

GROWING FOR THE FUTURE

love every drop!
anglianwater

A TEACHERS' AND CHILDREN'S GUIDE TO BUILDING A WATER SUSTAINABLE GARDEN



TEACHERS' BRANCH



KIDS' CUTTINGS



THANK YOU CHRIS

Anglian Water wishes to give a big thank you to Chris Wright from Roots and Shoots - Growing for the Future (Holt Hall Environmental and Outdoor Learning Centre, Norfolk County Council) for his invaluable contribution to the development of this pack.

 **Norfolk** County Council

WHY GROW FOR THE FUTURE?

Over the past few years, East Anglia has experienced very changeable weather patterns; droughts, floods and really heavy rain for short periods of time, which when combined with fluctuating temperatures have made growing our own food much more difficult.

THE CHALLENGES AHEAD FOR US ALL INCLUDE:

- Climate change - which causes extreme weather conditions (drought, flooding)
- Increased demand for water on an already limited resource
- Loss of land on which to grow food due to flooding and coastal erosion
- Increase in population.

THE NEED TO BECOME MORE SUSTAINABLE IS OBVIOUS.

'Sustainable gardening' is the idea of using gardening practices that cause no harm to the earth or its inhabitants. This means looking after your environment by:-

- Promoting water efficiency
- Promoting resource conservation (eg peat and minerals)
- Managing the soil
- Not using man-made fertilisers and chemicals
- Working with nature
- Reducing, reusing and recycling



Continued >

GET YOUR PUPILS GROWING THEIR OWN FRUIT AND VEGETABLES.

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GROW MORE OF YOUR OWN FOOD AND MAKE YOUR WATER COUNT

Currently a third of the World's population don't have access to clean water. With less than 1% of our planet's water being available for human consumption, using water wisely (reducing the amount of water we use unnecessarily) needs to become a priority.

Growing some of your own food is one way we can begin to reduce our water usage.

WHAT ARE THE REWARDS OF GROWING YOUR OWN FOOD?

- Fun, anticipation and a sense of achievement from simply planting a seed and watching it grow.
- Eating 'fresh from the garden' means all the nutrients, minerals and vitamins are fresh and intact, bringing increased health benefits.
- You know exactly what you are getting - the freshest seasonal produce available.
- It's better for the environment - no food miles and a lower carbon footprint.
- Growing your own is healthy - you're out in the fresh air, getting exercise.
- You can save money!

GROW YOUR OWN

One of the best ways to grow fruit and vegetables in a garden of any size is using the raised beds system. You can then grow the crops of your choice all the year around.

The picture below gives an idea of what can be created. Raised beds are very versatile and you can adapt the size, shape and depth to accommodate your own space.



The RHS three metre bed.

USEFUL LINKS!

Royal Horticultural Society
www.rhs.org.uk

RHS Campaign for School Gardening
<http://apps.rhs.org.uk/schoolgardening/>

Garden Organic
www.gardenorganic.org.uk

Food for Life
www.foodforlife.org.uk

Learning through Landscapes
www.ltl.org.uk

BOOKS USED IN THE WRITING OF THIS PACK

Gardening Without Water
 Charlotte Green

A Guide to Waterwise Gardening
 Michael Littlewood

Grow Your Own Veg
 Carol Klien

Sustainable Gardening
 Michael Lavelle

ACTION

GET YOUR PUPILS TO THINK ABOUT WHO MIGHT HAVE USED THE WATER BEFORE THEM AND PRODUCE A FLICK BOOK OR CARTOON STRIP.

SO HOW MUCH WATER DO WE HAVE AVAILABLE TO US?

We might like to believe that we have plenty, but try this practical demonstration with your class.



STEP 1

Take a bucket and fill it up to three quarters full of water. This represents all the water in the world.



STEP 2

Now cup your hands together, scoop them in the bucket so that they are full. This represents all the fresh (not salty) water in the world.



STEP 3

Now let this water drop back into the bucket. All the water left on your hands (which is not very much!) represents the water available to the world's human population for everything they need clean water for.

This demonstration is attributed to Henry Nicholls, University of East Anglia.

ACTION

GET YOUR PUPILS TO:

- CREATE A PIE CHART SHOWING THE TYPES OF WATER IN THE WORLD
- TO DECIDE HOW TO REPRESENT THE DIFFERENT TYPES OF WATER.

DID YOU KNOW?

97% of the world's water is salty
2% is frozen
1% is fresh

← START

TEACHERS' BRANCH

KIDS' CUTTINGS

← BACK NEXT →

WATER FOOTPRINTING (OR HIDDEN WATER)

Everything we eat, drink or use, takes far more water to produce than we think.



ACTION

GET YOUR PUPILS TO MAKE UP A QUIZ, OR POWERPOINT, TO EXPLAIN OUR HIDDEN WATER FOOTPRINT.

DID YOU KNOW?

TO PRODUCE:

- 1 litre of milk requires **1,000 litres** of water
- 1 kg of wheat requires **1,350 litres** of water
- 1kg of rice requires **3,000 litres** of water
- 1kg of beef requires **22,000 litres** of water
- To make 1 cup of coffee, **140 litres** of water is needed.

SO WHAT MAKES UP THE 140 LITRES OF WATER NEEDED FOR THE CUP OF COFFEE I'M DRINKING?

Water is used:

- To grow the coffee plants
- Process the coffee beans from the plant
- Package the product
- Ship it to the United Kingdom.

EACH OF THESE PROCESSES USES WATER WHICH HAS A COMBINED TOTAL OF 140 LITRES

140 litres is roughly the same amount of water as that used daily by an average person in UK. But if you were to add in all the hidden water, we would each consume approximately 4,645 litres of water per day!



If we import resources from other countries we are, in effect, taking valuable and scarce water resources away from them.

HOW PLANTS TAKE UP WATER

Plants, like us, are mostly made up of water; they also take in and lose water in different ways at different times of their lives.

Seeds need water to germinate. If they have too much they will rot in the soil; if they have too little they will not spring into life. Roots take up food (nutrients) from the soil and it is water that helps this happen. If the soil around the roots is dry then the plant will not be able to feed.

TRANSPIRATION

'Transpiration' is the name of the process where the plant lets out water through the leaves. Minute holes allow this to happen. This process also helps the roots to draw up water from the soil.

GETTING THE WATER RIGHT

When a plant is not taking in enough water to allow its normal processes to work it becomes 'stressed'. This is the same as when we get thirsty.

If this goes on for long enough, the plants transpiration processes are shut down and eventually the plant will wilt. Just like us, if we don't have enough to drink we would find it difficult to concentrate and become sleepy.

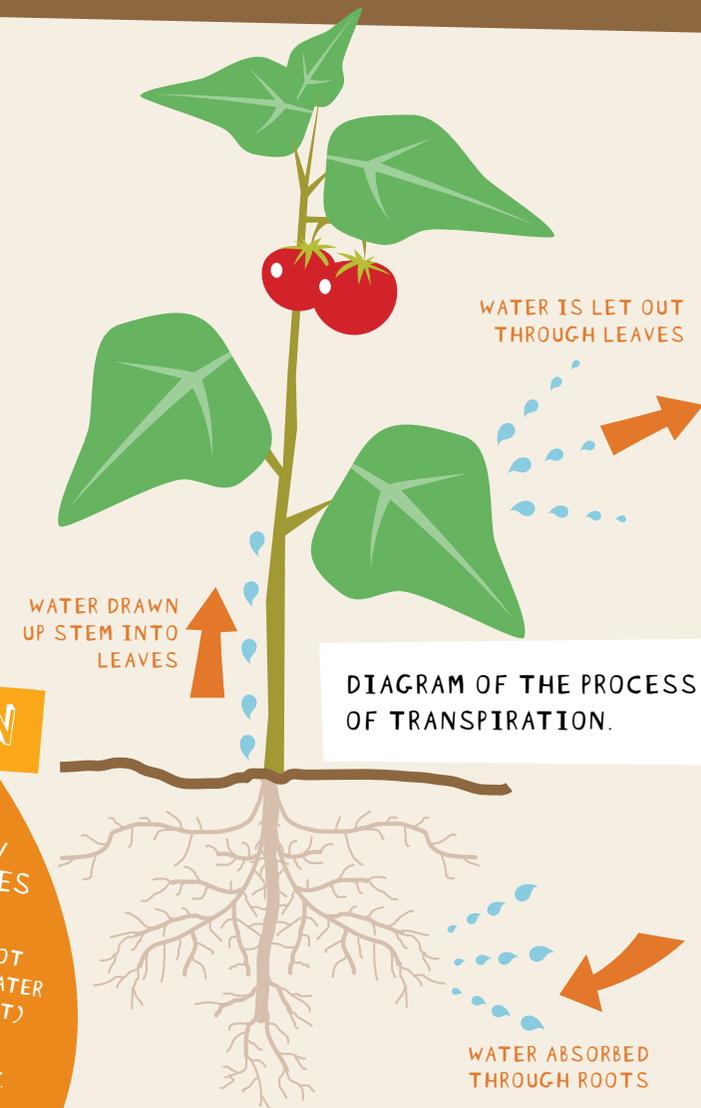
ACTION

MAKE SOME NEWSPAPER PLANT POTS.

- Cut a strip of newspaper 15cm wide. Layer 3 or 4 pieces together so you get the newspaper quite thick.
- Roll around a small bottle, making sure you leave 4 or 5 cm of paper at one end.
- Tuck the 4 or 5 cm on to the bottom of the bottle and then squash down hard.
- You should have a small pot.
- Try growing some broad beans, peas or sweet peas and investigate what happens if you give them varying amounts of water (5ml, 15ml, 30ml or none).

ACTION

SEE THE HOW THE PLANT TAKES UP THE WATER.
FILL A TALL NARROW POT WITH SOME COLOURED WATER (BLUE OR RED WORKS BEST)
PLACE SOME WHITE CARNATIONS IN THE POT.
OBSERVE OVER THE NEXT FEW DAYS HOW THE COLOUR OF THE STEM AND THEN FLOWERS CHANGES.



HOW MUCH WATER IS USED OVER A PERIOD OF TIME?



It's important to give your plants the right amount of water; here's how to do it.

ACTION

STEP 1

Clip together a series of guttering pipes with a slight slope towards one end. Make sure that the lowest point is still high enough to be able to put a plastic bucket underneath.

STEP 2

Using a hose pipe, allow water to flow down the guttering for 1 minute and collect the water in the buckets or similar containers. Measure how much water comes out of the hose in 1 minute.

STEP 3

You will then be able to calculate how long to leave the tap on for watering vegetables with a hose or watering can to give them enough water. Remember to check how much water your vegetables need.

(It is difficult to give exact amounts for watering satisfactorily, but this activity will show that if the hose is only on for a short period of time then a small amount of water will go onto the ground and will not give an adequate amount for the plant. By digging down into the soil or by using a metal skewer or probe, you will see how far the water has penetrated down into the soil.)



FLOW RATE

ACTION

STEP 1

Clip together a series of guttering pipes.

STEP 2

Make small holes in the pipes at regular intervals.

STEP 3

Balance them at a height suitable to put a bucket underneath each hole.

STEP 4

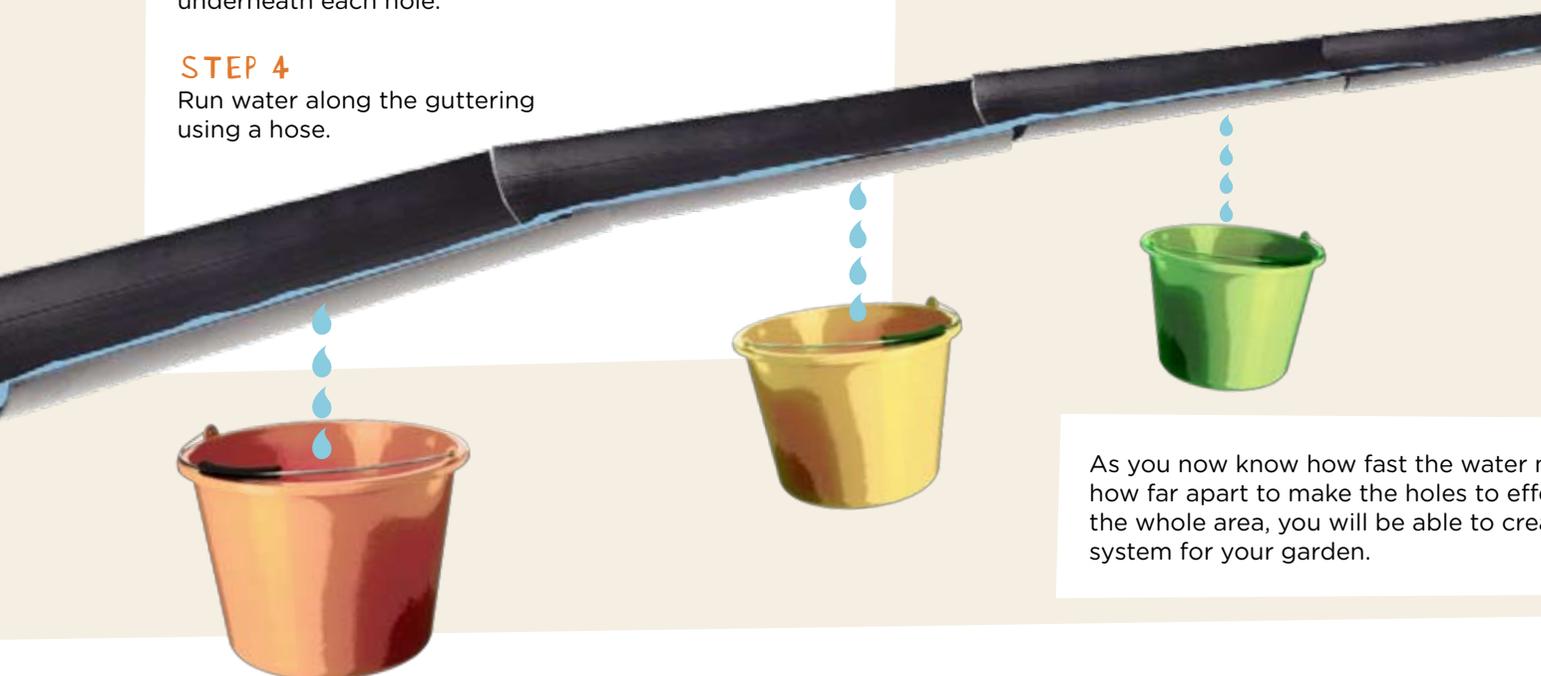
Run water along the guttering using a hose.

How fast do you need to have the water flowing to ensure that all the buckets fill up with water?

What happens if you change the size of the hole or change the distance between the holes?



Place soaker hoses under the ground, mulch or similar to reduce the amount of evaporation.



As you now know how fast the water needs to flow and how far apart to make the holes to effectively water the whole area, you will be able to create a soaker hose system for your garden.

← START

TEACHERS' BRANCH

KIDS' CUTTINGS

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DRIP WATERING

"I need to go away for the weekend and I have some valuable plants that I need to be watered while I'm away. There is no one available to water these plants for me. Somebody suggested that if I get a 2 litre plastic milk bottle, I can use this as a watering device."



Make a drip watering system using the following:

- One drawing pin
- One nail
- One dressmaking pin
- One 2 litre plastic bottle with lid.

Investigate how changing the holes affects the drip rate of your device. The hole or holes can be a combination of one or more of the above items, with the lid on or off, in any position you wish.



ACTION

1. Make a hole or some holes in your bottle.
2. Describe what you have done to your milk bottle, using illustrations if necessary.
3. Make a prediction as to how long you think it will take for your device (milk bottle) to empty.
4. Fill the device with water and carefully time how long it takes for all the water to be released. (Remember to collect the water in a bucket or jug so that it can be re-used.)
5. Repeat the experiment 2 or 3 times to make sure that your results are accurate.
6. Compare your results with your prediction.
7. Consider how you could alter the experiment to allow the water to be released more slowly. For example:
 - vary the number of holes
 - vary the size of holes
 - vary the position of the holes
 - have the lid on / off / or partially on
 - laying the bottle on its side.
8. Decide which variation gives you the best slow release of water.
9. Decorate your watering device with suitable paints and use it to water your plants.

WHAT THE WEATHER BRINGS

How much water do we get when it rains?
This will affect the amount of water you will need to water your plants.

- Position different containers around your garden to collect the rainfall.
- Measure the depth of water in each container. (This can be done using measuring sticks made from lollypop sticks).

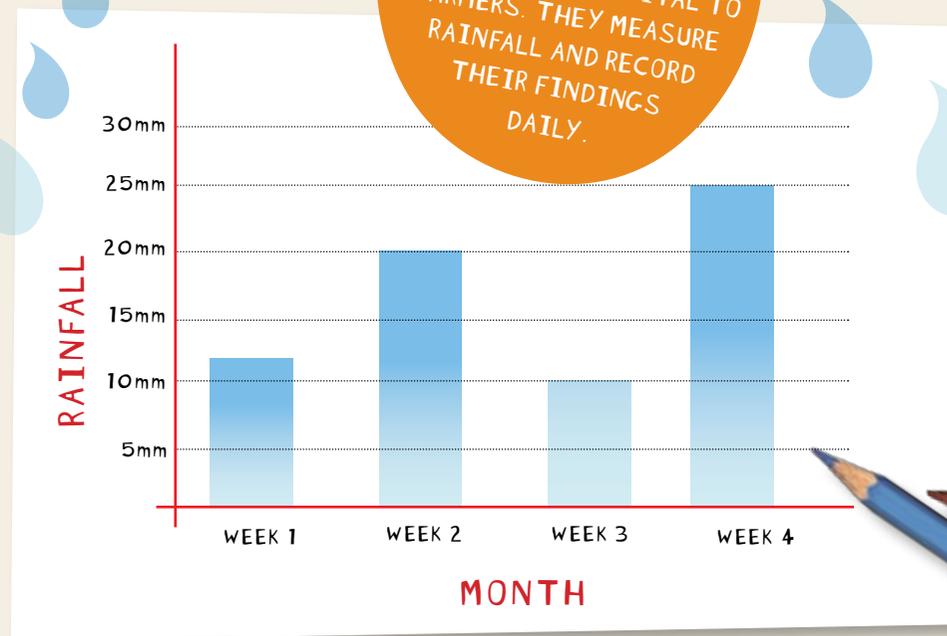
This will show how much rainfall different areas of the garden get.

Collect rainwater weekly for a month to help you calculate how much water your garden is receiving.



ACTION

MAKE A GRAPH TO SHOW THE RESULTS. THIS TYPE OF INFORMATION IS VITAL TO FARMERS. THEY MEASURE RAINFALL AND RECORD THEIR FINDINGS DAILY.



LET'S GET STARTED

One of the best ways to grow **FRUIT AND VEGETABLES** in a garden of any size is using the raised beds system. You can then grow the crops of your choice and grow vegetables all the year around.

RAISED BEDS ARE EASY TO MAKE AND EASY TO MAINTAIN

- Raised beds define the growing spaces, with access from the paths.
- Raised beds are easy to keep clean and untrampled so they are easy to maintain.
- The use of raised beds improves soil drainage, depth and warmth.
- With improved drainage, raised beds can be worked even on rainy days.
- Raised beds allow the soil to warm up earlier in spring and so crops will be available earlier in the year.
- 'Crop rotation' (the system of how you move the crops that you are growing around your garden to improve the soil and stop disease) is simple to practice and easy to plan using raised beds.
- Crops can be planted close together to give higher yields.
- Looking after the soil is easy as each bed is a separate area allowing better use of soil improvers such as mulch, manure, compost, etc.
- Easy to protect crops with netting and fleece.

Remember - raised beds dry out rapidly in hot weather, so will need to be monitored carefully to check whether or not your plants need watering. (see 'When to water')

For more information see Carol Klien's 'Grow Your Own Veg' book.



BUILDING A RAISED BED - STEP-BY-STEP GUIDE

You don't have to have lots of space to create a raised bed.

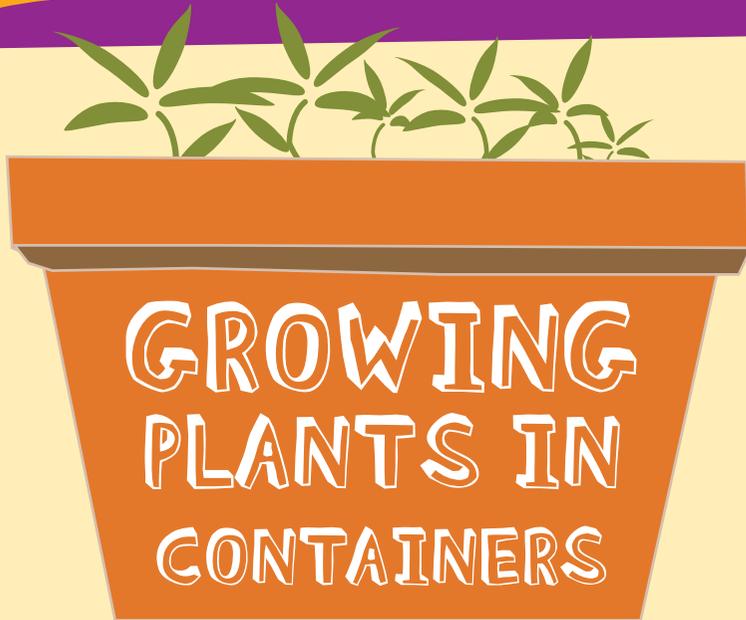
- Use reconstituted sleepers*, not traditional railway sleepers as they are soaked in creosote and phemaldehyde.
- Level or dig the sleepers into the ground and fasten them together with TimberLok screws.
- Add the next level on, making sure you overlap the joints and fasten that layer together.

The diagram illustrates the construction of a raised bed. It shows two layers of sleepers being joined together with TimberLok screws. The top layer is placed over the bottom layer, with the screws passing through both. The resulting structure is a rectangular frame.

- Line the bottom of your bed with plastic sheeting and puncture with a few holes to allow drainage. The plastic will also retain the water for longer, preventing the soil from drying out.
- Fill the middle with peat free compost or soil to level out the ground. Firm down the top and it's now ready for planting.

***If you prefer, you could use deck boards or treated wooden planks, cut to size.**

Continued >



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LET'S GET STARTED

If you haven't got space for a raised bed why not try growing plants in containers.



STEP-BY-STEP GUIDE

CONTAINER GROWING

STEP 1

Select your pots.



STEP 2

Line your pot with perforated polythene to limit the absorption of water.

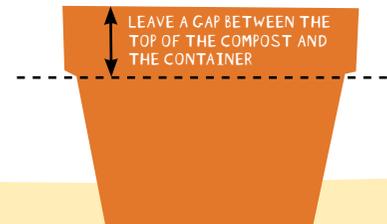
STEP 3

Fill the pot with a mixture of homemade compost and either shredded newspaper or water retaining gel beads (these absorb water and release it as the container dries out).



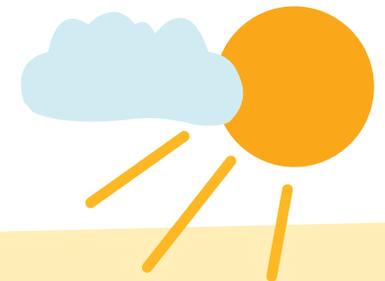
STEP 4

Leave a gap between the top of the compost and the container - this is known as the watering ring as it allows you to water the pot without it overflowing.



STEP 5

Group your containers together so that they shade each other which will stop them drying out so quickly.



HARVESTING YOUR RAINWATER

We live in the driest region in the UK. On average we get between 450 and 660mm of rain each year, so making the most of that rainfall by harvesting it is vitally important.

WATER BUTTS

Install water butts around your garden. They can be attached to any plastic downpipe. You can even add guttering and downpipes to your shed and place a water butt by it. They can also be lined up in parallel to increase the amount of water stored. For a demonstration of how you can fit your water butt, go to www.anglianwater.co.uk/install

GREENHOUSE WATER COLLECTION

Greenhouse water collection is an amazing way of collecting your rainwater from the roof of the greenhouse, and it also allows the water to be warmed by the sun. To do this you would need to set up a tank inside the greenhouse and a pipe bringing the water inside from the gutters. This was first done by the Victorians who put tanks underneath greenhouses and then pumped the water up to use it.



WELLS

If you are lucky enough to have an old well in your garden you could bring this back into operation. These can hold many hundred litres of water and you can 'plumb' them into the downpipes of houses, sheds etc.

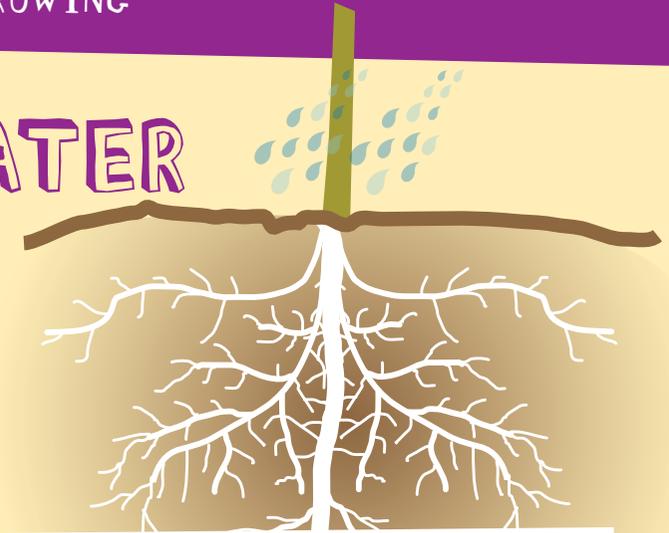


FOR THE REST OF US, THE USE OF A WATER BUTT, OR WATER TANKS, WILL HAVE TO DO.

A WATER BUTT CAN COLLECT
5,000 LITRES
OF RAINWATER FROM AN AVERAGE SIZE ROOF EACH YEAR.



MAKING THE MOST OF YOUR WATER



When you water plants and your garden, remember to **LOVE EVERY DROP!** As a general rule, every 10 square metres of vegetable garden will require about 6,000 litres of water per year. Make sure you water around the base of plants rather than just randomly across the soil surface.

You also need to make sure your soil is loose by regular hoeing. This will get rid of weeds that compete with your plants for the valuable water, food and light. It will also allow water to penetrate into the soil.



HOW TO CHECK IF YOUR PLANTS NEED WATERING

By digging down into the soil or by using a metal skewer or probe, you will see how far the water has penetrated down into the soil.

It is important to allow the soil to partially dry out between being watered. An easy way to judge this is to see how long the water takes to seep into the soil: if it lies on the top and takes longer than 15 seconds to disappear then the ground is probably wet enough.

If the ground is too wet you will just end up with water running off the top of the soil – a waste of valuable resources. However, if the soil is really dry and you water it too quickly it will just sit on the top and so you will need to water it slowly to allow the water to soak in.

WHEN TO WATER

The best time to water is late afternoon or early evening when the sun is going down. Watering at this time allows the plants to take up water with reduced evaporation rates from the soil.

The next best time is in the very early morning as the sun is rising. Late at night is best avoided as plants then stay wet all through the night, giving an increased risk of disease and going rotten.

You may also need to vary this depending on local conditions such as humidity and soil types; heavier soils will not lose water as quickly as lighter sandy soils.

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MAKING THE MOST OF YOUR WATER

DIFFERENT METHODS OF WATERING – WHICH WILL WORK IN YOUR GARDEN?

WATERING DEEP DOWN

Water new trees or larger plants through sunken plastic hoses, pipes, cut off plastic bottles or plant pots sunk into the ground. This will get the water down to the deeper roots, avoiding rapid evaporation.

**DRIP WATERING**

A further method of getting water to plants in small quantities over a period of time is to use a drip feeder. These are hoses that are attached to a battery timer which slowly feed the water to your plants.

**WATERING CANS**

If you water with a watering can, always use a 'rose' on the spout. Alter the position of the rose to direct the water flow. If the rose points upwards, less water will flow so that seeds and seedlings will not be damaged or washed away. If you point the rose downwards more water will flow.

**SOAKER HOSE**

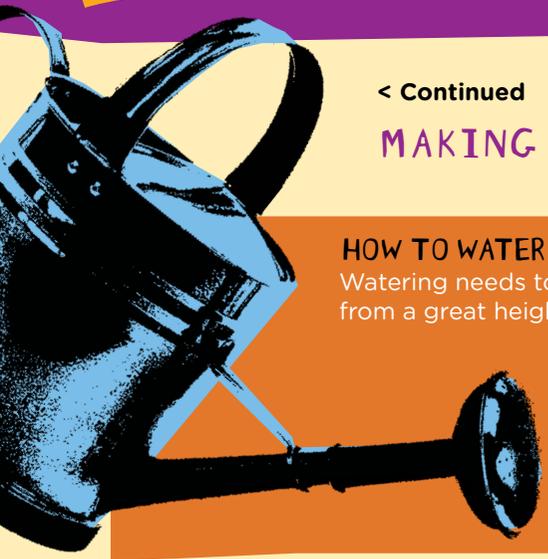
Another method of getting water to the base of your plants is to use a soaker hose. These allow water to seep out along a length of hose over a long period of time, ensuring the water has time to properly soak into the soil.

**MULCHES**

Mulches, loose coverings of material placed on the soil surface, help the soil retain moisture in summer. They also prevent weeds from growing and protect the roots of plants in winter. Straw, leaf mould, paper or cardboard (covered with grass cuttings) all make good mulches.



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MAKING THE MOST OF YOUR WATER

HOW TO WATER

Watering needs to be carried out carefully. If you spray water over the plant and from a great height as well it will cause damage to the plant.

Plants need varying amounts of water depending on how mature they are and if they are coming towards harvesting. Seeds and seedlings must not be allowed to dry out – they must be kept moist or they won't germinate or grow. However, too much water will also stop them germinating so be careful not to overwater them. They need to be watered with clean water to prevent disease affecting them. Clean rainwater is the number one choice.

THINGS TO THINK

ABOUT WHEN WATERING.

The time of day you water and the condition of the soil.

Be careful not to make the ground wet as if it is, it will attract insects such as slugs and snails that will thrive in damp conditions. If it is damp at night, vegetables might rot in the ground.

As a general rule, too little water and plants will be stressed and bolt (this is when the plant runs straight to seed with nothing to harvest). It can also cause powdery mildew and will not release nutrients or food in the soil to the root hairs. Too much water can cause the plant to put its energy into leaf growth, and will cause the yield to be less.

Plants to be transplanted need to be watered before they are planted out. A good soaking overnight before

transplanting, followed up with a further watering in their new home, will help them get established.

Good watering is dependent on the type of plant being watered, so get to know your plants.

WATERING PLANTS IN CONTAINERS

Use the 'finger test' to help decide if a container needs watering. Use your finger to scratch the soil away down to about 7cm, feel the soil to see if it is dry and if it is then the container needs watering. Terracotta pots can be tapped with your knuckle or a small wooden hammer while you listen to the tone of the sound. If it is a 'dull' sound this indicates it is wet enough, if it is a higher 'ringing' tone, then it needs watering.

Make sure that the water you give reaches the bottom of the container. If possible stand this on a saucer or tray that can hold a small amount of water, allowing the container to take some water up as it dries.

WHAT MAKES PLANTS HAPPY

Whether they are seedlings, young plants or those coming to 'maturity', ready for us to harvest the crop, plants want the following:

- Air circulating around the plant and in the soil
- Sunlight and the correct amount of room to grow roots and body
- Enough water but not too much that it will rot
- Soil and air temperatures that the plant likes (these can vary)
- The right food in the right quantity.





IT'S ALL IN THE SOIL



We have thought about where to grow, how to collect the rainwater and how to water, so now we need to think about the soil we have available.

The holes between the soil particles may be filled with water, air or food for the plant. For plants to be able to grow correctly, water containing food (nutrients) is needed near the fibrous root 'hairs' that grow along the sides and at the ends of the main roots.

THE BENEFITS OF ADDING HUMUS (DECOMPOSED PLANT MATERIAL)

Whatever type of soil you have, adding humus can have the following positive results:

1. Humus absorbs water and so helps keep the soil moisture levels high.
2. Humus improves the process of aerating the soil, breaking it up and improving soil drainage.
3. Humus-rich soil warms up more quickly in the spring.
4. Humus prevents the loss of nutrients from light soil.

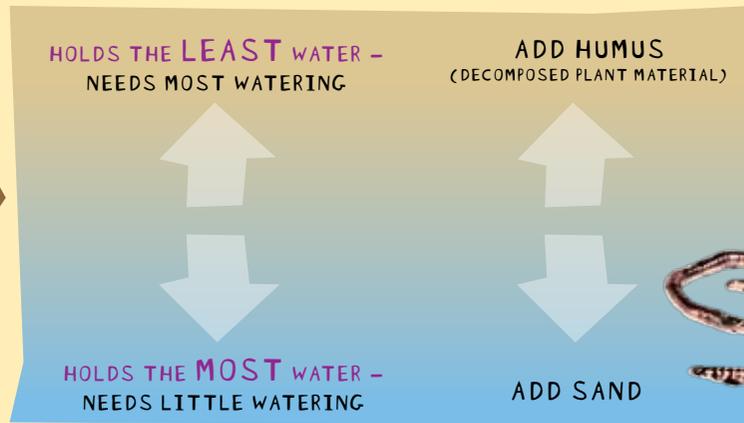
SOIL DRYING OUT

One of the problems with raised beds is that they dry out quickly. Therefore, to increase the amount of moisture retentiveness of the soil we can add materials that hold onto moisture such as:

- Shredded newspaper – putting a layer of shredded newspaper at the bottom of a trench will prevent weeds that would otherwise grow and use up valuable water. If you add shredded newspaper to the soil it will encourage worms that break up the soil and allow good drainage.
- Corrugated cardboard – putting a layer of shredded cardboard at the bottom of a trench will prevent weeds that would otherwise grow and use up valuable water.
- Leaf mould – this helps retain moisture in the soil by reducing evaporation. It absorbs rainwater so reduces run-off and in hot weather helps cool roots and foliage.
- Straw – straw encourages worms which break up the soil, improving the drainage
- Sheep's wool – sheep's wool retains water and releases it slowly back into the soil.

DIFFERENT SOIL TYPES

HOLD DIFFERENT AMOUNTS OF WATER



WHAT TO GROW

All types of vegetables can be grown in raised beds and containers - some are better suited to this than others.

VEGETABLES WHICH CAN BE GROWN IN RAISED BEDS AND OTHER CONTAINERS:

- Beetroots
- Carrots
- Cauliflowers
- Dwarf french beans
- Garlic
- Lettuce
- Onions
- Parsnips
- Turnips
- Radish
- Spring onions
- Swede
- Cucumber
- Broccoli
- Spinach
- Corn on the cob
- Pumpkins
- Peppers
- Chilli
- Potatoes
- Tomatoes

TIP:

Root vegetables such as carrots, parsnips and turnips are ideal for raised beds; just make sure your bed is deep enough for the roots.

COMPANION PLANTS

Companion planting is a method of growing plants where one plant provides some benefit to another plant.

Many plants have repellent properties to ward off pests and others help enrich the soil with nitrogen-fixing properties like members of the legume family (pea and bean). Herbs make good companion plants as do many flowers. Some plants may be used as 'trap' crops to catch pesky bugs like aphids, which can then be removed from the garden or treated with insecticidal soap. Flowering plants attract pollinators, which are always helpful.

SPACING YOUR PLANTS

When growing vegetables in raised beds and containers they are normally grown very close to each other. This requires the soil to be fed at more regular intervals compared to open ground. If beds need feeding, then an organic fertiliser, chicken pellet manure or blood, fish and bone meal can be used. We recommend a weekly feed starting in late March and finishing in mid-September.

ACTION

IF YOUR SCHOOL HAS A WORMERY, YOU CAN SAVE THE LIQUID, CALLED WORM TEA, AND USE THIS AS A LIQUID FERTILISER. DILUTE THIS TO PARTS WATER TO ONE PART WORM TEA AND WATCH YOUR PLANTS GROW BIGGER!

SPECIFIC WATERING REQUIREMENTS

Leafier plants (lettuces, spinach and chard) need more water.

Early potatoes will need watering continuously until harvesting; however, main crop or later potatoes do not need watering a lot until they come into flower - then they need watering continuously until they are harvested to give a good crop.

To water thirsty crops like courgettes, marrows and outdoor cucumbers make a 'bowl' shape in the soil around the base of the plant, with its rim higher than the surrounding soil and water into this.



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WHAT TO GROW

SPECIFIC FEEDING REQUIREMENTS

The feeding suggestions above will supply all vegetables with a reasonable amount of nutrients. Specific vegetables, however, do have different needs. If you have a very large raised bed (or are growing lots of one particular vegetable) you may want to consider how to feed specific vegetables differently. Below are some feeding tips.

CAN YOU FIND OUT WHAT THE PLANTS YOU WANT TO GROW NEED TO FEED THEM?



BEETROOT

This has no specific feeding requirements, stick to our suggest feeding advice above.



CARROTS

Replace liquid general purpose fertiliser with a tomato liquid fertiliser for better root growth.



GARLIC

If possible, slightly reduce the amount of feeding for garlic. When the cloves start to form it's also good to reduce amount of watering. Excess water on formed cloves can cause them to rot.



LETTUCE

Lettuce do not benefit from too much feed, it can cause the leaves to overgrow. So, if possible, reduce the liquid general purpose feeding from once a week to once a month. A twice-yearly feed of blood, fish and bone will provide the majority of nutrients a lettuce plant needs.



FRENCH BEANS

These have no specific feeding requirements, stick to our suggested feeding advice above.



ONIONS

Onions can be fed with wood ash, which is potash, two or three times during growing season.



RADISH

No specific feeding requirements, stick to our suggest feeding advice above. Radish tolerate lack of feeding better than most vegetables.



POTATOES

We suggest growing potatoes in their own containers. The best feeding regime for potatoes is a feed of liquid tomato fertiliser every two weeks.



PEST CONTROL IN RAISED BEDS AND CONTAINERS

All the normal rules for pest control apply when growing vegetables in raised beds and containers. However, protecting vegetables in raised beds from flying insect pests is especially easy. Use hoops made out of UPVC water piping as supports across the raised beds and drape protective lightweight horticultural fleece over them to cover the bed.

EXTEND THE SEASON

Because the soil in a raised bed and containers is higher than the surrounding soil it will heat up quicker in the spring. Combining this with good soil and a protective fleece will enable you to sow seed a good two to three weeks earlier than normal.

At the end of the season, cover the raised bed again with either clear plastic, corrugated plastic or even protective insect fabric. All of these will help to retain heat and extend the growing season by a few weeks.

LET'S GET GROWING



Growing vegetables is an uncertain art, subject to the whims of weather and local wildlife, but there are a few things you can do to ensure success when you direct sow seeds in your garden.

HOW TO PLANT YOUR SEEDS

- Seed packets will tell you when to plant and how deep to plant. Follow the instructions carefully to get a bumper crop.
- Some seeds require light to germinate, and prefer to be sown directly on top of the soil. Others need to be buried. Most people wonder 'how deeply do I need to plant them?' I have a good tip for you. In the palm of your hand lay out three seeds next to each other. The length of those three seeds is about the depth that you want to plant your seeds. That is a very general estimation, but it works for most seeds.
- Be careful when you are covering your seeds. You don't want to bury them too deeply so that the sun can't get to them.
- Next water your seeds. You do need to be a bit careful about how you water, though. A strong blast from the hose will either wash your seeds completely out of the bed or mess up the spacing if you surface-sowed them. Use a 'rose' fitting on a watering can to get a gentle flow of water for your seeds.
- Mark out where you planted your seeds by planting other quicker growing seeds in with them. It prevents you from mistakenly pulling what you thought were weeds but were your seedlings, and it lets you keep close tabs on how things are coming along.
- Know what your seedlings will look like. After they've germinated, it's often hard to tell a weed from say, a tomato. There are websites you can refer to, to see what certain seedlings look like, and some seed packets have photos or drawings on them as well. Knowing what your seedlings look like will not only prevent you from pulling them by mistake, but will also allow you to get rid of weed seedlings that will compete with your seedlings for water and nutrients.



SO ALL YOU HAVE
TO DO NOW IS TO
CHOOSE WHAT YOU
WANT TO GROW AND

GET GROWING