacher training in nature-based learning is ongoing, including training in how to engage students in light maintenance tasks.

In 2023, drip irrigation was finally installed!



Plan of the wildlife garden at Fgura Primary School



The welcome sign at the entrance



Student involvement from inception – first plantings



Roof view of part of the garden, with shrubs forming a hedge along the front, and a woodland area at the back, with wildflower meadow in between. Note the huge carob tree in the background which predates the school by many years (photo taken in 2000)



Teachers on a familiarisation tour of their own wildlife garden



Lining the nature trail with stones



Students planting shrubs as part of an exercise to research and learn about native and endemic flora



A stone-and-cement freshwater pond was built in the half shade of a carob tree



This tree needed professional pruning as one of its major branches risked toppling a wall



Installing a wire fence along the main border to reduce damage from errant balls



The shady areas became popular with shade-loving Acanthus



Putting name tags on wild flowers

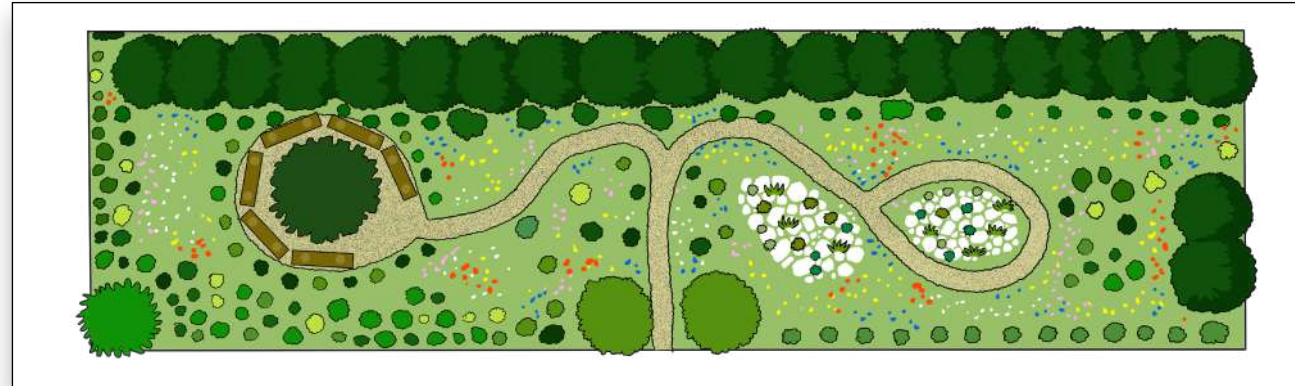
The school has several areas of soft landscaping. In 2008, BirdLife Malta helped plan and transform a 380m² oblong patch into a wildlife garden. The design was approved by the senior management and the teacher in charge of a gardening break club.

An all-season aggregate trail was laid by teachers and students, while ancillary staff built a stone-and-plank seating. Thanks to the largely shaded and humid soil, watering was not a major issue so drip irrigation was not installed. Several shrubs were planted but few trees were added as a row of cypress trees provided ample shade.

Student activity was sustained for several years but ceased when the teacher-in-charge retired. In 2018, the garden was given a facelift with renewed input from BirdLife Malta, which provided (1) a gardener service for heavy maintenance tasks, and (2) teacher training and support to regenerate student activity in the garden.

In 2015 a 200m² area nearby was turned into a reading (and wildlife) garden. A plan was discussed with senior management and teachers involved. Several low shrubs and a handful of trees were planted and an aggregate trail laid; a circular stone seating area was built for free by the government agency in charge of parks. Students were involved in every phase. The initiative was approached as a project-based cross-curricular project, through English, Maltese and ICT.

In 2024 drip irrigation was installed in both gardens.



Plan of the wildlife garden at Blata I-Bajda Middle School



Students laying aggregate on the trail. The tree in the middle (a highly invasive alien) was replaced with a native white poplar



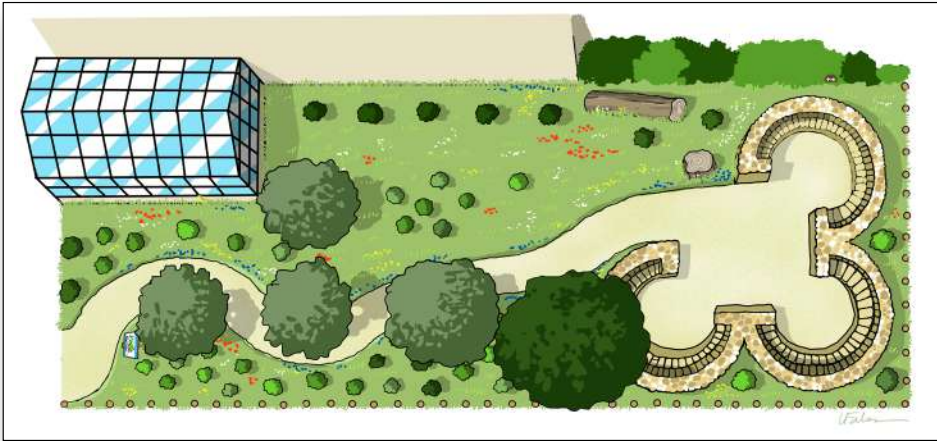
View of the wildlife garden, with seating area in the foreground



Students cleaning out a small pond that had collapsed



Students marking out the path



Plan of the Reading Garden at Blata I-Bajda Middle School



View of the Reading Garden, with welcome sign at the entrance



Roof view of the Reading Garden, seven months apart



Official opening of the Reading Garden, with Education Minister



Students planning the garden layout



Fun and landscaping with mounds of soil



Planting shrubs...



... and watering



Taking cuttings of golden samphire

The wildlife garden occupies a roughly oblong area of largely soil on the east side of the school.

In 2023 BirdLife Malta approached the school administration with the idea of setting up a wildlife garden to increase biodiversity in this area. The BirdLife education team drew up a layout and vegetation plan and discussed it with the school administration and with the teaching staff, followed by teacher-training sessions with on-site exercises.

A metre-wide nature trail was dug and laid with aggregate, a 'stony island' area established and a freshwater pond constructed. An area of artificial turf was removed and the underlying soil uncovered and revitalised; and based on the vegetation plan, a drip-irrigation system was installed. In 2024 the first tranche of planting was carried out in an event involving teachers, students and parents.

All this was achieved in a relatively short time thanks to enthusiasm and support from the school management team. Another key factor to success of the initiative was support with landscaping work and long-term maintenance through BirdLife Malta's gardener-handyman team.



Plan of the wildlife garden at Hal Tarxien Primary School



Roof view of part of the wildlife garden; note the street abutting the area, which will need to be screened off with a thick hedge



View of part of the garden, looking north



Apr 2023



May 2024

Entrance area a year apart: artificial turf has been removed, the soil ploughed up and planted with shrubs, which are watered by drip irrigation; note also nature trail dug in preparation for aggregate layer.



The winding nature trail lined with stones; note newly-planted buckthorn shrubs at left, which will form a thick hedge to block out view of the street just outside



Students planting golden samphire



First watering for the newly planted shrubs



Building a "stony island" along the trail



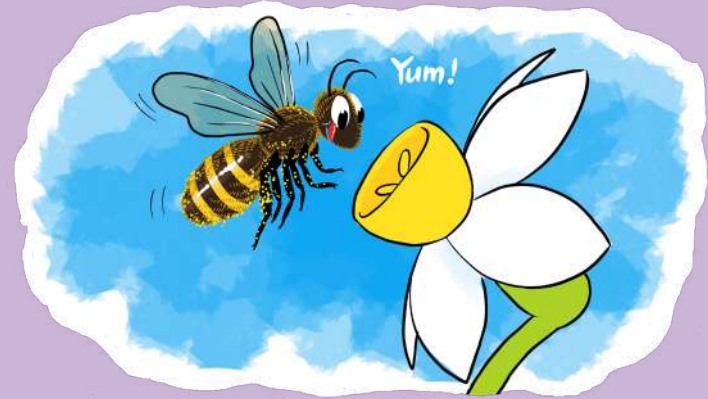
Very first lesson in the garden!



Freshwater pond in final stages of construction



Sign instructing personnel unrelated to the project not to prune or till the area



Part 4

Guide to Mediterranean pollinator plants

A selection of 72 Mediterranean herbaceous, shrub and tree species, with useful hints about the best conditions for growing them as well as details of size, flowering, seeding and propagation periods – and the kind of insects that will visit and pollinate their flowers. These species should help grow a vibrant wildlife garden to attract pollinators all year round.

Victor Falzon



Alexanders (Karfus il-Fmir)
Smyrniolus atrorhizus

- flowering** March to May
- sunlight** Shade and shelter
- water** Moist conditions but avoid waterlogging
- soil** Rich, loamy, well-draining soil; benefits from organic matter (compost or well-rotted manure) incorporated into the soil before planting
- height** 150cm
- pollinators** Various
- seeding** End of spring
- propagate** Autumn
- curiosity** Previously widely cultivated, before celery became popular

Desirée Falzon



Annual Daisy (Bebuna)
Bellis annua

- flowering** November to March
- sunlight** Cool, temperate conditions with partial shade to full sun
- water** Regular watering to maintain adequate moisture
- soil** Well-draining, fertile soil with good moisture retention, tolerates range of soil types
- height** 20cm
- pollinators** Various
- seeding** Spring
- propagate** Autumn
- curiosity** Name 'daisy' is thought to originate from Old English *dægesege* (day's eye) as it opens at dawn and closes at dusk

Desirée Falzon



Branched Asphodel (Berwieq)
Asphodelus ramosus

- flowering** January to April
- sunlight** full sun to partial shade
- water** occasional deep watering
- soil** Well-draining, fertile soil with good moisture retention; tolerates range of soil types
- height** 100–150cm
- pollinators** Various
- seeding** May
- propagate** Autumn
- curiosity** Deeply rooted in Greek mythology where Asphodel Meadows referred to the Afterlife and an underworld for ordinary people



Cardoon (Qaqoċ tax-Xewk)
Cynara cardunculus

- flowering** April to June
- sunlight** Thrives in full sun, requires at least 6–8 hr direct sunlight daily
- water** Can thrive with minimal watering and can withstand periods of drought
- soil** Well-draining soil with moderate fertility, grows in various soil types
- height** 100cm
- pollinators** various, especially the Large Mammoth Wasp *Megascolia bidens*
- seeding** Summer
- propagate** Autumn
- curiosity** Related to its cultivated cousin the Globe Artichoke



Chicory (Ċikwejra)
Cichorium intybus

- flowering** April to July
- sunlight** Thrives in full sun
- water** Requires moderate watering – water deeply but infrequently
- soil** Well-draining loamy soil, tolerates various soil types, including sandy or clayey soils, as long as they are well-drained
- height** 150cm
- pollinators** Various
- seeding** Summer
- propagate** Autumn
- curiosity** An ancient medicinal plant; its root has long been used as a coffee substitute



Borage (Fidloqqom)
Borago officinalis

- flowering** December to May
- sunlight** 6–8hr direct sunlight daily
- water** moderate watering
- soil** Well-draining fertile soil; grows in various soil types, including sandy, loamy or clayey soil
- height** up to 100cm
- pollinators** Various esp. honey-bees and bumblebees
- seeding** Throughout flowering period
- propagate** Spring
- curiosity** A longstanding popular herbal remedy, esp. used for treatment of coughs

Desirée Falzon



Common Heliotrope (Vanilja Bajda)
Heliotropium europaeum

- flowering** June to October
- sunlight** Full sun to partial shade, can receive at least 6hr direct sunlight daily
- water** Minimal watering
- soil** Tolerates variety of soils, including sandy, loamy, rocky, even poor or nutrient-deficient soils
- height** 50cm
- pollinators** Various
- seeding** Early autumn
- propagate** Spring
- curiosity** *Heliotropium* means a plant that turns towards the sun; braves summer consitions and is toxic to grazing animals

Victor Falzon



Common Verbena (Buqexrem)
Verbena officinalis

- flowering** April to December
- sunlight** Full sun
- water** Can survive with minimal watering, but appreciates occasional watering in prolonged dry spells
- soil** Prefers well-draining soil but adaptable to various soils including sandy, loamy and rocky, even poor, infertile soils
- height** 70cm
- pollinators** Various
- seeding** When pods and stems are drying
- propagate** Winter
- curiosity** An ancient herbal remedy esp. used to treat nervous disorders

Victor Falzon



Crown Daisy (Lellux)
Glebionis coronaria

- flowering** January to May
- sunlight** Full sun
- water** Can withstand prolonged drought
- soil** Well-draining, moderately fertile soil, also disturbed ground; adapts to various soils if not compacted
- height** 80cm
- pollinators** Various esp. many wild bee species and hoverflies
- seeding** Late spring
- propagate** Autumn
- curiosity** Accidental pollinators may include arachnids like Napoleon Spider *Synema globosum* that lie in ambush on inflorescence

Alex Casha



Fennel (Buźbież)
Foeniculum vulgare

flowering May to October

sunlight Full sun to partial shade

water Minimal watering with occasional deep watering

soil Well-draining soil with slightly acidic to neutral pH, adapts to various soils, including sandy, loamy or clayey

height 200cm

pollinators Various, including Swallowtail Butterfly *Papilio machaon*, of which it is also the foodplant

seeding Autumn

propagate Autumn

curiosity Popular foraging plant, also used in herbal remedies esp. for digestive issues

Victor Falzon



Golden Samphire (Xorbett)
Limbarda crithmoides

flowering July to October

sunlight Full sun to partial shade, can receive at least 6hr direct sunlight daily

water Minimal watering, allow soil to dry between waterings

soil Well-draining soil, esp. sandy or loamy soils, tolerates poor soil fertility and sea spray

height 100cm

pollinators Various

seeding Autumn

propagate Autumn

curiosity Highly halophytic (salt tolerant)

Desirée Falzon



Greater Snapdragon (Papoċci Ħomor)
Antirrhinum tortuosum

flowering November to July

sunlight Full sun

water Moderate, regular watering

soil Poor, stony soil

height 70cm

pollinators various, esp. larger bees, e.g. Large Carpenter Bee *Xylocopa violacea*

seeding Summer

propagate Early autumn

curiosity Specialisation of the flower: pollinators need to be large and strong enough to push open top lip of flower to gain access to pollen

Victor Falzon



Grey Birdsfoot Trefoil (Għantux tal-Blat)
Lotus cytisoides

flowering April to June

sunlight Direct sunlight

water Minimal watering

soil Adaptable to range of soils, tolerates poor soils

height 25cm

pollinators Various

seeding Summer

propagate Autumn

curiosity Member of the Pea Family

Annalise Falzon



Lesser White Clover (Xnien Abjad)
Trifolium nigrescens

flowering January to May

sunlight Full sun to partial shade

water Survives with natural rainfall and needs little watering

soil Various soil types, including sandy, loamy, and clayey, prefers well-draining soil with moderate fertility

height 40cm

pollinators Various especially bees

seeding End of spring

propagate Autumn

curiosity Nitrogen-fixing plant, member of the Pea Family

Aron Tanti



Maltese Rock-centaury (Widnet il-Baħar)
Cheirolophus crassifolius

flowering May to July

sunlight Direct sunlight

water Minimal watering

soil Prefers well-drained soil with moderate fertility; can grow in various soils, including sandy, loamy or rocky

height 50cm

pollinators Various

seeding Summer

propagate Autumn

curiosity A palaeoendemic species unique to the Maltese Islands and National Plant of Malta. Listed in the IUCN Top 50 Mediterranean Island Plants.

Victor Falzon



Mediterranean Asparagus (Sprag Xewwieki)
Asparagus aphyllus

flowering October to December

sunlight Full sun, tolerates hot conditions, 6–8hr direct sunlight daily

water Tolerates periods of low water availability; occasional watering during prolonged dry spells

soil Well-drained sandy or loamy soils, thrives in soil rich in organic matter but tolerates moderately fertile soils

height 100cm

pollinators Various

seeding Winter

propagate Winter

curiosity Common foraging plant and close relative of cultivated Asparagus

Annalise Falzon



Mediterranean Thistle (Xewk Abjad)
Galactites tomentosa

flowering March to June

sunlight At least 6–8hr direct sunlight daily

water Water only during extended dry spells

soil Well-draining soils, adapted to various soils, including sandy, loamy or rocky soils, as long as they have good drainage

height 50–100cm

pollinators Various

seeding August–September

propagate Autumn or early spring

curiosity Medicinal plant, a favourite of honey-bees

Desirée Falzon



Perennial Wall-rocket (Ġargir Isfar)
Diplotaxis tenuifolia

flowering October to June

sunlight Full sun to partial shade, tolerates hot and sunny conditions, at least 6–8hr direct sunlight daily

water Water moderately, allowing soil to dry out slightly between waterings; drought-tolerant once established

soil Well-drained soil rich in organic matter, various soils, including loamy, sandy or clayey, esp. if slightly acidic to neutral pH

height 80cm

pollinators Various

seeding Summer

propagate Autumn

curiosity Has a rucola-like taste

Victor Falzon



Sulla (Silla)
Hedysarum coronarium

flowering February to May

sunlight At least 6–8hr direct sunlight daily, partial shade during hottest part of day beneficial

water Consistently moist soil

soil Prefers fertile, loamy soil with good drainage; can tolerate slightly acidic to slightly alkaline soil

height 30cm

pollinators Various

seeding End of spring

propagate Autumn

curiosity Nitrogen-fixing plant, member of the Pea Family

Victor Falzon



Red Poppy (Peprin Aħmar)
Papaver rhoeas

flowering March to June

sunlight Full sun, can take at least 6hr direct sunlight daily

water Can survive with minimal watering

soil Prefers soil that is not excessively rich in nutrients, adapts to various soils, including sandy, loamy and clayey

height 60cm

pollinators Various

seeding End of spring

propagate Autumn

curiosity In a UK study of meadow pollen production this species came top of the list on a per-flower basis.

Victor Falzon



Sea/Rock Samphire (Bużbież il-Baħar)
Crithmum maritimum

flowering July to October

sunlight Full sun

water Tolerates periods of limited water availability, with some watering during prolonged dry spells

soil Well-drained sandy or rocky soils, tolerates poor soils, grows even in rock crevices

height 40cm

pollinators Various

seeding Autumn

propagate Autumn

curiosity Thrives in very salty coastal conditions

Victor Falzon



Scarlet/Blue Pimpernel (Farira Hamra/Kahla)
Anagallis arvensis

flowering February to May

sunlight Full sun (4–6hr sunlight daily), tolerates some shade esp. in areas of intense heat during hottest part of day

water Regular moderate watering when soil becomes dry to touch, avoid overwatering

soil Adaptable to various soil types but prefers well-drained soil, can grow in sandy, loamy or clay soils; from slightly acidic to slightly alkaline soil pH

height 30cm

pollinators Various

seeding Summer

propagate Autumn

curiosity Known as ‘the poor man’s barometer’ as flowers close when skies are overcast

Victor Falzon



Sea Squill (Ghansar)
Urginea pancration

flowering August to October

sunlight Full sun to partial shade

water Survives dry conditions, generally needs minimal watering once established

soil Well-draining soil, grows in various soil types, including sandy, loamy or rocky

height 140cm

pollinators Various

seeding Early autumn

propagate From seed in autumn or early spring; by separating bulb offsets in late summer or early autumn

curiosity Very resilient thanks to large underground bulbs which help it survive even fires; toxic but with many medicinal uses

Desirée Falzon



Sicilian Snapdragon (Papoċċi Bojod)
Antirrhinum siculum

flowering November to July

sunlight Full sun to partial shade, tolerates some shade during hottest parts of day

water Water sparingly, allowing soil to dry between waterings

soil Well-draining, moderately fertile soil; tolerates various soils, including sandy or rocky

height 60cm

pollinators Various

seeding Throughout flowering period

propagate Autumn

curiosity Prefers growing in cracks on vertical surfaces; prized as a decorative flower in Roman times; endemic to Malta and Sicily

Desirée Falzon



Smooth Sow-thistle (Tfief Komuni)
Sonchus oleraceus

flowering October to July

sunlight Direct sunlight

water Minimal watering

soil Any soil

height 140cm

pollinators Various

seeding Before pappus (hairy structures for seeds to be transported by wind) flies off

propagate All year round

curiosity Lettuce-like taste

Desirée Falzon



Sticky Fleabane (Tulliera Komuni)
Dittrichia viscosa

flowering September to November

sunlight Full sun to partial shade, tolerates hot sunny conditions, at least 6–8hrs direct sunlight daily

water Tolerate periods of low water availability, benefits occasional watering during prolonged dry spells, avoid overwatering

soil Well-drained poor-to-moderately fertile soils of various types, including sandy, loamy or rocky, tolerates alkaline or slightly acidic soil

height 140cm

pollinators Various, esp. butterflies

seeding End of spring

propagate Autumn or early spring

curiosity Strongly aromatic with sticky leaves

Victor Falzon



Sweet Alison (Buttuniera)
Lobularia maritima

flowering October to June

sunlight Direct sunlight

water Withstands periods of limited watering, but water regularly during dry spells

soil Well-draining soil with moderate fertility, grows in various soils

height 40cm

pollinators Various, including wide variety of bees, butterflies and wasps; host plant for butterflies and bugs

seeding Throughout flowering period

propagate Throughout wet season

curiosity Honey-scented flowers attract many pollinators

Victor Falzon



Large-leaved Nettle (Ħurrieq Komuni)
Urtica membranacea

- flowering** December to May
- sunlight** Partial shade to full shade, esp. filtered/indirect light, esp. in areas with intense sun
- water** Prefers moist soil but tolerates periods of drought; provide regular watering esp. during dry spells
- soil** Rich well-drained soil, grows in various soils including loamy, sandy or clayey
- height** 80cm
- pollinators** Various; main foodplant of Red Admiral *Vanessa atalanta*
- seeding** Spring
- propagate** Autumn
- curiosity** Traditional herbal remedy, esp. for chilblains

Alex Cashta



White Wall-rocket (Ġargir Abjad)
Diplotaxis eruroides

- flowering** October to May
- sunlight** Full sun to partial shade, prefers bright sunlight (6–8hr daily sunlight), tolerates hot and sunny conditions
- water** Moderate watering, allowing soil to dry slightly between waterings, drought-tolerant once established; don't overwater
- soil** Well-drained fertile soil rich in organic matter, grows in various soils, including loamy, sandy or clayey, esp. slightly acidic to neutral pH
- height** 50cm
- pollinators** Various
- seeding** Spring
- propagate** Autumn or early spring
- curiosity** Mustardy taste

Victor Falzon



Wild Carrot (Zunnarija Selvaġġa)
Daucus carota

- flowering** March to May
- sunlight** Full sun
- water** Moist but not waterlogged soil
- soil** Well-drained, loose, and sandy loamy soil; tolerates various soils but prefers friable soil, allowing easy root penetration
- height** 100cm
- pollinators** various
- seeding** End of spring
- propagate** Autumn
- curiosity** Wild form of cultivated carrot; flowerhead eventually folds inward to develop seedhead that looks like a bird's nest

Victor Falzon



Wild Leek (Kurrat Selvaġġ)
Allium commutatum

flowering May to July

sunlight Full sun to partial shade, prefers at least 6hr direct sunlight daily

water Moderate watering, best to water when top inch of soil feels dry

soil Well-drained soil rich in organic matter; tolerates various soils, including sandy or loamy.

height 70cm (rarely 150cm)

pollinators Various

seeding Summer

propagate Autumn

curiosity Bulbs are salt-resistant and can float

Desirée Falzon



Wild Turnip (Liftija)
Brassica rapa subsp. sylvestris

flowering October to May

sunlight Full sun to partial shade, 6–8hr direct sunlight daily, partial shade in areas with intense heat helpful

water Consistently moist soil; provide regular watering, esp. during dry spells, avoid overwatering that may lead to root rot

soil Well-drained soil rich in organic matter; various soils, including loamy, sandy or clayey, esp. if slightly acidic to neutral pH

height 150cm

pollinators Various

seeding Summer

propagate Autumn

curiosity Oil from seeds can be used as lubricant and in soap making

Victor Falzon



Caper (Kappar)
Capparis orientalis

flowering May to July

sunlight Full sun, 6–8hr sunlight daily

water Regular watering esp. in dry periods

soil Well-draining soil with neutral to slightly alkaline pH, grows in various soils, including sandy, loamy or clayey, as long as soil not waterlogged

height 150cm+

pollinators Various esp. moths, bees and butterflies

seeding Late summer to early autumn

propagate Early autumn to winter

curiosity Immature flower buds popular food; highly-scented flowers attract both day and night pollinators

Annalise Falzon



Evergreen Honeysuckle (Qarn il-Moghża)
Lonicera implexa

flowering April to June

sunlight Full sun

water Water lightly

soil Calcareous, well-drained soil

height 250cm

pollinators Various esp. bees, moths, butterflies and wasps

seeding Autumn

propagate Late autumn to winter

curiosity Maltese name *qarn il-moghża* (goat's horn) probably refers to the flower's lower lip, which curves backwards like a horn

Alex Cassia



Evergreen Rose (Girlanda tal-Wied)
Rosa sempervirens

flowering April to June

sunlight Full sun to partial shade, needs at least 6hr daily sunlight

water Regular watering, esp. during its establishment phase and periods of prolonged drought

soil Well-draining, fertile soil; tolerates wide range of soils, including sandy, loamy and clayey; prefers moderately rich, slightly acidic to neutral soil

height 4m (creeping)

pollinators Various esp. bees, moths, butterflies and wasps

seeding Autumn

propagate Autumn

curiosity Rosehip contains good amount of Vitamin C

Victor Falzon



Hoary Rock-rose (Ċistu Roża)
Cistus creticus

flowering March to June

sunlight Full sun

water Water regularly during establishment phase, after which can survive with minimal watering

soil Well-draining soil; tolerate range of soils, including sandy, loamy and rocky.

height 50cm

pollinators Various, esp. bees, butterflies, beetles

seeding Summer

propagate From seed in autumn or early spring; from cutting in late spring to early summer

curiosity Petals last only one day

Victor Falzon



Ivy (Liedna)
Hedera helix

flowering September to November

sunlight Shade to partial shade, thrives in areas with indirect or filtered light, grows best on north-facing walls

water Minimal watering, let soil dry out slightly between waterings

soil Moist, well-drained humus-rich fertile soil, adapts to wide range of soils, including loamy, sandy or clayey

height 6m+ (stem length) - climber

pollinators Various, esp. Holly Blue Butterfly
Celastrina argiolus

seeding Winter

propagate From cutting in late spring to early summer

curiosity Berries toxic to humans but good food source for wintering birds

Victor Falzon



Great Sage (Salvja tal-Madonna)
Phlomis fruticosa

flowering April to June

sunlight Full sun

water Tolerates dry conditions, with low to moderate water needs; water sparingly, let soil dry between waterings

soil Well-draining soil, adapts to variety of soils, including sandy, loamy and rocky, tolerates poor or low-fertility soil but benefits from adding organic matter

height 100cm

pollinators Various

seeding Summer

propagate November to March

curiosity Velvety aromatic leaves

Joe Sultana



Maltese Everlasting (Sempreviva t'Ghawdex)
Helichrysum melitense

flowering March to June

sunlight Tolerates full sun and high temperatures

water Let soil dry out between waterings

soil Dry to moderately moist soil

height 70cm

pollinators Various

seeding Summer

propagate Autumn

curiosity Endemic to western Gozo

Annalise Falzon



Maltese Salt Tree (Xebb)
Salsola melitensis

flowering June to August

sunlight Full sun for several hours daily

water Infrequent watering once established; let soil dry out between waterings

soil Well-drained soils with good airflow, grows in various soils, including sandy, loamy and rocky

height 250cm

pollinators Various

seeding Autumn

propagate Autumn or early spring

curiosity Endemic to Maltese Islands, relict from Ice Ages

Victor Falzon



Lentisk (Deru)
Pistacia lentiscus

flowering February to April

sunlight Full sun to partial shade

water Low to moderate water needs; regular watering while establishing, after which withstands periods of reduced water; let soil dry slightly between waterings.

soil Various soils, including sandy, loamy and rocky, also poor shallow soils, prefers well-draining soil, both alkaline and acidic

height 5m (width 2m)

pollinators Various

seeding Late autumn

propagate Late autumn to winter

curiosity Berries great food source for migrating birds; resin a prized ingredient, also used as chewing gum

Desirée Falzon



Mediterranean Heath (Erika)
Erica multiflora

flowering December to March

sunlight Full sun (4–6hr daily sunshine) to partial shade, some shade esp. in areas with intense heat or during hottest part of day

water Regular watering in dry periods or when soil dry to touch, moist soil but not waterlogged.

soil Calcareous alkaline soil

height 100cm+ (width 50cm)

pollinators various

seeding Spring

propagate Autumn

curiosity Clusters of small bell-like flowers; seed germination depends on a soil fungus

Victor Falzon



Mediterranean Thyme (Saghtar)
Thymbra capitata

flowering May to July

sunlight Full sun, at least 6–8hr daily

water Water deeply but infrequently, letting soil dry out slightly between waterings

soil Well-draining, slightly alkaline soil; grows in range of soils, including sandy, loamy or rocky, as long as they drain well

height 50cm (width 50cm or more)

pollinators Various esp. endemic Maltese Honey-bee *Apis mellifera ruttneri*, butterflies

seeding Late summer

propagate Autumn

curiosity One of the most prized honeys comes from bees feeding on its early summer flowers

Paul Portelli



Mock Privet (Oliustra)
Phillyrea latifolia

flowering March to May

sunlight Full sun to partial shade

water Occasional deep watering

soil Well-draining soil, adapts to various soils, including sandy, loamy and rocky

height 6–15m (width 2m)

pollinators Various

seeding Autumn

propagate Autumn

curiosity Member of the olive family

Victor Falzon



Olive-leaved Bindweed (Leblieba tal-Blat)
Convolvulus oleifolius

flowering April to May

sunlight Full sun, at least 4–6hr sunlight daily

water Drought-tolerant, minimal watering once established

soil Tolerates variety of soils, including sandy, loamy and rocky, can grow in poor soil as long as well-draining

height 60cm (width 30cm)

pollinators Various esp. Convolvulus Hawkmoth *Agrius convolvuli*

seeding Summer

propagate Autumn

curiosity Funnel-shaped flowers

Victor Falzon



Olive-leaved Germander (Žebbugija)
Teucrium fruticans

flowering December to May

sunlight Full sun

water Drought-resistant but summer watering recommended

soil Poor, rocky alkaline but well-drained soil

height 250cm

pollinators Various, esp. bees

seeding Summer

propagate From cuttings in January

curiosity Can go dormant in periods of severe drought

Aron Tanti



Rosemary (Klin)
Salvia rosmarinus

flowering October to May

sunlight At least 6–8hr daily sunlight

water Water deeply but infrequently, let soil dry out partially between waterings.

soil Well-drained soil with slightly alkaline to neutral pH, grows in various soils, including sandy, loamy or rocky

height 200cm

pollinators Various, esp. common halictid bee *Lasioglossum malachrum*

seeding Spring to summer

propagate From seeds all year round; from cutting in January

curiosity Aromatic, ancient herbal remedy; rosemary beetle *Chrysolina americana* can destroy plant if present in large numbers

Victor Pulis



Shrubby Crown Vetch (Koronilla)
Coronilla valentina

flowering February to May

sunlight Full sun

water Dry conditions, minimal watering

soil Well-draining soil, highly adaptable to various soils, including sandy, loamy or rocky

height 100cm

pollinators Various

seeding Early summer

propagate Autumn

curiosity Very fragrant

Desirée Falzon



Shrubby Kidney Vetch (Flatba s-Sewda)
Anthyllis hermanniae subsp. melitensis

flowering April to June

sunlight Full sun, at least 6hr daily

water Withstand periods of drought, requires minimal watering

soil Well-draining soil, grow in various soils, including sandy, loamy or rocky soils, often occurs in rocky slopes

height 50cm

pollinators Various

seeding Summer

propagate Autumn

curiosity Subspecies *melitensis* endemic to Malta

Victor Falzon



Shrubby St John's Wort (Fexfiex tal-Irdum)
Hypericum aegypticum

flowering December to June

sunlight Full sun to partial shade

water Regular watering during establishment phase, after which can withstand periods of reduced water availability

soil Well-drained soil, tolerates various soils, including sandy, loamy, rocky and poor, shallow soils

height 100cm

pollinators Various, esp. moths and butterflies

seeding Summer

propagate Autumn

curiosity Flowers with both long and short styles occur in different individuals of same species (known as distyly). Long-styled flowers produce and receive more pollen grains.

Victor Falzon



Sicilian Silver Ragwort (Kromb il-Baħar Isfar)
Jacobaea maritima subsp. sicula

flowering May to August

sunlight Full sun (6–8hr daily), tolerates intense heat

water Withstands periods of drought but prefers regular watering, particularly during prolonged dry spells

soil Well-drained soil, grows in various soils, including sandy, loamy and rocky

height 60cm

pollinators Various, esp. butterflies

seeding Summer

propagate Late autumn to winter

curiosity Leaf silvery and covered with dense hairs beneath – an adaptation to heat and drought

Alex Casha



Spanish Broom (Ġenista Safra)
Spartium junceum

flowering April to June

sunlight Full sun to partial shade (at least 6–8hr daily); in regions with intense heat, partial shade during hottest part of day beneficial.

water Drought-tolerant, but water regularly during establishment phase

soil Various soils, including sandy, loamy and well-drained soils, esp. if slightly acidic to neutral in pH; avoid clayey soil

height 3m

pollinators Various

seeding Summer

propagate Autumn

curiosity Leaves much reduced, most photosynthesis carried out by green stems. Scented flowers.

Victor Falzon



Tree Spurge (Tenghud tas-Sigra)
Euphorbia dendroides

flowering January to April

sunlight Full sun to partial shade

water Minimal watering, can withstand periods of prolonged dryness

soil Well-draining, sandy or rocky soils, well-suited to grow in poor and infertile soils

height 200cm

pollinators Various

seeding Late spring

propagate Autumn

curiosity An important foodplant for endemic Maltese Spurge Hawkmoth *Hyles sammuti*

Victor Falzon



Fringed Rue (Fejġel)
Ruta chalepensis

flowering March to June

sunlight Full sun to partial shade

water Minimal watering once established, let soil dry out between waterings

soil Tolerates various soils, including sandy, loamy and rocky soils, prefers well-draining soil to prevent waterlogging

height 60cm

pollinators Various; foodplant of Swallowtail Butterfly *Papilio machaon*

seeding Summer

propagate Autumn

curiosity Strong scent; photoactive – may cause burns if used on skin which is then exposed to sun

Desirée Falzon



White Hedge Nettle (Te Sqalli)
Prasium majus

- flowering** May to July
- sunlight** Partial shade to full shade, esp. areas with filtered sunlight or indirect light
- water** Moderate watering, can tolerate some drought
- soil** Well-draining soil with neutral to slightly alkaline pH, grows in various soils, including sandy, loamy or clayey
- height** 100cm
- pollinators** Various, esp. bees
- seeding** Summer
- propagate** Autumn
- curiosity** Appears to be the only species in the genus *Prasium*

Victor Falzon



African Tamarisk (Bruka)
Tamarix africana

- flowering** January to March
- sunlight** Full sun, several hours daily
- water** Regular watering during establishment phase, afterwards minimal watering
- soil** Clayey or sandy soils
- height** 7m
- pollinators** Various
- seeding** Spring
- propagate** From seeds in spring; from cuttings in deep winter
- curiosity** Tolerates high salinity thanks to salt glands

Victor Falzon



Almond (Lewż)
Prunus dulcis

- flowering** December to February
- sunlight** Full sun, 6–8hr sunlight daily
- water** Regular watering during growing season
- soil** Well-drained soil with good fertility, can grow in various soils, including sandy, loamy or clayey
- height** 8m
- pollinators** Various
- seeding** Summer
- propagate** From cuttings in late autumn
- curiosity** Archaeophyte – introduced by humans in antiquity

Desirée Falzon



Bay Laurel (Rand)
Laurus nobilis

flowering February to April

sunlight Shade

water Keep humid, but minimal watering once established

soil Composed, well-drained soil

height 10m

pollinators Various

seeding Early autumn

propagate From seed in early autumn

curiosity Fruit eaten by birds, esp. Blackcaps (*Kapinera*) and Blackbirds (*Malvizz Iswed*)

Victor Falzon



Carob (Harrub)
Ceratonia siliqua

flowering October to November

sunlight Sheltered until sapling grows, then full sunlight

water Occasional deep watering

soil Well-draining slightly alkaline to neutral soil, sandy, loamy or clayey

height 6m

pollinators Various

seeding Late summer to early autumn

propagate From seed in autumn

curiosity Archaeophyte – imported by humans in antiquity

Victor Falzon



Chaste Tree (Siġra tal-Virgi)
Vitex agnus-castus

flowering June to September

sunlight Full sun (6–8hr daily) to partial shade

water Moderate watering, regular watering during prolonged drought

soil Well-drained rich soil; grows in various soils, including sandy, loamy or clayey

height 4m

pollinators Various, esp. bumblebees, bees, flies, moths and butterflies

seeding September to November

propagate From seed in early spring

curiosity Long-standing medicinal uses, esp. beneficial for female health

Annalisse Falzon



Common Myrtle (Riħan)
Myrtus communis

- flowering** May to June
- sunlight** Full sun to partial shade
- water** Regular watering during growth, tolerates some drought once established
- soil** Well-draining soil with slightly acidic to neutral pH, grows in various soils, including sandy, loamy or rocky
- height** 5m
- pollinators** Various
- seeding** Early winter
- propagate** From seed in early spring; from cuttings in early winter
- curiosity** Sweet essential oil can be extracted from perfumed leaves; berries used for creating *Mirto* liqueur in Sardegna

Victor Falzon



European Dwarf Palm (Ġummar)
Chamaerops humilis

- flowering** April to June
- sunlight** Full sun (at least 6–8hr daily), tolerates partial shade
- water** Regular watering during establishment phase, afterwards tolerate dry conditions
- soil** Well-draining soils with neutral to slightly acidic pH, tolerates various soils, including sandy, loamy and clayey
- height** 4m
- pollinators** Various esp. bees
- seeding** November to December
- propagate** From seed in November to December
- curiosity** Exhibits ‘nursery pollination’ in symbiosis with Palm Flower Weevil *Derelomus chamaeropsis*

Aron Tanti



Fig (Tin)
Ficus carica

- flowering** May to June
- sunlight** Full sun, 6–8hr sunlight daily
- water** Regular deep watering in summer, tolerates some drought
- soil** Well-draining soil with 6.0–6.6 pH range, tolerates various soils, including sandy, loamy and clayey
- height** 10m
- pollinators** Various esp. fig wasps, gall wasps
- seeding** When figs are ripe
- propagate** From seed in autumn; from cuttings in winter
- curiosity** Edible fig (known as an infructescence) has internal flowers and narrow passage to let in Fig Wasp *Blastophaga psenes* and pollinate flowers

Victor Falzon



Hawthorn (Żaghrun)
Crataegus monogyna

flowering March to April

sunlight Full sun

water Minimal watering, can thrive on rainfall

soil Adapts to various soils, including sandy, loamy or clayey, tolerates moderately alkaline to slightly acidic soils

height 3m

pollinators Various

seeding Autumn

propagate From seed in early spring

curiosity Hawthorn extract used esp. for heart disease

Victor Falzon



Judas Tree (Siġra ta' Ġuda)
Cercis siliquastrum

flowering March to May

sunlight Full sun to partial shade; finding balance recommended for best performance

water Regular watering, esp. in dry periods or when newly planted

soil Well-drained soil with moderate fertility, adapts to various soils, including loamy, sandy or clayey, but avoid waterlogging

height 10m (often much less)

pollinators Various, esp. bees and butterflies

seeding Summer

propagate From seed in late autumn

curiosity Often linked to Biblical references about Judas's betrayal of Christ. Deciduous, bursts into colour at start of spring with bright pink flowers.

Desirée Falzon



Mediterranean Buckthorn (Alaternu)
Rhamnus alaternus

flowering February to March

sunlight Full sun to partial shade

water Regular

soil Adapts to various soils, including sandy, loamy or rocky, also poor soils

height 5m

pollinators various

seeding May to July

propagate From seed in late autumn to winter

curiosity Foodplant of Cleopatra butterfly *Gonepteryx cleopatra*; berries are good food for many birds

Aron Tanti



Olive (Žebbuġ)
Olea europaea

flowering March to May

sunlight Full sun, at least 6–8hr daily

water Moderate watering, water deeply and infrequently, let soil dry out slightly between waterings

soil Well-draining soils with a 6–8 pH range, tolerates various soils, including sandy, loamy and rocky.

height 15m

pollinators Various

seeding Autumn

propagate From seed in autumn; from cuttings in late spring to early summer

curiosity Famous for fruit and longevity (2000+ years); leaves used in teas and soap/ cosmetics preparation

Victor Falzon



Olive-leaved Buckthorn (Žiju)
Rhamnus oleoides

flowering February to June

sunlight Full sun to partial shade

water Low to moderate watering, regular during establishment period

soil Moderately fertile with good drainage, with pH from acidic to slightly alkaline

height 3m

pollinators Various

seeding Early autumn

propagate From seed in autumn or early spring

curiosity Very spiky and resilient, often acting as pioneer species; berries good food source for birds; foodplant for Cleopatra butterfly *Gonepteryx cleopatra*.

Desirée Falzon



Southern Nettle Tree (Majjiesa/Bagular)
Celtis australis

flowering March to April

sunlight Full sun to partial shade

water Frequent

soil Light well-drained (sandy) and medium (loamy) soils, including poor soils

height 25m

pollinators Various

seeding Autumn

propagate From seed in late autumn to early winter

curiosity Harvested for food, medicine and material (wood, dyes)

Desirée Falzon



Strawberry Tree (Imbrijagla)
Arbutus unedo

flowering October to February

sunlight Full sun to partial shade

water Sparingly

soil Well-drained, nutrient-rich, moisture-retentive soil

height 10m

pollinators Various, esp. bees

seeding As soon as fruit ripen

propagate From seed in winter

curiosity Fruit has various medicinal uses, also used to make marmalades and alcoholic beverages

Alex Casha



Syrian Pear (Langas Selvaġġ)
Pyrus syriaca

flowering February to April

sunlight Full sun

water Drought-tolerant, avoid overwatering

soil Wide range of soils, preferably well-drained

height 10m

pollinators Various

seeding End of summer

propagate From seed in winter

curiosity Used as rootstock and considered pollinisers of cultivated varieties of Pear.

Victor Falzon



Pomegranate (Rummiena)
Punica granatum

flowering May to July

sunlight Full sun

water Withstands periods of drought, performs best with regular watering during the growing season

soil Well-drained soil rich in organic matter; grows in various soils

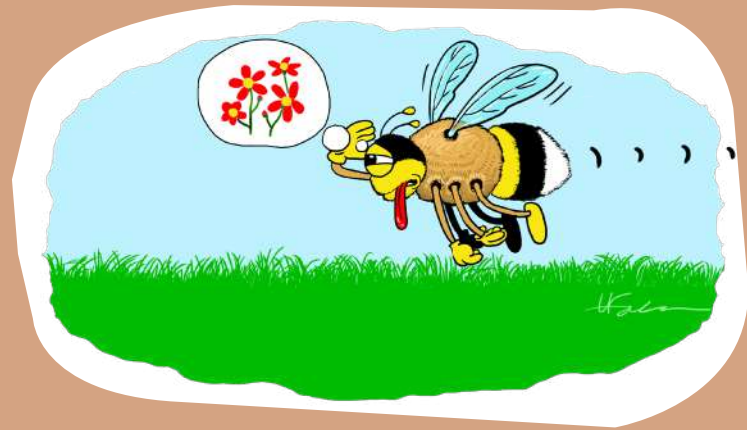
height 6m

pollinators Various

seeding Autumn

propagate From seed in early autumn; from cuttings in January

curiosity Linked with fertility in many cultural and mythological references



Part 5

Guide to Mediterranean pollinators

There are many kinds of animals in the world that pollinate flowers: not just insects, but birds and bats and even monkeys! In the Mediterranean region, however, we can safely say that the job of flower pollination lies squarely with the insects! But which insects? Here are the main groups responsible...

Bumblebees (bombli)

Victor Falzon



habitat Anywhere you find flowers: meadows, gardens, woods. They usually build nests underground, but some species build them in trees.

time of year Spring to autumn

interesting facts Bumblebees look fluffy because their wing muscles need to be very warm to fly (at least 30°C). Their hair acts as insulation against the cold and they shiver to raise their muscle temperature high enough to fly. Species which live in colder places are fluffier to keep them as warm as possible.

Honey-bees (naħal tal-għasel)

Victor Falzon



habitat Anywhere you find flowers: meadows, gardens, woods. Most honey-bees are domesticated, so you usually find them near hives that someone is looking after.

time of year Spring to autumn

interesting facts Bees communicate with each other by dancing. They do something called the waggle dance to tell the rest of the hive where there's a good source of food.

Solitary bees (naħal)

Desirée Falzon



habitat Anywhere you find flowers: meadows, gardens, woods. Most solitary bees nest in tiny holes in the ground or in trees or man-made structures.

time of year Spring to autumn

interesting facts Most bees are considered solitary, and do not live in a hive or communal nest. They lay their eggs in small holes which they seal up with some food for when the young bee hatches, and it stays in there until it is an adult. Although called "solitary", they often nest close to one another and socialise with their neighbours. The Large (or Violet) Carpenter Bee *Xylocopa violacea* (Maltese: Bomblu Iswed) is a solitary bee that tunnels its nest in wood or hollow reed stalks.

Wasps (żnażan)

Victor Falzon



habitat Wasps can be found everywhere. Most wasps feed on nectar so can be found near flowers. Social wasps such as the paper wasp have a queen who builds a nest, often in man-made structures like houses or sheds.

time of year Spring to autumn

interesting facts Social wasps communicate using pheromones, which are like a language of smells. They use these to tell the rest of the hive when to attack, among other things. When a wasp is killed its body releases these pheromones, so the other wasps can come to attack whatever killed it.

Butterflies (friefet)

Desirée Falzon



habitat Anywhere you find flowers: meadows, gardens, woods. They lay their eggs on a plant that their caterpillars will eat when they hatch. They then turn into butterflies through a process called metamorphosis.

time of year Spring to autumn

interesting facts While caterpillars are turning into butterflies, they seal themselves inside a pupa (a process called pupation), which is like an armoured sleeping bag. While inside the pupa, they dissolve completely into goo and then rebuild themselves into a butterfly. Butterflies drink mostly nectar, but they also love to drink blood if they can get it, though they don't go stinging people like mosquitoes do. Blood gives them a valuable source of salt and iron.

Moths (bahrijiet)

Victor Falzon



habitat They can be found almost anywhere at night. They are attracted to light, so to see moths turn on a light at night and they will come. Some moths are active in the daytime, like the Hummingbird Hawkmoth *Macroglossum stellatarum* (Maltese: Ħabbara)

time of year Spring to autumn

interesting facts Some moths don't have mouths or stomachs. After transforming from a caterpillar, their only purpose is to breed and produce eggs for the next generation. They must do this quickly before they starve to death, since they can't eat.

Beetles (ħanfus)

Desirée Falzon



habitat Beetles are most common in leaf litter and underneath things; they mostly like cool, damp places.

time of year All year

interesting facts A quarter of all animal species on earth are beetles – that's more than 370,000 species of beetles! They are one of the most diverse groups of animals and perform every ecological function possible.

Hoverflies (dubbien tal-fjuri)

Desirée Falzon



habitat Anywhere you find flowers: meadows, gardens, woods.

time of year Spring to autumn

interesting facts Hoverflies are experts at mimicking other insects. Most pretend to be wasps or bees so that predators think they're too dangerous to eat. Some species are so good at this that they sneak into nests of bees and wasps and lay their eggs in there.

Mosquitoes (nemus)

Victor Falzon



habitat Found everywhere. Very common near stagnant water and around animals whose blood they can suck.

time of year All year, most common in autumn

interesting facts Only female mosquitoes bite and drink blood, as they need the extra nutrient to lay eggs. Males feed on nectar and they are harmless; and they pollinate flowers too.

True bugs (sfiefed u spalluti)

Desirée Falzon



habitat Different bug species are found in very different environments, including on plants, in the soil, and even in water, e.g. pondskaters.

time of year Spring to autumn

interesting facts Most bugs feed on plant sap, though some are predators and catch smaller insects. Cicadas live underground as larvae for years before they hatch into adults. While underground they feed on water and nutrients from tree roots. Cicadas are among the noisiest creatures on earth!



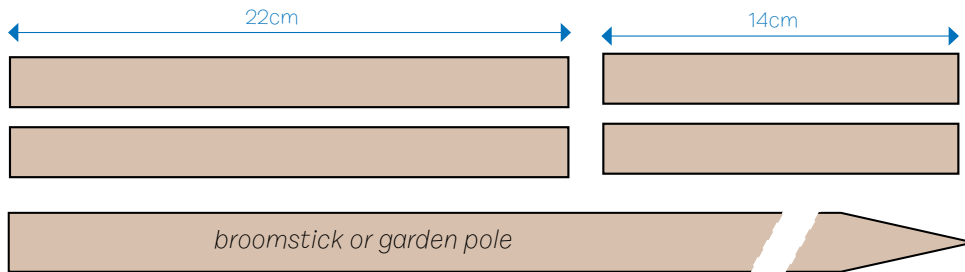
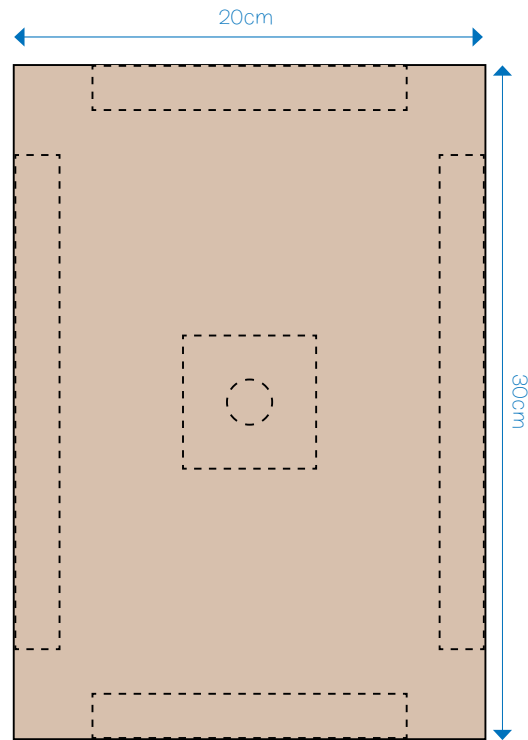
Part 6

Appendices

Making this, that and the other. Craft and other ideas.

Making a bird table

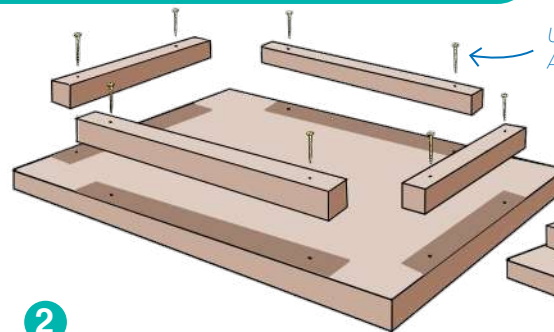
Here's how to make a basic bird table. Forget roofs and extra bits – simple works best.



You need

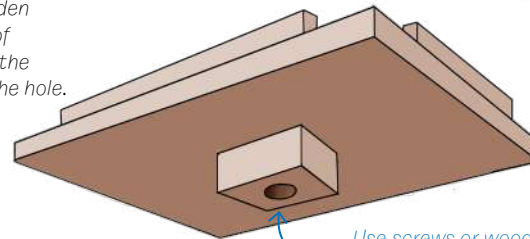
- 1 plywood board 30 x 20cm, about 2cm thick
- 2 wooden strips 22cm long, about 2cm thick
- 2 wooden strips 14cm long, about 2cm thick
- 1 broomstick or garden pole, pointed at one end
- 1 wooden block about 6 x 6 x 4cm, with round hole (for broomstick) in the middle
- Screws, nails, wood glue

1 Stick the four strips along the four edges (long ones along the long sides, short ones along the short sides).



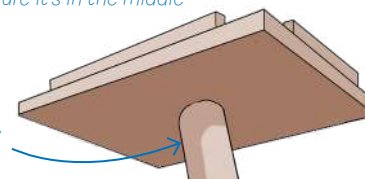
Use screws or nails. A little wood glue helps.

2 Stick square wooden block to bottom of board, then push the broomstick into the hole.



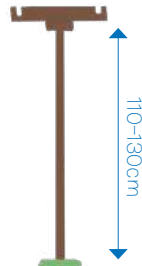
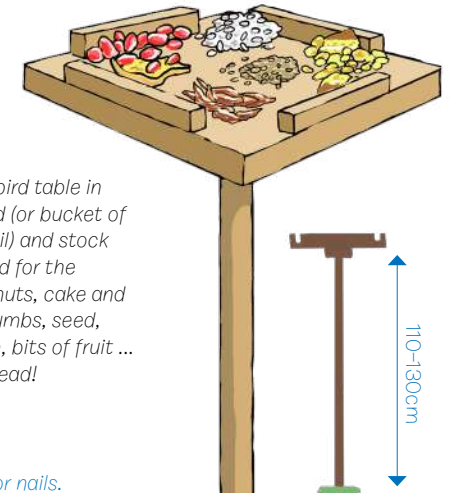
Use screws or wood glue to stick the block. Make sure it's in the middle.

If you use a garden pole, which is thicker than a broomstick, you don't need the square block. Simply screw the top directly to the pole.



3

Stick the bird table in the ground (or bucket of sand or soil) and stock it with food for the birds. Try nuts, cake and biscuit crumbs, seed, boiled rice, bits of fruit ... but not bread!



Gaps for rainwater to drain

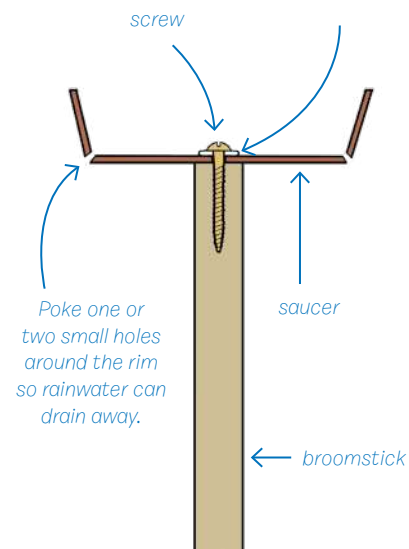
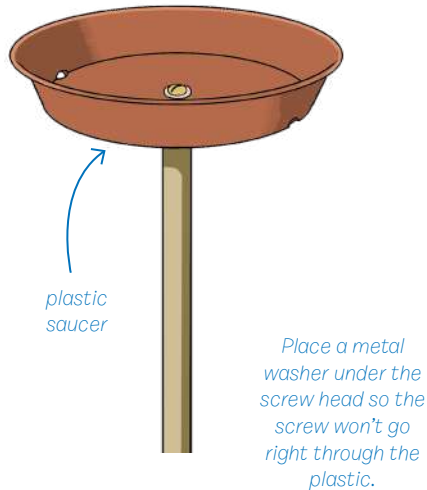
Do not paint or treat the wood...



... except the bit of the stick that's going into the ground.

Making an even simpler bird table

This bird table can be made by screwing a **plastic flowerpot saucer** onto a broomstick.



Grateful customers admire the buffet!

Bird table tips

A few more helpful hints for a successful bird table project

- Set up the table away from potential hiding places where cats can ambush the birds.
- Stop putting out food in spring and summer - there should be enough insects and natural food for birds to find, especially if they have young to feed. Restock in autumn and winter, when natural food gets scarce.
- At least once a year (more if you have spread sticky foods) scrape and scrub the bird table clean.
- If possible, set up your bird table where it can be observed from classroom windows.
- Get your students to produce charts and graphs based on bird activity at the table.



Maybe you can set up a live-feed camera for students to follow bird table activity on a screen.

Making a nestbox

There are many kinds of nestboxes for different birds. This one is a basic all-rounder for small garden birds, such as sparrows.

Cut the strips as indicated below and assemble, using nails or screws. Wood glue helps bond and seal the parts for a cosy finish.

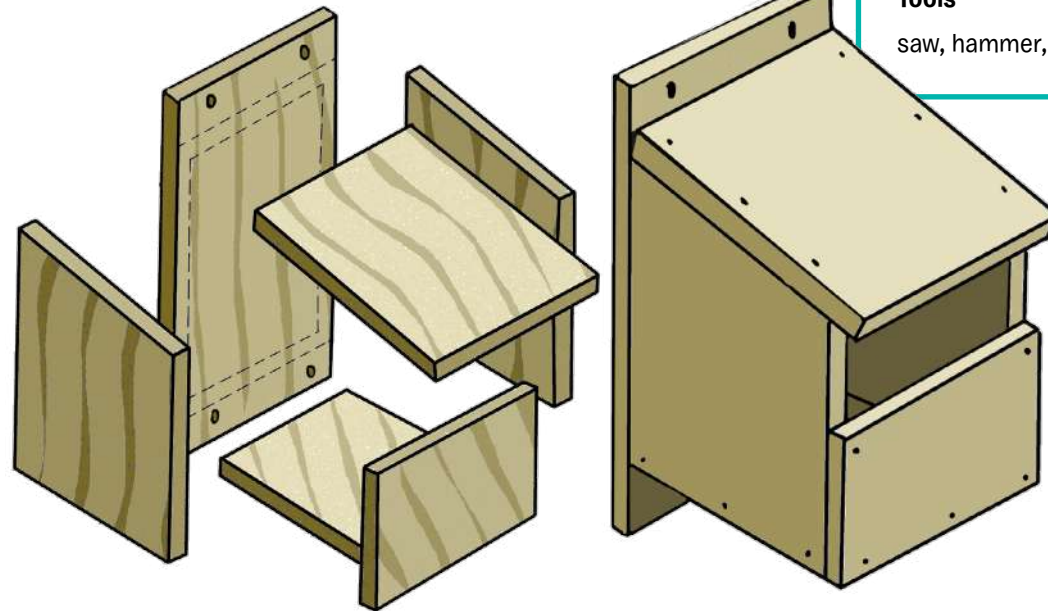
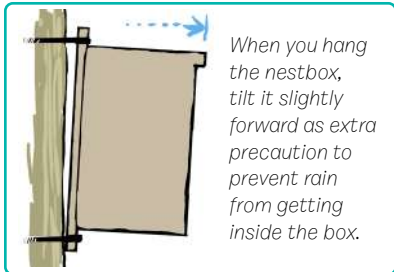
If you're putting the nestbox in a tree, do not nail nestboxes to trees. Secure them around the trunk or branch using wire or tie-clips (don't tighten too much, allow for the tree to grow in girth).

You need

- 15mm plywood board or plank
- nails or screws, tie-clips, wood glue

Tools

saw, hammer, screwdriver, drill, sandpaper

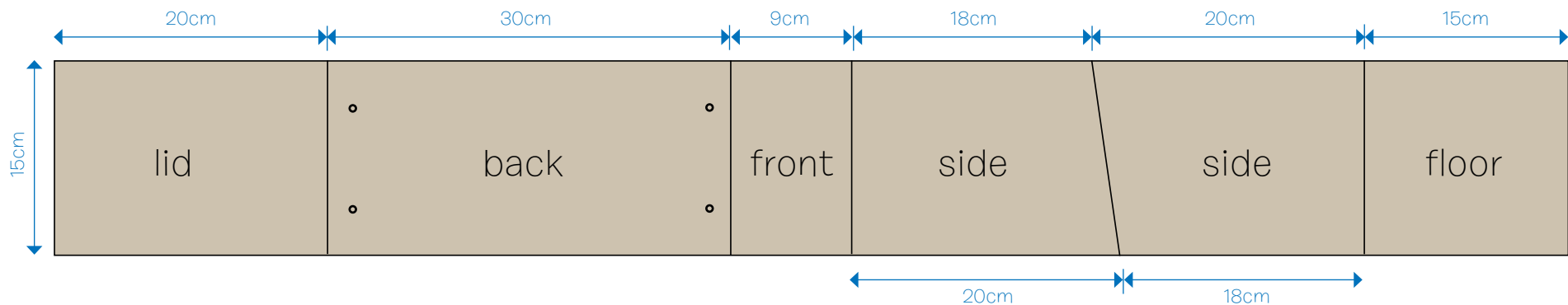


Exploded view

Assembled view

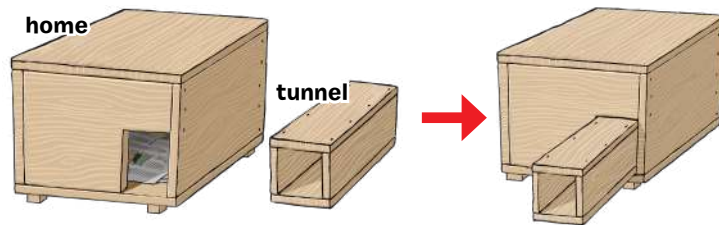


Do not paint or varnish. These will eventually flake and can be toxic if ingested by birds. Leave the wood 'au naturel'!



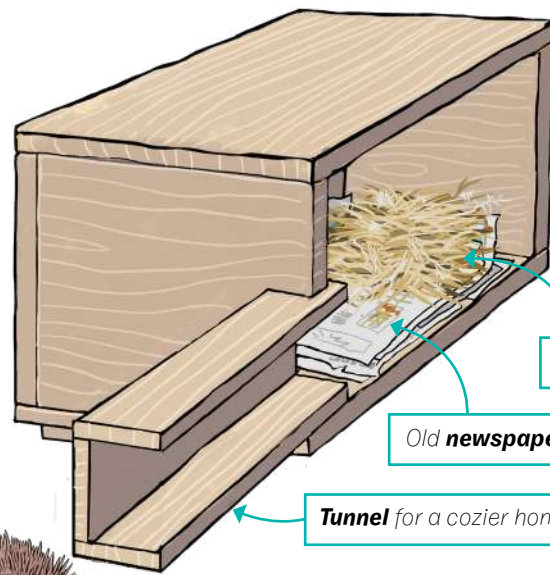
Making a home for hedgehogs

If your school is next to a garden or farmland, there may be hedgehogs living nearby, possibly even visiting your school grounds at night to look for bugs and worms. Make your wildlife garden more attractive to these lovely mammals by giving them a home where to sleep, nest or hibernate.



Separate sections

Combined structure



Cutaway view

Straw or dry grass for a snug bed

Old newspaper for insulation and nesting material

Tunnel for a cozier home and more privacy

You need...

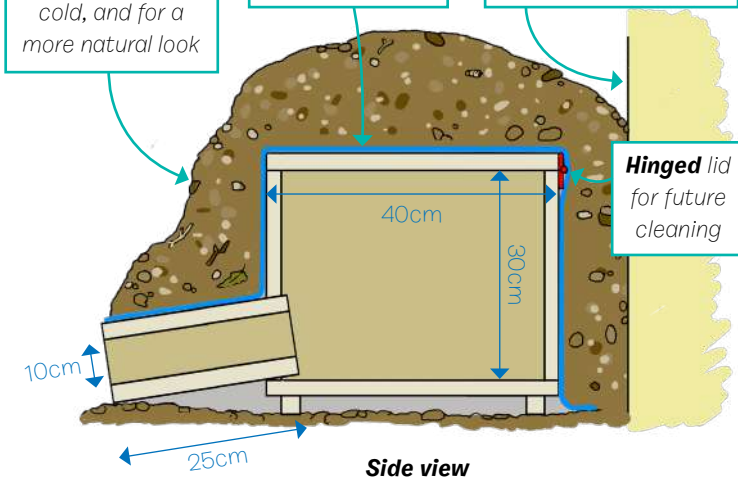
- 20mm plywood board cut to the sizes below
- screws or nails
- 2 metal hinges
- polythene sheeting
- soil, dry leaves, straw, newspapers

- tunnel top/base (x 2)
25 x 14cm
- tunnel side (x 2)
25 x 10cm
- lid/base/sides (x 4)
40 x 30cm
- front (x 1)
30 x 30cm
14 x 14cm square cut out
- back (x 1)
30 x 30cm
- feet (x 4)
8 x 8cm

Pile of soil or leaf litter to insulate from heat and cold, and for a more natural look

Polythene sheet to insulate from damp

Place against a wall for shade and shelter from elements

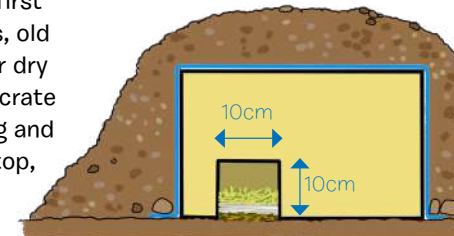


Hinged lid for future cleaning

Side view

Easy home!

A simpler version of a hedgehog home is to use a plastic crate. Cut a 10x10cm doorway into one side and if the crate is cage-like (like the one in the photo), cover the inside of the entrance side with cardboard. Turn the crate upside down but first put a layer of dry leaves, old newspaper and straw or dry grass inside. Cover the crate with polythene sheeting and pile soil / leaf litter on top, leaving the entrance side clear.



Do not paint or treat the wood.

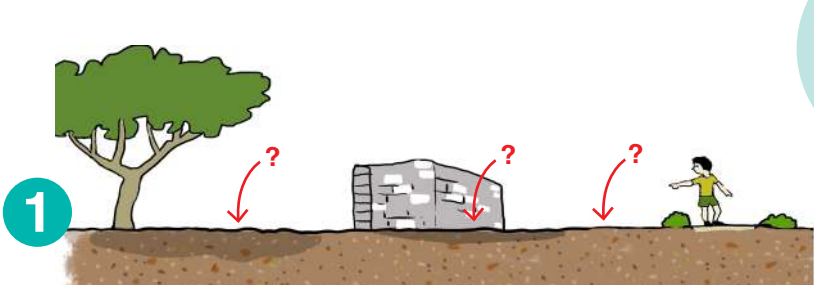


I like!

Making a freshwater pond

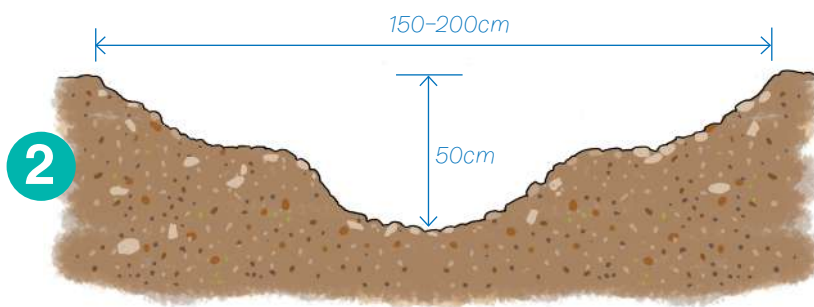
A pond always adds life to a garden. There are various pre-formed ponds you can buy from a garden store but you can also build your own. It requires a little expense (basically the liner) and some manual work but no particular skill.

- You need**
- heavy-duty polythene liner
 - stones
 - builder's sand (optional)
- hoe, spade, bucket, hose, scissors



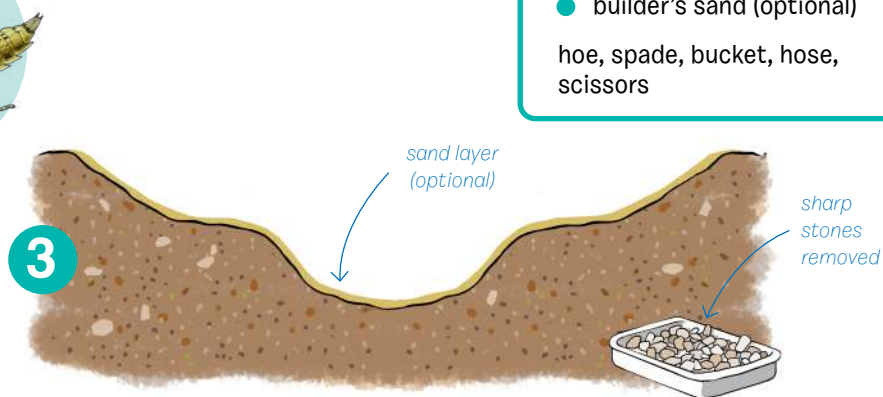
1 Find your place

Site your pond where it's accessible for close observation. Somewhere along the nature trail would be ideal so the trail itself can serve as an observation area. To reduce evaporation and avoid the water getting too warm if possible site the pond where it's shady at least for the hottest part of the day, maybe partly under a tree or near a wall (but it does need at least 2hr of sunshine so the pond vegetation will grow). And ensure you have access to a water source.



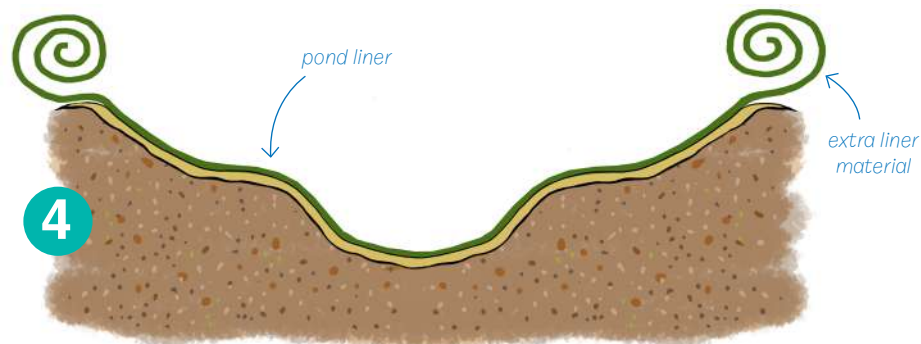
2 Dig a hole

Choose any shape but keep it simple, e.g. roughly oval or bean shape. Size is up to you but don't be too ambitious or you will need lots of water to compensate for evaporation – we suggest 150–200cm at its longest. Vary depths from deep (about 50cm max) to shallow, and slope the edges gently.



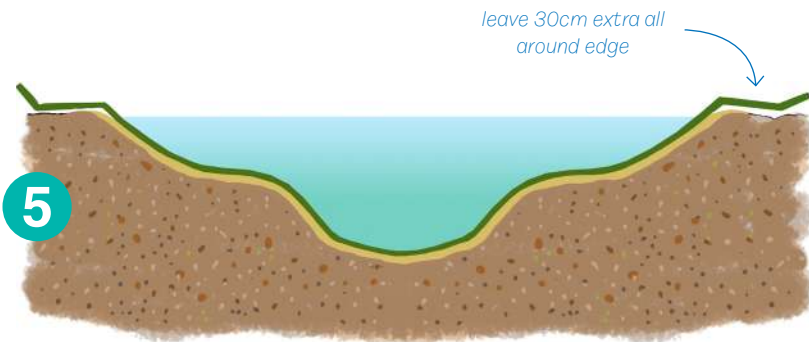
3 Check the bed

Check the bed of your pond carefully and remove any sharp stones sticking out that may puncture your liner. You may choose to cover the bed with a thin layer of builder's sand (or sieved soil) to ensure a smooth bed.



4 Lay the liner

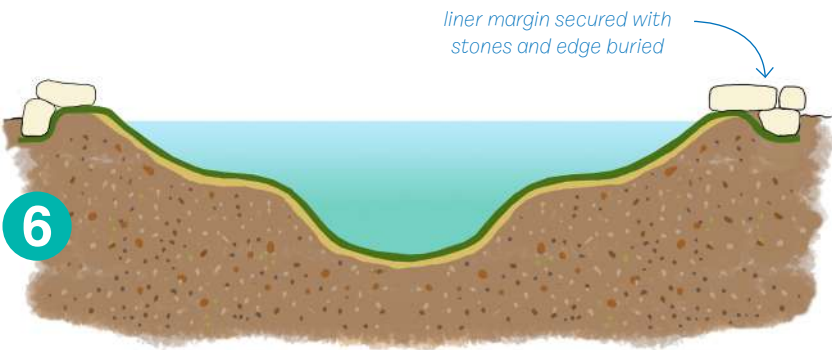
Open the liner – you may need help here if it's a bit bulky – and cover all the bed of your pond all the way up to the edge and beyond. If you did Step 3 well you can walk on the liner, but best remove your shoes. If you have enough liner lay a double layer for extra protection. **Don't trim the extra bits just yet.**



5

Fill and trim

Fill the pond with water to the top, using a hose. The weight of the water will ensure your liner covers the bottom evenly. Give it a day to settle. With knife or scissors, carefully trim off the extra liner around the edges, but leave a generous (30–40cm) margin of liner all around the top.

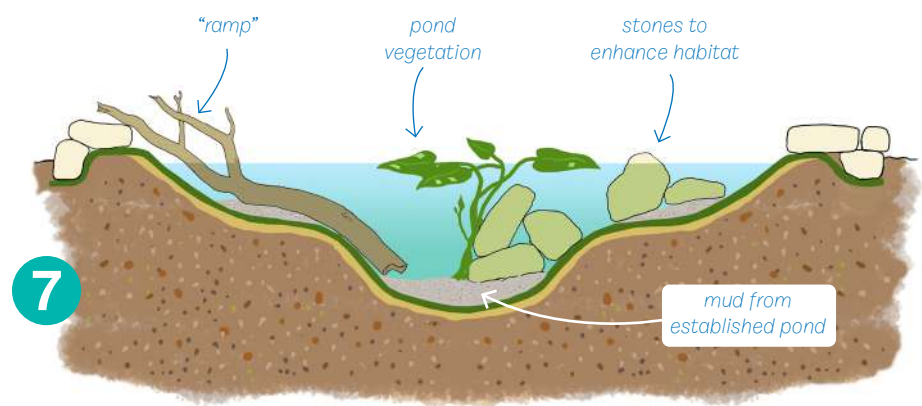


6

Protect the edges

Carefully place stones on the margin (mind you don't tear the liner) all around the edge of the pond until the material is completely hidden. Bury the very edge of the liner (see diagram) and secure with stones, and fill with soil any gaps between the stones. It's important to cover the liner as much as possible as it may become brittle and crack with constant exposure to sunlight.

Perhaps you were hoping for a bigger pond. If so, better to have **two** smaller ponds than one large pond. Having two ponds would be useful if for some reason you need to drain one of them: this way you can transfer plants, etc. from Pond 1 to Pond 2 temporarily while Pond 1 undergoes maintenance.



7

Let there be life!

Your pond is ready to begin life. Here are some tips to help enrich your pondlife

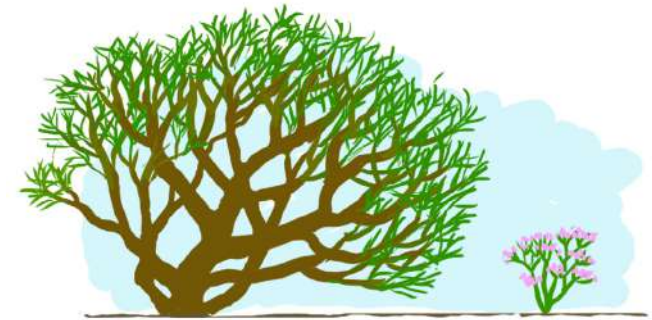
- Add some mud from an established pond; the mud will probably contain eggs of small pond organisms and maybe seeds of pond vegetation.
- Place some stones to create nooks and caves, which make your pond habitat diverse and interesting for small creatures.
- Add pond plants (always try to pick native species), remember plants are at the very base of food chains.
- Lean one or two branches from the water to the pond's edge, so animals that fall in by mistake (e.g. lizard) can reach land again.
- Don't put fish in your pond – they will eat all your precious invertebrates!
- Add a small pond aerator to move and aerate the water (but place the pump in a mesh bag to avoid invertebrates being sucked into the pump. There are a variety of these gadgets – the solar-powered kind are best of course.



Your pond will need occasional maintenance to keep vegetation from choking the entire area. Topping up will also be needed in the drier months

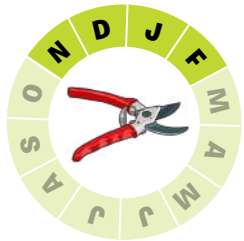
Growing plants from cuttings

Many plants can be grown from cuttings. Woody species are most successful. Woody plants are species that produce wood in their structure to stay upright, such as all trees and many shrubs. Non-woody plants are known as herbaceous species.

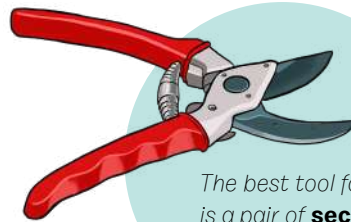


a woody plant

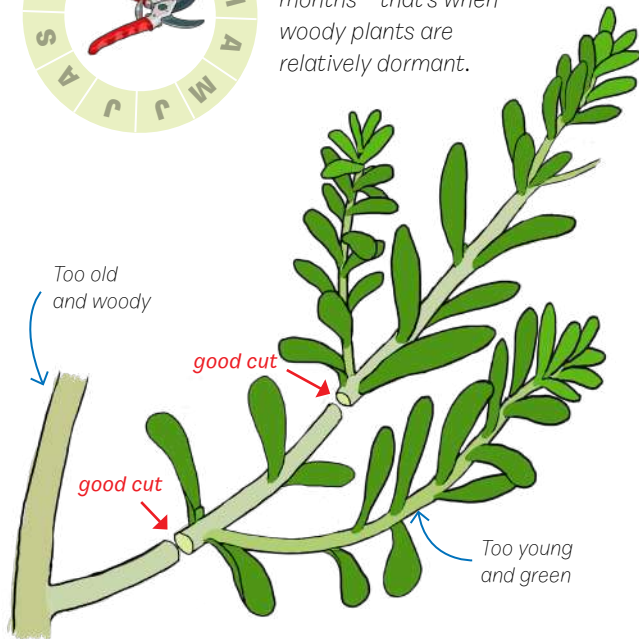
a herbaceous plant



The best time to take cuttings is the colder months – that's when woody plants are relatively dormant.

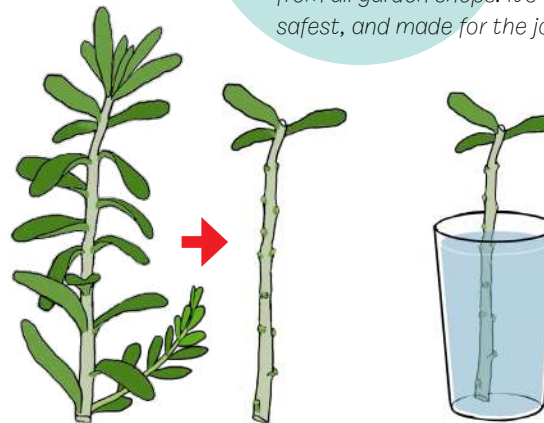


The best tool for taking cuttings is a pair of **secateurs**, available from all garden shops. It's the safest, and made for the job.



1

Take your cuttings from an established plant that's been there a few years at least. Don't go for a thin bendy young green stem but one that's a bit older, a bit woody and about the thickness of a pencil. Cut lengths from below a leaf node – that's the point from where a leaf grows. Make it a clean cut!

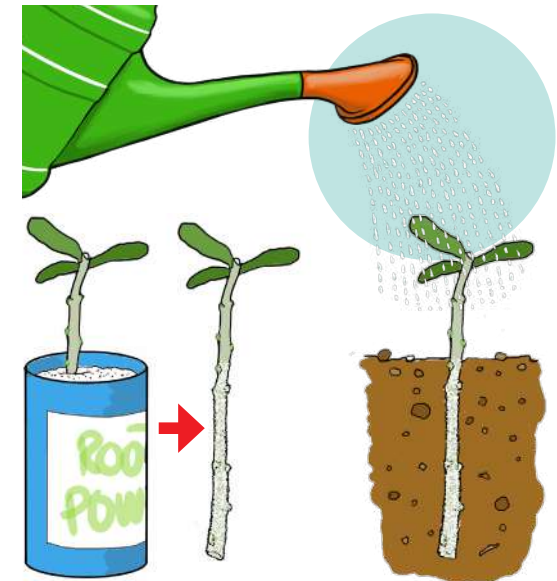


2

Snip off all the leaves except one or two at the top. This way you'll know which is the top and which is the bottom – we don't want to plant our cutting upside down!

3

Wet the leafless part in water. Some cuttings will sprout roots if left in water for a few weeks. Experiment with different plants. If your cutting sprouts roots you can skip Step 4.



4

Dip the wet part of the cutting in rooting powder, (available from garden shops or pet shops). The powder will stick to the wet stalk.

5

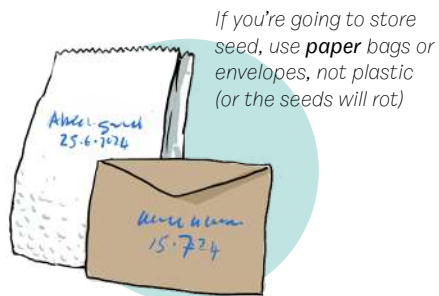
Poke a hole in the soil with a pencil and stick the cutting in. Press the soil firmly down around the cutting, and water.

Growing plants from seed

Many plants can be grown from seeds too. Many wild flowers, shrubs and trees are easy to propagate by sowing their seeds – some are tricky, some more straightforward. There are many species and many variables, so there is no single formula that works for everything. There are, however, a few general rules that one should follow.



Always collect seed when dry – you can usually tell by the colour, usually various shades of brown, or black. If you collect seed when still green it may not have matured yet, and will probably fail. If the seed is hidden in a pod or fruit, wait until the fruit is ripe or the pod turns brown.



If you're going to store seed, use **paper** bags or envelopes, not plastic (or the seeds will rot)



Fill the seed tray with garden compost. With a pencil poke a hole in each compartment – not deep, remember in nature seeds don't dig themselves a deep hole, they simply fall on the surface.



Drop two or three seeds in every hole



When the seedlings sprout use a spoon to scoop them out complete with ball of compost so you won't expose the roots



Transfer the sprouting carefully to a bigger pot. Water and label. When the plant outgrows the pot it's ready to be put directly into the ground.

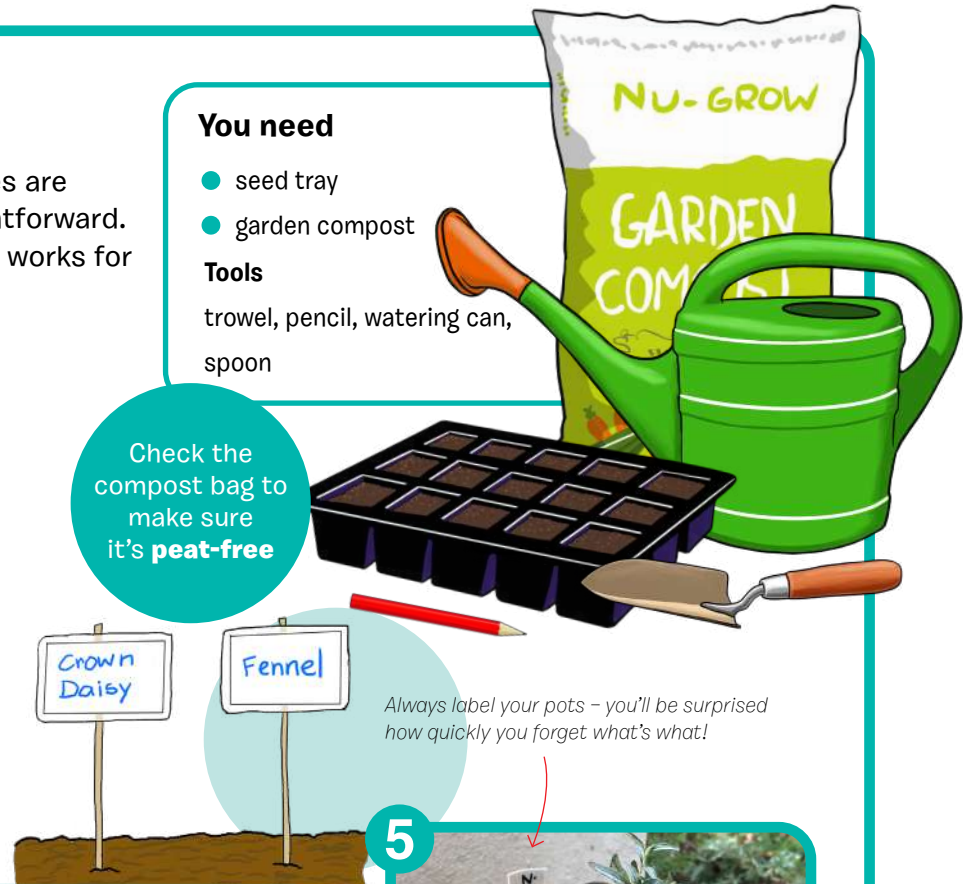
You need

- seed tray
- garden compost

Tools

- trowel, pencil, watering can, spoon

Check the compost bag to make sure it's **peat-free**



Always label your pots – you'll be surprised how quickly you forget what's what!

“My school doesn’t have a green area!”

Can we still attract nature if there aren’t green areas in our school grounds? The answer is “Yes you can!”

You’re not alone!

Many schools lack a garden patch, so your problem is faced by many teachers who wish their school to be more wildlife friendly. Luckily, you can attract nature anywhere and your school is no exception.

Two basic needs

Living things need **food** and **shelter**. If they find one or both they’re going to go there. So what we must think of is how to provide these two basic needs.

When thinking food in nature we must think **food chains**. Food chains begin with **plants**, so if we have plants we’ll get the creatures that feed on them. Our aim here is to create a space where plants can grow.

Plants need...

Plants need **sunlight**, **air**, **water** and **minerals**. They get the first two by standing outside, and the other two from the ground. This means we need an outdoor area where to spread some soil. If you don’t have a green patch in your school you will need to create it.

The best and most drastic way is to pull up a section of paved school yard, fill it with soil and plant it up! Some schools are bold enough to go for this option, but most will probably ask for a Plan B!

Planters

The next best thing is planters. Planters are large flowerpots, and they come in various shapes and sizes. We find the larger rectangular kind are best suited, as they can contain more soil and waste less space – space is a precious commodity especially with smaller schools.

Find a quiet corner of your school yard and mark it off for your project. Make sure the spot is child-safe, so ideally away from play areas. The place will need sunlight (at least a few hours daily) and a nearby water source (well or tap) would be convenient.



Square or oblong variety are best suited

Next, buy the planters (garden shop or DIY store). Buy them as large as your budget can afford – better four large ones than eight small ones – and place them in your project area. It would be nice to bunch them together to look like a small garden, BUT on the other hand it’s important that each planter is accessible (for watering, observation, etc.). So leave a few gaps for people access.

Place stones, pebbles or broken pottery at the bottom of the planters so water can drain better. If you bought matching saucers with the planters, use them and spare yourself puddles and muddy ground.

Next, fill the planters with soil. If you don’t have access to soil you can ask kids who have a garden at home or a green area nearby



Leave gaps so each planter is accessible for close observation, watering and maintenance.



Kids busy tending to their planter garden. This school cleverly incorporated trellises into the design, so climber species can flourish in the area too.

to bring a small bag of soil for your pollinator project. Meanwhile buy a couple of bags of potting compost – check on the bag that the compost is **peat-free** (peat bogs are a globally endangered habitat)

Mix half and half quantities of soil and compost in each planter. You can use compost alone but it will probably be lacking in calcium. Follow planting instructions in other parts of this book.

Green wall

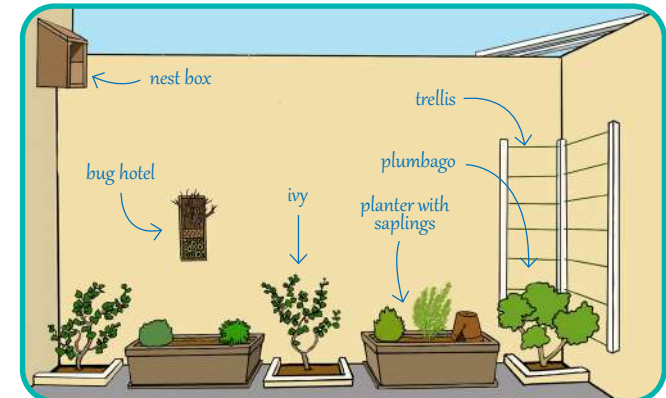
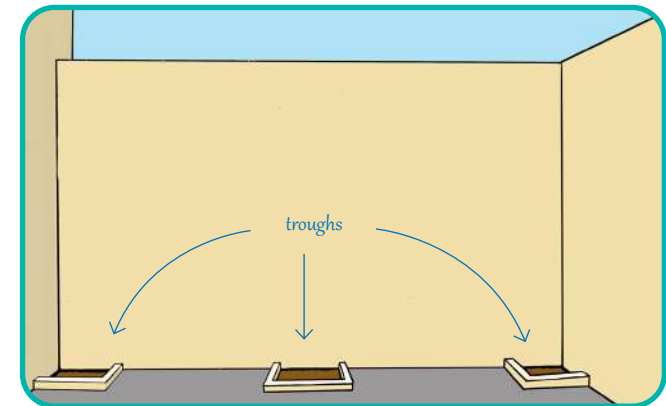
If you have a high wall that's not in the play area of the school grounds and you

want to 'nature it up', ask your school admin whether there's any chance of creating a small trough or two in the actual ground. It will entail removing less than 1m² of paving, removing the underlying rubble for maybe 30cm and replacing it with soil. Now you can plant a climber or creeper. Some species, like **plumbago** (*plumbago* or *celestina*) and **garden honeysuckle** (*hanisakil*), will need netting or trellising to help them grow against the wall – if not, they will form a thick shrub. **Ivy** (*liedna*), on the other hand, will attach itself to the wall and climb vigorously and unaided (except for a little watering). These climbers will attract butterflies and their foliage will create shelter for many minibeasts.

Additional structures like bug hotels, nest boxes, stone piles, an upturned cracked flowerpot, etc. will create even more habitat.

And there's your green wall! Your only expense would be to pay the worker who created your trough (unless your school handyman volunteered to do it), and the price of the sapling, unless of course you grew it from a cutting.

A trough or two will turn a bare wall into an interesting area for nature



Books

Wildlife gardens, gardening, children in nature, etc.

- Beames, S., Higgins, P., Nicol, R.** (2012). *Learning outside the classroom*. Routledge
- Bradbury, K.** (2019). *Wildlife gardening*. Bloomsbury Publishing
- Cornell, J.** (1979). *Sharing nature with children*. Island Press
- Danks, S.** (2010). *Asphalt to ecosystems*. New Village Press
- Filippi, O.** (2008) *The dry gardening handbook - plants and practices for a changing climate*. Thames & Hudson
- Hanscom, A. J.** (2016) *Balanced and barefoot*. New Harbinger Publications
- Latané, C.** (2021) *Schools that heal*. Island Press
- Robertson, J.** (2014) *Dirty teaching*. Independent Thinking Press
- Sobel, D.** (1996) *Beyond ecophobia*. The Orion Press
- Thomas, A.** (2010) *Gardening for wildlife*. RSPB



Wildlife

- Blamey, M. & Grey-Wilson, C.** (1993). *Mediterranean wild flowers*. Harper Collins Publishers
- Brock, P.D.** (2017) *A photographic guide to insects of Southern Europe & the Mediterranean*. Pisces Publications
- Burnie, D.** (1995). *Wild flowers of the Mediterranean*. Dorling Kindersley
- Calleja, E.** (2018) *Trees and shrubs of the Maltese Islands*. Nature Trust – FEE Malta
- Casha, A.** (2022) *Flora of the Maltese Islands*. Self-published
- Dijkstra, K-D. B.** (2006) *Field guide to the dragonflies of Britain and Europe*. British Wildlife Publishing
- Falzon, V.** (2017) *Ghasafar Madwarna*. BirdLife Malta
- Greenhalgh, M. & Ovenden, D.** (2007). *Freshwater life*. Harper Collins Publishers
- Johnson, O. & More, D.** (2006) *Tree guide*. Harper Collins Publishers
- Lanfranco, E.** (2015) *Wild flowers of the Maltese Islands*. BDL Books
- Lee-Mader, E., Fowler, J., Vento, J. & Hopwood, J.** (2016) *100 plants to feed the bees*. The Xerces Society
- Speybroek, J., Beukema, W., Bok, B., Van Der Voort, J.** (2016) *Field guide to the amphibians and reptiles of Britain and Europe*. Bloomsbury
- Sultana, J & Falzon, V.** (Eds) (1995). *Wildlife of the Maltese Islands*. Environment Protection Department
- Svensson, L., Mullarney, K., Zetterström, D.,** (2022). *Bird guide*. Harper Collins Publishers
- Tolman, T. & Lewington, R.** (2008) *Collins butterfly guide*. Harper Collins Publishers

Websites

Gardens

<https://gardenia.net>
<https://www.childrenandnature.org/>
<https://itl.org.uk/wp-content/uploads/2019/03/the-good-school-playground-guide.pdf>

Plants, pollinators, etc.

<https://maltawildplants.com>
<https://pfaf.org>
<https://www.life4pollinators.eu>
<https://www.ufz.de/spring-pollination/>
<https://www.inaturalist.org>
<https://www.picturethisai.com>

Blooming Schools Project Partners

BirdLife Malta	https://birdlifemalta.org
Friends of the Earth Malta	https://foemalta.org
Sociedade Portuguesa para o Estudo das Aves (SPEA, BirdLife Portugal)	https://spea.pt/en
Hellenic Ornithological Society (HOS, BirdLife Greece)	https://ornithologiki/en
St Nicholas College Dingli Secondary School	https://snc.dingli.skola.edu.mt
Station Europe	https://stationeurope.org
Agrupamento de Escolas de Portela e Moscavide	https://agepm.pt



BirdLife Malta was set up in January 1962 (as the Malta Ornithological Society) and is the oldest environment organisation in Malta. Its mission is the protection of birds, their habitat and biodiversity. To achieve these aims BirdLife Malta employs **research**, which includes a bird-ringing scheme and long-term seabird studies; **education**, especially through public engagement and its popular Dinja Waħda programme in schools; **advocacy** through lobbying for better legislation and enforcement, regular media presence and constant monitoring of hunting and trapping activity; and **habitat restoration and protection** through the management of nature reserves. BirdLife Malta is a Partner of BirdLife International.







As the natural environment shrinks around us, the need for people to reconnect with nature becomes all the more urgent. The earlier this process begins the better, which is why schools can play an important role in this regard. An excellent way to go about it is to have a wildlife garden within the school grounds, where children and adults can visit and commune with nature every day.

This guide shows the way to go about it.

The Partners

