



ABERDEEN
CITY COUNCIL



How to build your Edible Green Wall

A TOOLKIT



1.0 Introduction

This toolkit is designed as a guide to building an Edible Green Wall.

1.1 What is an Edible Green Wall?

An Edible Green Wall is a different way of growing fresh produce that is gaining increasing popularity because it can be done in a small space. The 'garden' grows vertically either indoors or outdoors and can be created using re-purposed materials to grow a variety of foods.

1.2 Involvement of families and local community

Creating an edible green wall is an excellent way to learn to grow your own food. It can help establish better eating habits and build community relationships, while connecting with our natural environment.

Getting families and local communities involved will help ensure a successful project. There are several benefits for engaging with your family and/or local community groups. They include:

- Ensures wider participation, spanning across generations and cultures.
- Allows the school to forge links with local community groups.
- Can provide knowledge and experience to help with the edible green wall.
- Can provide assistance with maintenance through the year.
- Can result in offers for equipment.
- Creates a sense of ownership and responsibility.
- Can help prevent vandalism.

2.0 What you need

Materials:

- Clean empty plastic bottles¹
- Permanent marker pen
- Nails
- Sandpaper
- Plastic tape
- Scissors
- Gravel
- Potting compost
- Seeds or plants (e.g. herbs, vegetables and small fruits)

If attaching to a wall:

- Drill with small drill bits
- Wood planks for building a frame
- Screws/nails²

3.0 Getting Started

Start by thinking of where you want your edible green wall to be located. In doing so, you need to consider the following:

- **Can you reach it?** Make sure you locate your edible green wall where you can easily look after and water the plants.
- **Where will it be located?** Pick a good location as your edible green wall needs to be exposed to enough sunlight and protected from strong winds. Fruits and vegetables usually need at least six hours of direct sunlight per day for successful crops.
- **Is it near water?** You will need to water your edible green wall regularly, so make sure it is located near to a water source or that you can get water easily.
- **Is it getting enough nutrients?** Your garden will need the right soil texture and nutrients to produce.
- **What should I grow?** A variety of plants can thrive on an edible green wall but the amount of sunlight will be the greatest factor in determining what you can grow.
- **How do I attach it to the wall?** Consider location of drains and pipes etc. Your edible green wall will need to be located away from doors, heating, vents, hidden wires and fire exits. Also, consider the load bearing capacity of the wall.
- **Is it safe?** It is recommended to do a risk assessment to assess all potential risks before creating your edible green wall to ensure safety.

¹ For this project, 36 bottles will be used but you can use fewer bottles depending on the space you have.

² Size and length of the nails/screws will depend on the depth of the wall.

4.0 How to build your own Edible Green Wall

1) Collect and wash plastic bottles

Gather the plastic bottles needed for building your Edible Green wall. The number of bottles you need will depend on the space available.

Try to use bottles of the same shape and size. For this pilot two litre bottles will be used. It is recommended to use drinks bottle as they are made of stronger plastic.

Remember to keep a few bottles aside, as you can re-purpose them to use as funnels or scoops for planting and watering.

Remove all labels and wash the bottles in soapy water. Remove all bottles caps when washing but keep them as you will need to put them back on later.



2) Mark and cut circle holes in the base of the bottles

Mark circle holes at the base of the bottles and then cut out. The holes should be big enough to tightly fit the neck of bottles when assembling them. You may need to sand the holes to make them smooth. Adult supervision is strongly recommended.



3) Draw and cut rectangular holes on the side of the bottles

Draw vertical rectangular holes as shown in the diagram on page two on one side of the bottle and cut out with a pair of scissors. Please be careful when cutting the wholes as cut plastic edges can be sharp. Adult supervision is strongly recommended.



4) Pierce holes in the bottle caps

Pierce a 2mm hole in the centre of the bottle caps to allow for drainage of water. Adult supervision is strongly recommended



5) Assemble the bottles to create columns

Mount three bottles together to make a column. Thread the top of one bottle into the base of another then screw the caps back on the bottles to secure it and continue building to make a tower. If the hole at the base of the bottle is bigger than required, a piece of sticky tape can be used to further secure the neck of the bottle into place.



6) Attach the bottles to the wall

If attaching to a wall, you will need to attach the bottles securely on the wall first before filling them with compost.

For this pilot phase, wood planks will be used to make frames. The assembled bottles will then be nailed to the wooden frame before attaching the frames to an existing wall with flat head nails.

Note: You may need to seek appropriate permission in order to attach your edible green wall to an existing wall. Adult supervision is strongly recommended.



7) Fill the bottles with compost

Fill the neck of the bottles first with a little gravel³ through rectangular holes by the side. Then, add some weed and peat free potting compost. Press the potting compost in lightly.

It is recommended to use potting compost rather than top soils as they are better at retaining moisture as your plants have limited space in their containers.



³ Make sure the gravel is not made up of limestone as this will impact on the success of your plant. The gravel needs to be pH neutral. For example pea gravel or aquarium gravels.

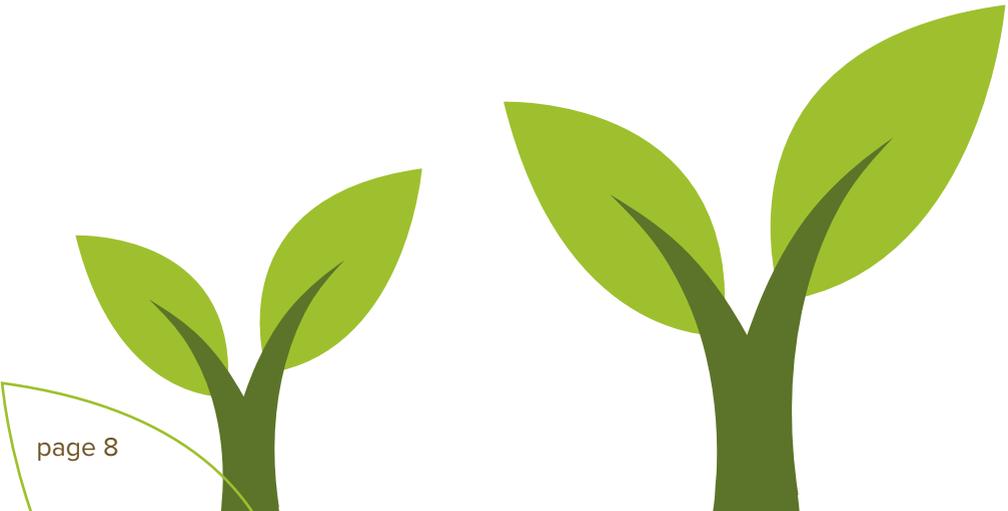
8) Planting

Carefully plant the seeds by pressing into the potting compost⁴. For transplanting, remove the plants from their growing pots; dig a small hole in the potting compost and plant. Ensure the plants original soil level in the growing pot is the same as those in the new environment it's been planted in.

Note: Trailing plants may reduce light to the lower layers therefore they should be planted at the bottom layer of your edible green wall.



⁴ Follow the instructions on the seed packet when planting your seeds.



9) Watering

Water your plants regularly as most plants like to be kept in a moist soil but not wet. To check if your plant needs to be watered, stick your fingertips into the soil up to the second knuckle, if your finger tip is dry, add water.

Water slowly and make sure the water gets to the roots of your plants. Also, make sure to check that the bottles at the lower level of your garden are getting enough water.

Note: plants in warm or sunny sheltered conditions will usually need more water.



5.0 Tips for maintaining your Edible Green Wall

- Your edible green wall could be wall mounted or free standing.
- Use good quality weed free and peat free potting compost
- If your garden will not get enough sunlight, think of planting shade loving varieties like spinach and lettuce.
- Check your garden regularly to remove any weeds, damaged plants or pests
- Consider how tall your foliage will be when fully grown. You may need to trim it to keep it within reach.
- Climbing vines of many vegetables can be thorny so remember to protect your hands by wearing gardening gloves when harvesting your vegetables.
- Do not pull fruits and vegetables off the vines. Instead, use pruning shears to remove them.
- Remember to keep it small and simple.

6.0 Useful Information

This pilot phase is taking place in four schools within the localities of the regeneration areas. We aim to be able to use the lessons learnt during this pilot phase to inform the revision of this toolkit.

Let us know how you get on with building your edible green wall. We encourage you to share images of your edible green wall and your experience all through the process.

For further information contact us on ecocity@aberdeencity.co.uk

For more information

Contact us on ecocity@aberdeencity.co.uk

