



## B4.1 Getting started with plants



Growing food is exciting and endlessly rewarding, though getting started can be daunting! The following few pages answer the question that every gardener asks: “How do I give my plants the best chance of growing well?” For every topic there is an Activity suitable for pupils and the community (numbers 6-17). See the DVD.

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## B4.2 What is organic gardening?



Organic gardening recognises that all living things depend on one another, from pests and flowers to wildlife and soil – even us. We are all responsible for how we treat the environment and safeguard it for future generations. This manual explains organic gardening practices throughout, summarised below.

### What organic gardening involves

- Managing the soil in ways that develop and protect its structure, fertility, and the millions of tiny creatures for which it is home.
- Growing healthy plants free from artificial chemicals and pesticides.
- Attracting a diverse and plentiful wildlife community.
- Encouraging the reuse and recycling of items to promote sustainability and a healthy environment.
- The whole garden – flowers, trees, shrubs and lawns, as well as fruit, vegetables and herbs.

### Benefits of growing organic food

<i>Source</i>	Knowing where your food comes from.
<i>Fresh produce</i>	Fruit and vegetables don't come any fresher than when picked and eaten straight from your own garden. They're also better for you when fresh, as harvested produce loses nutrients as it ages.
<i>Healthy eating</i>	Pupils are more inclined to eat fruit and vegetables they have grown themselves. This helps to achieve a balanced diet with at least five portions of fruit and vegetables a day.
<i>'Better food'</i>	Growing organic produce can reduce consumption of pesticide residues and help avoid unnecessary additives.
<i>Save money</i>	Growing your own produce reduces your food bill. You can also save money by making your own compost from 'biodegradable' garden waste and vegetable peelings (see B5.7).
<i>Reduce food miles</i>	Growing your own produce reduces 'food miles', ie the distance food travels from where it is grown to where it is eaten. This journey releases a lot of carbon dioxide into the atmosphere that contributes to global warming and other environmental problems.



## Six essential ways to look after an organic garden

- 1** *Managing soil*      Develop a healthy, fertile soil - the basis of effective organic gardening. This involves getting to know your soil; regularly adding organic matter (eg compost); keeping cultivation to a minimum; growing 'green manures' etc. See B4.4 and A9.
- 2** *Using crop rotation*      Avoid growing crops in the same place each year. This is important to help prevent depletion of soil nutrients and avoid the build up of soil-borne pests and diseases. See Silver and Gold booklet.
- 3** *Managing pests and diseases*      Reduce pest and disease attack by growing strong, resilient plants and practising good garden hygiene. Also encourage natural predators and use barriers, traps and scarers. See B5.10 and B5.11.
- 4** *Controlling weeds; ground clearance*      Use biodegradable 'mulches' instead of weedkillers, eg newspaper with leafmould. Cover uncultivated areas with a green manure or light-excluding material. See B4.8, B5.9 and A14.
- 5** *Starting with good plants; growing media*      Use best practice by raising your own plants from organically grown seed and using organic growing media in pots and trays. See B5.2-B5.5 and A18-22.
- 6** *Working for conservation and the environment*      Reuse and recycle, eg collect rainwater; reduce your amount of watering; avoid wood treated with preservatives etc. Consider the environmental implications when choosing materials for hard landscaping and soil improvement. See B5.6, B5.7 and A10, 24 and 25.



<b>Activities on DVD</b>	A6 Organic gardeners do/do not game A7 Crop and family games
<b>Further information</b>	'Garden Organic Guidelines' (see DVD) Garden Organic <a href="http://www.gardenorganic.org.uk/schools">www.gardenorganic.org.uk/schools</a> 'Encyclopaedia of Organic Gardening' by Pauline Pears. ISBN: 1405308915



## B4.3 Where to grow plants



Good plants start with a good location. You'll need a site convenient for the school and one where plants will do well. Use this 'checklist' to review the benefits of each possible site and how well it meets your needs, short-listing locations as you go. If you already have a site in cultivation, use this checklist to help plan future use and development.

### Checklist questions

This checklist is a guide and there may be other factors to think about. See checklists in A8 and T5. Remember that almost any growing site can be improved!

#### I The basic needs

**Site access** Who owns the site and can it be used for growing year round?  
Are there appropriate security measures, eg gates or open access?  
Can vehicles reach the site for deliveries, eg compost?  
Can people with special educational and physical needs access the site?  
What features surround or overlook the site? What impact might they have, eg busy road?



**Safe access** Is the ground safe to walk on and use wheelbarrows?  
Are existing garden structures safe, eg sheds and greenhouses?  
How safe are overhanging trees? Consult your local council tree officer if unsure.  
Is there an up to date risk assessment? See A5.  
Are there signs of animal or human activity? What are the impacts or remedies, eg rabbits, vandalism?



**Enough space** Is there room to grow everything you'd like to? Gardeners often outgrow their space quickly! Choose the biggest space you can, but don't grow too much too soon. Instead, start small and develop slowly into the available space.



**Stakeholder agreement** Has the school agreed the proposed choice, eg have staff, governors, caterers, pupils, etc been consulted?  
Have neighbours affected by your choice been consulted?  
Have you chosen a name for your site? If not, you could have a school competition.



## 2 Suitability to grow plants

- Aspect** Is the site sunny or shady and at what time of day? Sunny sites are better for growing the widest range of plants. Where does the sun rise and set? Identify north. What plants do/might cast shade and when? Can plants be sheltered, eg with windbreaks such as hedges?
- Site history** Are there known diseases or persistent weeds in the soil that may affect new plants? Were fruit and vegetables grown on site before? Avoid growing the same crop in the same place year after year (use crop rotation; see Silver and Gold booklet).
- Soil condition (B4.4, B5.8)** Is the soil suitable for growing, eg fertile, not too compacted, moist but free draining? Even very poor soil can be improved given time (A9).
- Existing plants (B4.8, B5.9)** What existing plants or weeds could benefit or harm new planting? Native hedgerows attract wildlife, for example, but dry out soil and cast shade.



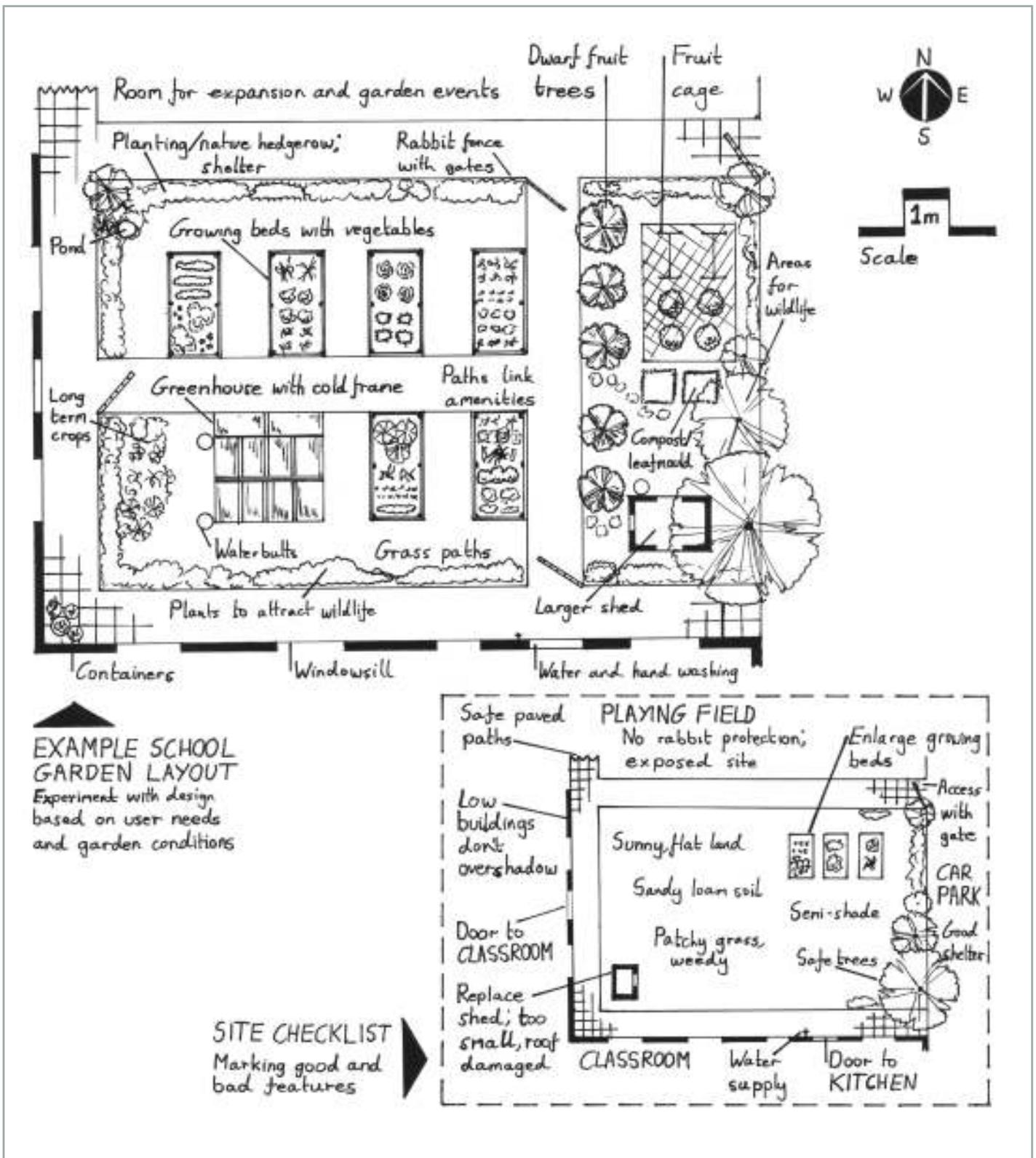
## 3 Available amenities

- Water supply (B5.6)** Where's the nearest water supply? Does it reach all parts of the site? Is the water supply on a meter and who pays? Are there opportunities to save rainwater instead?
- Existing structures (B4.9)** What's the condition of any sheds or other structures? Do they have/need a power supply? Consult a qualified electrician. Is there room for extra sheds, greenhouses or polytunnels?
- Path surfaces (B4.10)** Are any existing paths useful, eg in the right place and safe? Should they be moved and enlarged, or the materials used elsewhere?



## 4 Design the garden layout

- Draw a scale map** Mark the features you want to keep or remove. Add the location of preferred amenities and pencil in new features. Try using a computer for revising the design or sheets of tracing paper over a template outline. When designing your garden, slowly refine your needs by talking to the teachers, pupils and community. See example map on next page.



**Health & Safety**

Be careful when exploring possible growing areas. In particular, look out for prickly plants and weeds, wet soil and pools of water, hidden objects in long grass and damaged garden structures.

See also *Health and Safety Guidelines (Section B3.3)*

**Activities on DVD**

- A8 Where to grow plants
- T5 Checklist for where to grow plants

**Further information**

Silver and Gold booklet

# B4.4 Building soil fertility



Well cared for soil is the foundation of organic growing and a priority for providing plants with fertility (B4.2). Together with A9, the below introduces how to develop your soil to grow healthy crops using organic methods. These apply whether growing in open ground or raised beds. There is also guidance on feeding plants.

## Step by step summary of soil care

Top tip



### Looking at soil

Soil is much more than dirt, but instead a living mass of organisms and chemistry that together provide plants with water, fertility and anchorage.

### 1 Understand soil

- Particles of weathered rock (soil 'texture'), mostly clay, silt and sand
- 'Organic matter' (turns into 'humus'), dead/decomposing plants/animals
- Living organisms, roots, worms, fungi, bacteria, other micro-organisms
- Air and water, in spaces between soil particles; drainage channels

The top layer of soil is most important for plants. This 'topsoil' has the most life and fertility - and where gardeners make the most difference.

### 2 Test your soil. Assess former cultivation (A9)



**a** Identify soil texture and main characteristics, eg drainage and fertility



**b** Estimate organic matter and living content



**c** Assess compaction and drainage (typical air and water content)



**d** Measure the relative soil 'acidity' or 'alkalinity' (pH)

### 3 Start building soil fertility. Develop its structure (A9)

#### Add organic matter

Eg two shovels of compost per square metre. Boosts fertility; adds air; encourages living organisms; improves drainage (clay soil) and water retention (sandy soil)



#### Digging over soil (B5.8 and A26)

Quick way of adding organic matter and horticultural grit; reduces compaction (adds air/improves drainage)



#### Alter soil pH

Minor shifts in pH are possible by adding natural substances, eg dolomite limestone. This helps prevent some plant diseases, eg liming deters 'clubroot'



### 4 Keep improving your soil

Continue adding organic matter annually and dig as needed (A9). Build and maintain soil fertility by using crop rotation and 'green manure' (Silver and Gold booklet).

### 5 Look after your soil once improved

Avoid wasting fertility and damaging soil structure, eg minimise cultivation (B5.8) and limit compaction by not treading on soil (B4.5).

## Typical soil

**Good** Mixture of different sized soil particles ('loams'), plenty of organic matter and living organisms. Water drains freely, yet soil is moisture retentive. Soil is fertile, with good air content (not compacted).



**Needs help!** Excess of one soil particle size, waterlogged or too free draining. Little organic matter and few living organisms. Soil has low or unavailable fertility. Compacted with little air. Often unimproved clay, very sandy soils, and those treated with a lot of artificial chemical fertilisers.



## Basics of feeding soil

Different soils need different fertilisers (A9) and crops vary in their needs (see crop rotation in Food Growing Instruction Cards and Silver and Gold booklet). Fortunately, adding organic matter such as well-rotted manure and home-made compost is a remedy for most situations.

These wonderful materials add the three main nutrients plants need. These 'mineral ions' are nitrogen (N), phosphorus (P) and potassium (K), known as 'NPK'. They are also a source of 'trace' minerals, eg zinc and iron. Importantly, organic matter also develops the soil structure and encourages living organisms.

## Adding more fertiliser

'Concentrated' fertilisers are widely available, but unlike organic matter, don't usually develop the soil structure. Instead they are best used to remedy specific nutrient deficiencies in the soil and for plants growing in containers. Those suitable for use in organic gardening include plant-based products such as comfrey liquid and animal based products, such as pelleted chicken manure or 'hoof-and-horn'. See Silver and Gold Booklet for further details.

Organic growing doesn't use artificial chemical fertilisers as their use doesn't support and enrich natural soil systems.

### Top tip



### The guiding aim

Create healthy, fertile soil using organic matter such as home-made compost. Reserve using concentrated fertilisers for meeting specific crop needs.



Mixing concentrated liquid fertiliser

### Health & Safety

Be careful when handling soil. Cover open wounds, wear gloves if necessary, and wash hands. Keep tetanus vaccinations up to date. Be aware that soil and organic matter can be dusty when dry and slippery when wet.

See also *Health and Safety Guidelines* (Section B3.3)

### Activities on DVD

A9 Testing soil and improving fertility

### Further information

Food Growing Instruction Cards  
Silver and Gold booklet



## B4.5 Growing in raised beds



Garden ‘beds’ are narrow strips of soil divided by access paths. They’re often edged or raised with wooden or plastic boards and can be used for growing on open ground and hard surfaces. This section looks at design options and the benefits and drawbacks of raised bed growing. A10 has building instructions.

### Design at a glance

- Height** Low beds around 15cm high with mounded soil. Sometimes edged to help keep the soil in place. Taller beds up to 60cm with edging; height useful when bending is difficult and for wheelchair users. Customise bed height to suit user age and ability.
- Length** 180-240cm is usual. It avoids walking too far to reach the other side of the bed and reduces the temptation to tread on (and compact) the soil by hopping across.
- Width** 90-120cm is usual. It avoids overstretching from the paths or having to tread on the soil to reach the middle.
- Paths** At least 30cm wide; 60cm for wheelbarrows and wider for wheelchair access. Paths of bare soil need regular weeding and can become muddy. Use grass or make paths with a bark chip, gravel, or paving (see B4.10 and A16).
- Edging** Plastic boards, stone, and wood not treated with preservative (see A10 for details).
- Shape** Usually rectangular, but design your beds to fit the space.
- Location** Can be built directly onto soil or a hard surface such as concrete/ tarmac. Beds are best in open sunny locations, ideally orientated north to south so plants receive an even amount of sunlight through the day. This also minimises shadows from taller crops.
- Soil** Low beds shouldn’t need extra soil after digging and/or adding organic matter (see A9 and 26). Taller beds will need extra ‘topsoil’ (see B4.4) from a spare pile in your garden or bought (around £80/ tonne; check quality first if possible). No ‘organic’ topsoil is available. Don’t fill beds with just compost as this will decompose, sink rapidly and dry out too quickly.
- Feeding** Feed using the same organic methods as for open soil, eg adding compost (see B4.4 and A9).



## Benefits of raised beds

### Gardeners

- Can look after plants and harvest whatever the weather using clean paths and without treading on the soil.
- Reach the soil comfortably from both sides, making it easy to look after plants.
- Easier to know where to walk, helping to avoid squashing plants and compacting soil.

### Growing

- Minimal soil compaction of air pockets and drainage channels (see B4.4). This improves yield and reduces the need for digging (compared with traditional plots that are dug yearly with soil trodden on to tend plants).
- Plants can be grown closer together in beds, often giving higher yields. The denser plant canopy also discourages weeds.
- Improve the drainage of 'heavier' wetter soils like clay (see A9).
- Soil improvement (eg adding compost) is concentrated on the growing area and not wasted on paths.
- Crop rotation is easier to organise when plants are in beds, ie growing plants in different areas of soil each year to avoid nutrient deficiencies and the build up of soil-borne pests and diseases. See Silver and Gold booklet.
- Easier to use crop protection methods such as cloches. See Silver and Gold booklet.
- The height of taller raised beds may help deter low-flying pests like carrot root fly.

## Drawbacks of raised beds

- Cost of materials and amount of work involved to make.
- Soil at the bed edges often dries out quickly, especially on 'lighter' sandy soils (see A9).
- Slugs have a habit of hiding at bed edges ready to eat crops.
- If beds are edged or raised, the design layout is relatively inflexible once built. The alternative to beds is growing plants in containers or using a flexible open soil layout without permanent paths.

<b>Health &amp; Safety</b>	Be careful not to trip over raised bed edges. Wooden edges in particular can be slippery when wet and may give splinters.  <i>See also Health and Safety Guidelines (Section B3.3)</i>
<b>Activities on DVD</b>	A9 Testing soil and improving fertility A10 Building a raised bed A16 Building a garden path
<b>Further information</b>	B4.4 Building soil fertility B4.10 Making paths and surfaces Silver and Gold booklet 'Growing Fruit and Vegetables on a Bed System the Organic Way' by Pauline Pears. ISBN 1844480127



## B4.6 Growing in containers



Many big or small fruit and vegetables will grow well in containers; anything from carrots to cucumbers and flowers to dwarf fruit trees. The trick is to experiment to see what grows best and always look after them. The confined space of a container means that plants depend on you for watering and feeding. All has planting technique.

### Choosing containers

#### Getting the best container size

Choose containers as deep and wide as possible, but still practical to fill with 'growing medium' (next page) and move when they're full. Smaller containers tend to dry out quickly and are less suitable for big plants as they limit root growth.

#### Choosing container materials

Try any new, reclaimed, or recycled material that is sturdy enough to hold the growing medium. Make sure it's frost proof and not contaminated with chemical residues, eg avoid tyres (see B3.3). Good options include wooden half barrels, old buckets; large plastic and terracotta pots; window boxes; and so on. Use your imagination!

#### Ensure good drainage

Drainage is critical. Water will otherwise collect at the bottom of a container and saturate the soil. The roots may then rot and the plants die. Add 1-2cm wide drainage holes if the container doesn't have any (at least five per 30cm<sup>2</sup>). Improve drainage by putting a 5-10cm layer of broken pots, gravel or grit at the bottom of the container. Broken-up polystyrene is a lightweight alternative and good recycling. Standing containers on 'feet' to lift them off the ground also improves drainage (bought or made from bricks).

#### Top tip



#### 'Container' or 'pot'

Pots are generally smaller and used for younger plants before 'transplanting' (A19, 21, 22).

Containers are basically large pots, but the term is used here to refer to final planting location.



Peppers and tomatoes suit 30x30cm containers



'Half barrels' suit runner beans plants and fruit trees



A layer of 'corks' (broken pots) improve drainage

## Container growing techniques

### Filling containers (See also A11)

Since containers are larger than pots and usually more permanent (a home to plants for months or sometimes years); they need a special 'growing medium'. The ideal mix combines the following.

- Compost, either home-made (B5.7) or bought organic, peat-free potting compost.
- Good quality 'topsoil' (B4.4), either bought or from a spare pile in your garden from digging out paths (A16) or a stack of rotted grass turves (A14).

The topsoil is fertile and moisture retentive, but alone compacts too much. The compost 'lightens' the soil and boosts fertility, but alone can dry out quickly and is difficult to re-wet. The soil also adds weight so tall plants are less likely to topple over in windy weather.

### Feeding plants in containers (See also B4.4)

As plants in containers are relatively restricted compared to plants in open soil, they benefit from added fertiliser (more often for hungrier plants; see Food Growing Instruction Cards). Try liquid organic feeds like 'comfrey'; either make your own (see Silver and Gold Booklet) or buy from the Organic Gardening Catalogue ([www.organiccatalog.com](http://www.organiccatalog.com)). For more permanent planting, like fruit trees, replace the top 5cm of soil annually with home-made compost ('top-dressing').

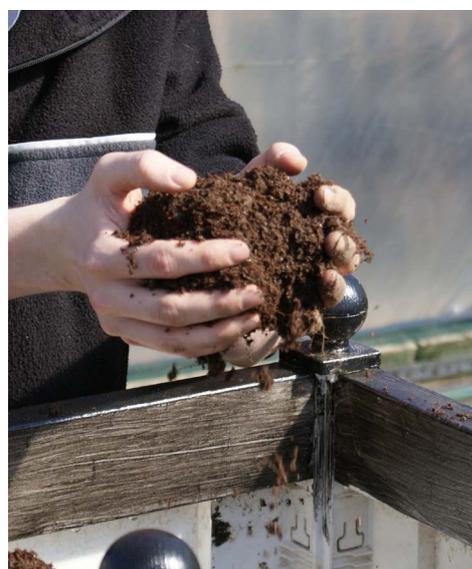
### Watering containers (See also B5.6)

Keep the growing medium in containers moist, but not wet. Water every day in hot or dry weather (often twice). Plants will also need more water when in flower or fruit and in windy weather.

Check whether you need to water outdoor containers even after rain, as dense foliage and 'rain-shadows' from buildings can stop water reaching them. Water under the foliage to reach the roots rather than leaves. Wet leaves can be scorched in sunny weather.



Mixing growing medium



Adding growing medium

<b>Health &amp; Safety</b>	Be careful when handling containers, empty and full. See Manual Handling and back care (B3.4). Follow safe practice for handling soil, eg cover open wounds; wear gloves if necessary; wash hands; keep tetanus vaccinations up to date.  <i>See also Health and Safety Guidelines (Section B3.3)</i>
<b>Activities on DVD</b>	A11 Planting in containers A12 Growing potatoes in containers
<b>Further information</b>	A9 Testing soil and improving fertility Silver and Gold booklet



## B4.7 Growing on a windowsill



A windowsill offers a wealth of opportunities for growing a wide range of plants. This invaluable ledge of narrow space is ideal all year round for starting off seedlings and growing smaller plants to maturity. The sunniest windows face south; north is shady, but a window facing in any direction offers opportunities.

### What to grow on windowsills

Grow any plants that appreciate the extra warmth are suitable for windowsills. It may be the only place you have to raise seedlings before they move outdoors (after ‘hardening off’ to acclimatise them - see A22). Windowsills also offer a permanent home for herbs such as basil. You could also try vegetables that like warmer growing conditions, eg tomatoes and peppers.

### Looking after plants on a windowsill

- Water windowsill plants just as you do for outdoor containers (B4.6, B5.6). In other words, only water as needed by the plant, keeping soil moist but not wet. The most common cause of death for indoor plants is overwatering.
- Keep plants from touching the window surface to avoid leaf damage.
- Because light only comes from one direction, plants tend to stretch towards the light. ‘Even-up’ the growth by regularly turning plants so the other side faces the light. See also Top tip (right).
- Stick a piece of plain white paper onto the window during the middle of the day to protect seedlings from getting ‘scorched’ by hot sun (especially if on a south facing window).

#### Top tip



#### Involving people

Run a ‘Grow food on your windowsill’ campaign, encouraging pupils to take home pots of seedlings and herbs for keeping or bringing back to the school garden. Invite parents to help.

#### Top tip



#### Deflecting light

Make a simple cardboard pot holder covered in aluminum foil to evenly reflect light so plants grow straight. See A13.

<b>Health &amp; Safety</b>	Keep plants on windowsills away from food preparation areas so that soil/compost and plant debris do not contaminate food.  <i>See also Health and Safety Guidelines (Section B3.3)</i>
<b>Activities on DVD</b>	A13 Making a light reflector A18 Sowing seed
<b>Further information</b>	B4.6 Growing in containers B5.6 Watering plants



## B4.8 Removing weeds and grass



Once you have chosen your site, you'll need to remove any weeds and grass before planting your fruit and vegetables. There are several organic methods for instant and slower clearance which don't use weedkillers ('herbicides'). These are shown below with further details in A14. For weed control tips after the first clearance, see B5.9.

### Removing weeds

*(ie any plant growing where you don't want it)*

Remove 'perennial' weeds by digging over the soil to lift out as much root as possible. These plants have thick (often deep) roots and can survive for several years. They include dandelions, dock and brambles.

Perennials can regrow from the smallest bit of root so you may need to dig two or three times to remove the regrowth - though you may never completely remove the most persistent perennial weeds (like bindweed and ground elder).

If there is time (and to avoid digging), cover the soil with 'light-excluding mulch' such as black plastic for 6-12 months (see A14). The weeds beneath die without light and leave the soil ready for planting after surface cultivation. You can even plant vigorous crops like potatoes and marrows through the mulch while the weeds are dying.

Remove 'annual' weeds by digging out with a garden fork or covering with light-excluding mulch for a few weeks. They have only small roots and the plants die after setting seed in the first year. Annual weeds include groundsel and chickweed.

#### Top tip



#### What to do with weeds

- You can safely compost annual weeds and the leafy part of perennials (see B5.7).
- Don't compost perennial roots as they will survive and grow when compost is used. Instead put moist roots in an old compost bag for 12 months to rot down before composting.
- Don't compost seed heads, as the seeds will survive and germinate when compost is used. Instead dispose of in municipal waste, a weed bag (above), or in a rough garden patch. Ideally dig out weeds before they produce seed.



Removing as much root as possible of perennial weeds Killing weeds by covering with a 'light-excluding mulch' Digging out annual weeds; roots left won't regrow

## Removing grass

Just like weeds, grass is easily killed by covering with a light-excluding mulch. Grass is also easily dug up using a spade to cut the roots beneath the soil surface. Lift and remove the grass as 'turves'. See A14 for techniques.

If grass is growing weakly and very patchy, it can be simply killed by digging over the soil to bury the plants (see A26). However, this doesn't work if the grass is vigorous, where grass left near the surface after digging is likely to quickly regrow. In this instance, remove turves or mulch as above.



Lifting turf in manageable pieces

### Top tip

#### Using turves



- Stack in a heap to rot down and produce fine soil ('loam') useful to mix with compost for 'growing medium' in containers (B4.6). Stack turves upside down, keep damp and cover with plastic sheeting for 6-12 months.
- Use to help fill taller raised beds (B4.5) or upside down at the bottom of a digging trench (B5.8).



## How much to remove

Only clear the space you need for the first year's fruit and vegetables. Any bare soil left unused will be quickly overtaken by new weeds. You can help keep the soil clear by the following.

- Sowing or planting newly cleared soil with crops as soon as possible.
- Hoeing as soon as weed seedlings appear (see B5.9).
- Covering with a light-excluding mulch (see A14).
- Sowing 'green manure' (plants grown to benefit the soil - see Silver and Gold booklet).

### Health & Safety

Be careful when handling weeds. Many have sharp, rough, or sticky growth and the rootballs can be heavy. Follow safety guidelines for garden tool use (B3.2) and digging (B5.8), together with Manual Handling guidance if lifting turf and moving wheelbarrows (B3.4).

*See also Health and Safety Guidelines (Section B3.3)*

### Activities on DVD

A14 Clearing weeds and grass

### Further information

B4.10 Making paths and surfaces

B5.8 Digging

B5.9 Weeding made easy

Silver and Gold booklet



## B4.9 Sheds and tool storage



A shed is a great asset in the garden. Big or small, they're dry hideaways for garden tools and gardeners alike. A few tricks can make using a shed - new or inherited - far simpler. Proper tool storage also makes life easier and extends the working life of your valued tools.

### Buying and using sheds

You'll probably only need a small shed, but buy bigger than you think you'll need. Extra storage space will always be helpful as gardening activities and events develop. Even small sheds can include workbenches for sowing seeds.

Look for a strong construction to withstand heavy use and all weathers. Weak designs are easily damaged and may flex and leak. Make sure any inherited sheds are structurally sound before use (see A15). Speak to the school's site manager about the security of the shed and for advice on construction and location.

You could even design and make your own shed. It's possible that a school supporter might donate or sponsor a shed.

### Tool storage

Store tools for safety and quick access. One of the easiest methods is to hang tools with handles on the wall with hooks or brackets. This leaves the floor clear from trip hazards and tools are easy to reach. Try boxes for smaller tools like trowels and lockable metal cabinets for more valuable items like secateurs. You may decide some tools are better stored in the school.

Clean off soil and plant debris from tools before storing. Clean any tools that have been used to work with diseased plants very thoroughly to prevent cross contamination. Wipe any metal parts with an oily rag to keep clean and free from rust. Store in dry place.

#### Top tip

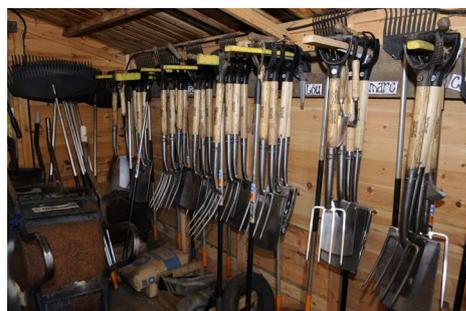


#### Wildlife

Sheds are invaluable habitats for wildlife. Look out for hibernating butterflies and nesting birds.



Keeping the space tidy for safe storage



Hang tools on hooks for easy access

#### Health & Safety

Sheds should be part of your garden risk assessment before use. Be careful of swinging shed doors and uneven surfaces in and around the shed.

See also *Health and Safety Guidelines* (Section B3.3)

#### Activities on DVD

A5 Garden Risk Assessment  
A15 Assessing and using sheds



## B4.10 Making paths and surfaces



Space for walking is as important as space for growing plants. You need a network of safe access routes all year round between garden features like sheds, water supplies, buildings, gates, compost heaps and growing area. Match the construction method and surface to your garden and users. A16 has building instructions

### Path and surface materials

#### Grass

Grass paths can be laid or made when digging new beds in a lawn. Like a lawn, they need looking after (eg watering, feeding, mowing, etc). Grass can die when trodden on too much and the surface may become muddy.



#### Bark chips

Pieces of bark are available cheaply in bulk. They are quick to lay in any shape and provide a dry surface unless the soil beneath is very wet. Bark slowly rots and needs topping up every couple of years, though less often when laid on a 'water-permeable membrane'.



#### Gravel

Gravel is available in different sizes and colours, providing an all-weather surface. It is reasonably priced and quick to lay in any shape, but its extraction/quarrying is not very environmentally friendly.



#### Paving

Paving includes brick, natural stone and concrete slabs. Paving creates all weather surfaces, but is more expensive, requiring proper foundations to be safe and durable. The extraction/manufacture is not very environmentally friendly; try reclamation yards.



<b>Health &amp; Safety</b>	Choose a surface that allows safe access for all users. If unsure about the construction, consult a builder. Follow Manual Handling guidance when moving bulky materials (B3.4). <i>See also Health and Safety Guidelines (Section B3.3)</i>
<b>Activities on DVD</b>	A16 Building a garden path
<b>Further information</b>	B4.8 Removing weeds and grass



## B4.1 | Holiday care of the garden



The school holidays can be a difficult time for garden care, particularly in summer in unpredictable weather. Some plants will run to seed if not picked; others produce giants (courgettes) or become coarse and tough (beans). In dry spells, plants can stop growing, or die completely. Weeds will also grow quickly. It's best to have a plan.

### Involving the community (see also B2.2)

Involve the garden club and community volunteers to create a rota for picking produce, watering and ventilating greenhouses. Volunteers are also helpful to keep on top of weeding. Have clear responsibilities among the group and a few contingency plans (see A17 and T6).

Your school may also have a caretaker and/or site management team who would be willing to help in the holidays. It's even better if some pupils and parents can continue to help with the garden, giving them the satisfaction of seeing the plants right through the season. Whoever helps, make sure they are thanked and recognised, maybe through the school newsletter and website.

### Harvesting (see also B5.12)

Ideally choose crop varieties that can be sown or harvested either side of school holidays. See Food Growing Instruction Cards and the Organic Gardening Catalogue ([www.organiccatalogue.com](http://www.organiccatalogue.com)).

Before a holiday, harvest all the crops that are ready. Others will last through the holidays if they were well cared for earlier and are growing well, eg pumpkins, potatoes and winter cabbages. Other crops will need regular attention, eg watering and picking tomatoes, courgettes and beans.



A rota for checking for pests and diseases (B5.10)



Checking quick maturing crops for produce (B5.12)



Potato plants in summer (Food Growing Instruction Cards)

## Weeding (see also B5.6)

Covering the soil surface with a 'mulch' is a great way to suppress weed growth by excluding light. Mulches include water-permeable membrane and thick layers (5-10cm) of organic matter such as leafmould (rotted leaves). Grass clippings are also useful, but don't use clippings from grass treated with weed killer. See A14 for details about different light-excluding mulches.

## Watering (see also B5.6)

Learn how to water plants during the holidays to get the best harvest with the least amount of time and water. For example, once young pea plants are growing strongly, only water after they start flowering to 'swell' the pods. Watering beforehand produces leafy growth without any increase in yield. By contrast, plants like Brussels sprouts rarely need watering once established unless there is prolonged dry weather.

When you do water, apply it where plants need it, at the roots. Water thoroughly, but less often. This discourages surface rooting that will be dependent on you for water and vulnerable to drought (far more than deeper roots). You can also conserve moisture using the same mulches as for weed control (above). Mulch wet soil to help 'lock in' the moisture beneath, watering beforehand if needed.

## Using green manures

Sow seeds of green manure if you have areas of bare soil, eg after harvesting crops.

These useful plants keep the soil covered to suppress weeds and conserve moisture. They also hold on to plant nutrients in the soil to stop them from leaching and improve structure and fertility when dug in.

See Food Growing Instruction Cards for example plants.



Mulching with leafmould suppresses weeds and conserves soil moisture



Green manure to protect bare soil between crops (see Silver and Gold booklet)

<b>Health &amp; Safety</b>	Ensure anyone helping in the garden during holidays is aware of school access and safety procedures and familiar with specific known hazards in the garden. Always inform the school site manager about what's happening.  <i>See also Health and Safety Guidelines (Section B3.3)</i>
<b>Activities on DVD</b>	A17 Holiday care of the garden T6 Checklist for holiday care of the garden
<b>Further information</b>	B5.6 Watering plants B5.9 Weeding made easy B5.12 Harvesting and storing Silver and Gold booklet School Term Time Garden Planner (part of the 'Food for Life Partnership Mark: an introduction pack')