

# A CELEBRATION OF LOCAL WASTE REDUCTION PROJECTS



THE HANGING  
GARDENS



 LONG MAY WE  
**REDUCE**  
**REUSE**  
**RECYCLE**



CRONFA  
GYMUNEDOL  
COMMUNITY  
FUND

## An Introduction

The Hanging Gardens is a place where we aim to include every member of our community in the hopes that they feel welcome and at home. Our strength is in our diversity. The main aim for this new project was to fill the space with events, workshops and activities organised by many different groups to inspire and celebrate the vibrant energy of our unique area and community.

The Hanging Gardens placed itself as a hub of creative and regenerative practices since it opened in June 2021. Close to our hearts are two policies of the Welsh government: The Wellbeing of Future Generations, and Towards Zero Waste. The Hanging Gardens are working to meet all points of these policies. During the initial year of being open dedicated groups focused on waste reduction used the space for activities such as puppet making, using up-cycled waste materials to animate stories, creating a lively atmosphere for children, family, and adults. 2 Terracycle™ were placed on site to further reduce waste by collecting rubber washing-up gloved and water filters. The space was also host to community meals which drastically cut out food waste from meals.

To further these projects we secured funding in March 2022 from the National Lottery Community Fund. This funding has helped us to further and expand the waste initiatives already present in our town. During this project we have worked with Zero Carbon Llanidloes, The Library of Things, Plastic Free Llanidloes, Powys Waste Management, Llanidloes Community Fridge, local schools, Cobbler's Tea Room and many more small businesses in Llanidloes to promote and facilitate community meals, events and workshops throughout the year.

With the help of these businesses, volunteers, and the people of Llanidloes we have successfully achieved 70 activities which help us to reduce, reuse and recycle. The Hanging Gardens has truly been the heart of these activities with most workshops and events being held in the natural setting of our indoor garden. We have seen a variety of people, different ages and abilities, participate in these activities. Our eco crafting activities have encouraged people out of their homes post-Covid and given them knowledge on how to reduce waste but also reduce the amount of money they spend on purchasing new items instead of reusing them. Our events and school led projects have allowed us to involve the children of the community, who will be able to continue these ideals in the future.

This handbook is a collection of all that was achieved this past year by the Hanging Gardens and the partnerships we have created, new and old. Each page gives information about an activity that was completed and information about this activity so we may pass this knowledge on in the hopes that they may be used by everyone to reduce waste and work towards a plastic free world. We have given information and tips on how you may complete these activities at home or in your own community.



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# BUILDING





## 1 Salvaging Materials

### Description

Throughout the development of the Hanging Gardens, we have been restoring and renovating two centuries old community spaces. In doing this work we have used sympathetic methods to restore the buildings and have repurposed salvaged materials to build up other areas.

We have a weekly volunteer session which has been the time for most of the demolition, salvaging and restoration work.

Training and instruction were given to volunteers when starting a new task. We identified salvageable materials and how we would use them.

### Materials

Wheelbarrows, gloves, crow bars, lump hammers, safety goggles, saws.

### Evaluation

Many of the materials coming out of the renovation project have been repurposed. This has saved us a lot of money, and time. For instance, we have repurposed tongue and groove wall panels to make signposts for festivals and events. We have been able to use old bricks to form the foundations for a garden shed. Using this old material has also meant that our emissions footprint is lessened as virgin materials and delivery of materials is not necessary.



## Eco Bricks

### Description

Ecobricks are “plastic bottles stuffed full of inorganic landfill trash (plastic bags, wrappers, etc.) until they become compressed like bricks.”

Once compressed, these bottles full of inorganic matter take on the appearance of bricks. And they act like bricks, too, in that they are durable and can be used for building various structures.

### Materials

A large amount of plastic soda, or energy drink bottles (make sure not to use plastic water bottles. These are made of plastic that is much too flimsy to be a bottle brick)

Trash that is inorganic matter: plastic bags, straws, chip bags, wrappers, single-use plastic packaging, twist-ties, mesh, cigarette buds, dental floss, paper, stickers, receipts,

(You won't want to collect anything that is organic matter that can naturally break down or fermented creating gas in the bottle, such as food, earth...)

### Evaluation

Ecobricking is a simple way to take personal responsibility for our plastic by keeping it out of industry and out of the biosphere.

ecobricks keep plastic from degrading into toxins and microplastics and out of high-energy, high-emission industrial processes.

Making eco-bricks can be time-consuming and it is easier to think of it as a group or collective activity to achieve results more quickly.

The process of setting up is easy but requires space (storage, washing, drying) and some logistics to get started.

For more information visit [www.ecobricks.org/how/](http://www.ecobricks.org/how/)



One bottle brick can usually fit several weeks of plastic trash inside, so make sure to fill it completely.

Why not hold a litter picking event to collect materials for the brick filling



We built 3 compost bins to allow us to use them in rotation.

You will need one available while the other piles are resting.

## Wooden Compost Bins

### Description

Once the old floorboards of the chapels were ripped up we used them to build wooden compost bins around the back of the café. This would allow us to decompose food on site straight from food waste created by the café.

### Materials

We followed these instructions online to complete the compost bins with the help of volunteers [www.tinyurl.com/HGCompost](http://www.tinyurl.com/HGCompost)

- 1 saw • 1 drill • 1 measuring tape • 1 box of 2 inch wood screws • 1 box of 2½ inch wood screws • 1 mallet or sledgehammer • 4 metal fence posts with screw holes, 4 feet long • 1 staple gun and staples • 1 roll of 36 feet x 3 feet wire netting like chicken wire

### Evaluation

Creating our own compost bins has allowed us to create a successful circular environment where food is decomposed, used to feed the plants and vegetables in the community garden, the food grown is then used in the café and any waste is put into the compost bin.



## 4 Lime Plaster

### Description

Lime plaster has been used when for the walls of the Hanging Gardens Café. It is a completely eco-logical and environmentally friendly building material in terms of its production, use and afterlife.

In its production, the raw material is burnt at a much lower temperature than cement, therefore, making using considerably less energy. This makes it more environmentally friendly. It is also possible to produce lime on a small scale. Also, no pesticides are used, causing no damage to the air, water or soil.

As it is a natural material there is no danger of it producing damaging chemicals when used in buildings. This allows it to be used safely in areas near wildlife.

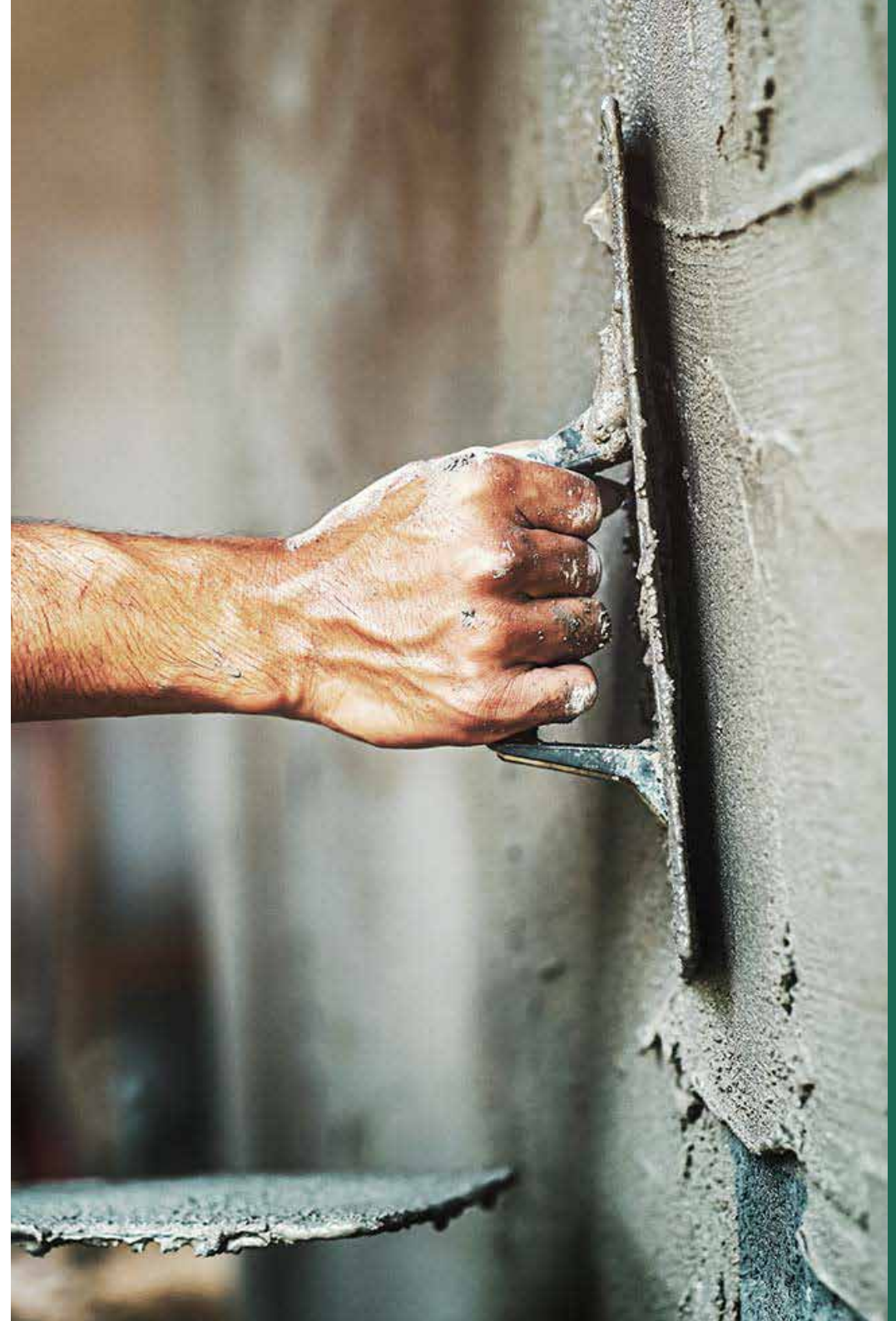
At the end of life, lime mortar is completely recyclable which makes recycling bricks, stone, and other natural hard materials so much easier.

### Materials

- Experience plasterer
- Lime mortar
- Water
- Sand

### Evaluation

The eco friendly benefits swayed our decision to use this when building the café space. We will continue to use this material during our restoration.





# CRAFT



# 5 Plastic Bottle Caps

## Description

During this project we have worked with Penglais High School. The students in the eco group are creating products to sell using plastic bottle tops. We have supported them in purchasing made to order specialist equipment to do this. They will then sell the products locally to raise money for eco projects throughout the school. They tested this method with tools you can find at home first! Which is easily accessible to us all.

You can create jewellery, keyrings, and badges at home, all you need is a sandwich press! This activity can only be used to melt HDPE (2) because this plastic melts at a low temperature. Providing you keep it below 180C, it will not burn or release any toxic gases.

There are many tutorials online which show how to melt the plastic and all the things it can be turned into. Visit [www.tinyurl.com/HGCaps](http://www.tinyurl.com/HGCaps) for more info.

## Materials

- Standard convection oven or toaster oven/panini press
- Greaseproof paper
- Heatproof gloves, such as Silicon gloves (avoid fabric materials as the melted plastic may stick to this)
- Mould/former
- Clamps (optional)

## Evaluation

By using HDPE and turning it into new, usable items we can avoid this plastic going into the ocean or anywhere else in nature. Penglais High School have been using the Brothers Make as inspiration for their project and these YouTubers have created tiles, hammers, gifts, pens, and tables. Which shows us that we do not have to throw these things away or make new plastic, we can continue to make new products with what we already have in the world.



All plastic bottles should be washed and cut up into small pieces to avoid build up of dirt.



Recycling old tents, plastic & vinyl is a great use of materials that still have potential. The time needed to process and clean such items is time consuming and should be processed as soon as it is acquired and stored, clean.

## 6 Kite Making

### Description

Three workshops were held at The Hanging Gardens to allow the public to partake in kite making for the upcoming Kite Festival. Two workshops were held at the festival site to accommodate approximately 60 children from the local primary school. Each child made a kite from recycled tent plastic sheeting and vinyl.

A kite template was made using old mount board, several people helped to cut out the fabric, old correx was cut into handle shapes. A prototype was made and tape was cut into manageable pieces and placed along the table allowing the children to have everything in one place and work step by step in an organised way.

### Materials

Old tents, plastic sheeting, vinyl, bamboo sticks, kite string, gaffa tape, old correx to make a handle, recycled mountboard to make kite templates.

### Evaluation

The results were excellent, the kites flew well. The workshops ran smoothly due to good preparation beforehand, i.e. several people cutting templates and having everything ready for use by groups of 10 children per hour.



## Windmills

### Description

Two workshops were held to make windmills as part of the Kite Festival. Recycled milk cartons were cut into square sheets. Slits and holes were made per instruction. Recycled wire and plastic tubing were used to construct the windmills, this was then attached to a bamboo garden stick using gaffa tape.

The windmill workshops were advertised on posters and on the Hanging Gardens website. I facilitated the workshops during the Kite Festival and it was open to all.

### Materials

Recycled wire, recycled milk cartons, recycled plastic tubes, gaffa tape and bamboo garden canes.

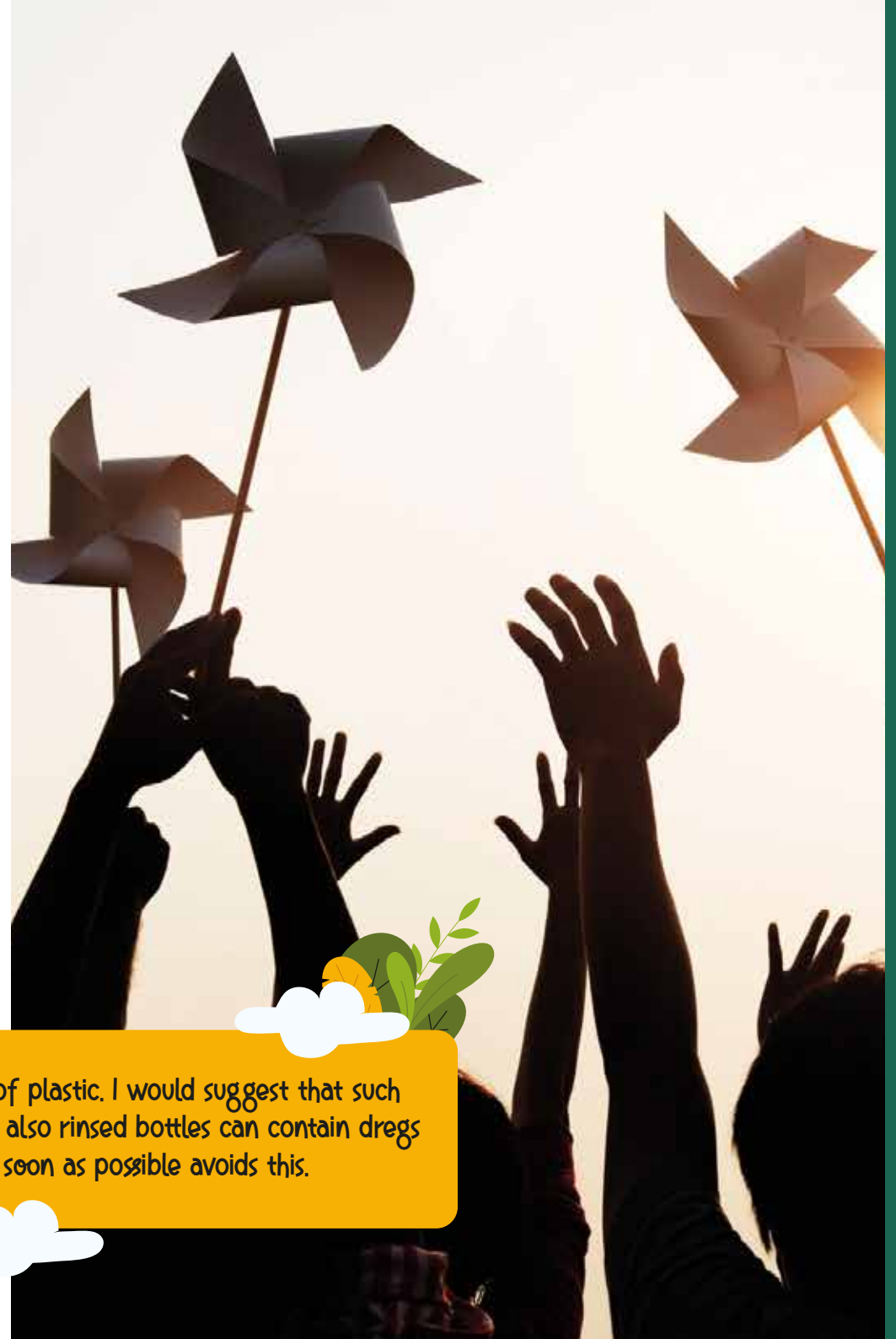
A prototype windmill was designed and made. Collecting, cleaning, and preparing milk cartons was done beforehand. The recycled wire and tubing were cut to the right size. Bamboo sticks and gaffa tape were purchased.

### Evaluation

The results were good, the windmills worked well. The smaller cartons were tricky to work with then the larger ones, the older participants managed better than the younger ones.



Re-using old milk cartons is a great way of extending the life of plastic. I would suggest that such material be cleaned, cut up and stored as processing takes time, also rinsed bottles can contain dregs of milk and can be quite smelly, cutting into sheets as soon as possible avoids this.





## Willow Crowns

### Description

During our Jubilee event children were given the opportunity to make their own, natural crowns during a Thursday workshop.

Willow branches were used to create crowns during this workshop. This is something that could be done during your next family nature walk.

Search for a willow tree. Look on the ground underneath the tree.

Make a loop with a long, bendy branch. Twist the ends of the branches around and around to make a circle. ...

Decorate your crown by weaving in colourful flowers and leaves.

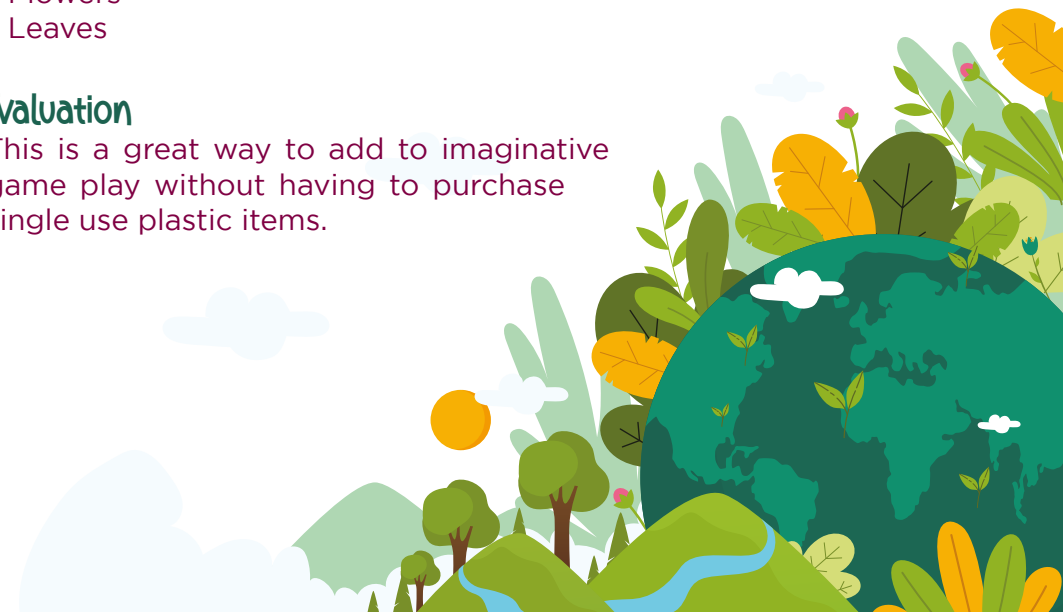
Once you have finished your game of Kings and Queens, unravel the crowns and leave them to decompose naturally.

### Materials

- Willow tree
- Bendy branches
- Flowers
- Leaves

### Evaluation

This is a great way to add to imaginative game play without having to purchase single use plastic items.



## 9 T-Shirt Capes

### Description

Do you have an aspiring superhero in your household and an old t-shirt? You can easily whip up a cape for your justice seeker and it does not require any sewing!

Lay the T-shirt flat and cut off the sleeves, then cut up the sides of the T-shirt. Lay the cut T-shirt with the neck band in the centre and the two halves flat on either side. Cut a cape shape by leaving one half intact and cutting around the neckband to create the neck of the cape. Now cut a large star or a lightning bolt shape out of the yellow felt and use your glue to attach it to the back of the cape.

### Materials

- 1 x large men's T-shirt
- Scissors
- 1 x A4 piece of yellow felt.
- Hot glue gun
- Paint
- Fabric scraps

### Evaluation

This activity is easily customisable as you can add any superhero logo onto the cape with fabric scraps or even paint.



## 10 Natural Dying

### Description

Using red and white onion skins to create a natural dye which can be used to dye light coloured material. The group soaked scraps of tied white linen in the dye to create tie dye head bands and handkerchiefs.

### Material

We collected scraps of linen and cut them to size. Elastic bands and onion skins were collected before the activity and stored in a dark cupboard.

About 25 onion skins (depending on how many items will be dyed), a large stainless steel pot with a lid, a bucket, stainless steel or rubber kitchen tongs, elastic bands, a hob, scraps of linen, cut to desired size, a drying rack, sewing machine, washing machine.

### Evaluation

This was a fun activity; it was a tactile craft without being too messy. The activity reused old linen as well as onion scraps. The session which we did the dying was too short to complete the whole activity, so the natural dye was made beforehand to ensure that the scraps would have enough time to soak. To make sure that the session was interesting, once the scraps were soaking the group also made another batch of dye - this allowed the whole group to see every step of the process.

The scraps we used didn't have hemmed edges, so once the dyed scraps were dry, they had their edges sewn to neaten them and prevent any fraying.

Only store the driest outer layer of onion skins, otherwise the collection will become mouldy.

To make a more aesthetically pleasing dyed piece of fabric we used elastic bands to create tightly bound areas on the fabric to keep the dye off them.

As the fabric dries the colour will lighten so keep the fabric in the dye bath for longer than you think.



# 11 Community Banners

## Description

A banner was made for the Pumpkin Festival, 2022. The banner was made to be carried in the procession to end the event. The two community banners made for the Pumpkin Festival 2021 were also shown again outside the Town hall and in the Hanging Gardens.

We asked volunteers to help make the new banner by either making squares at home or cutting and sewing.

in a group on Tuesday afternoons between 2pm and 4pm. The banner was around 2 metres wide and 1.5 metres deep. It was carried on a pole at either side.

We had 5 weeks to make and complete the banner. We needed to collect fabric in autumn colours, especially green. We did this by asking for contributions from the community.

The centre of the banner featured a large, patchwork apple and writing. The border was made up of squares of fabric of 15cm with a border of 1.5cm all around (total size of square needed was 18cm to allow for sewing together.)

See photo of template with measurements

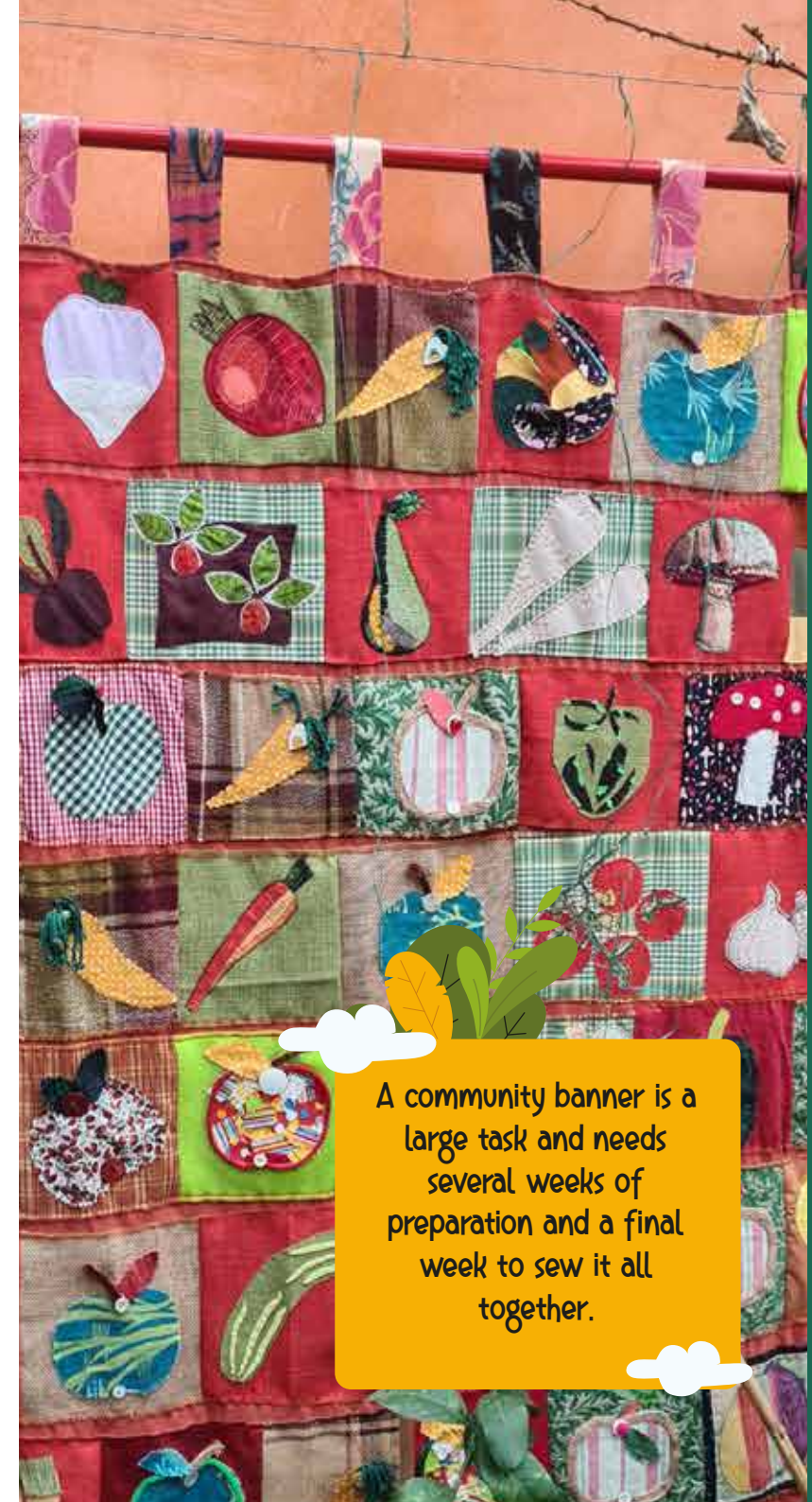
We allowed people to create the squares using fabric pens, embroidery, patchwork, appliqué and any other ideas they could think of.

## Materials

Donations of fabric • Thread, Fabric scissors • A plan • Measurements • Weekly workshops • Communication with the community

## Evaluation

Allowing a variety way that people could create the banner allowed us to create a beautiful banner which showcased a variety of skills. It was brilliant to have a final product which showcased on of the themes; community and also allowed us to reuse scraps and unwanted fabric.



A community banner is a large task and needs several weeks of preparation and a final week to sew it all together.





## Collaging

### Description

Re-using old magazine pages and images to create artwork. Blocks of colour from magazines were ripped out and organised into colours to be used by an arts and crafts group to form collages.

Prior to the activity, magazines were collected and stored.

Magazines were then dismantled into colour blocks, with torn out bits of colour arranged in piles.

Coloured paper was used as the template to create the collages on.

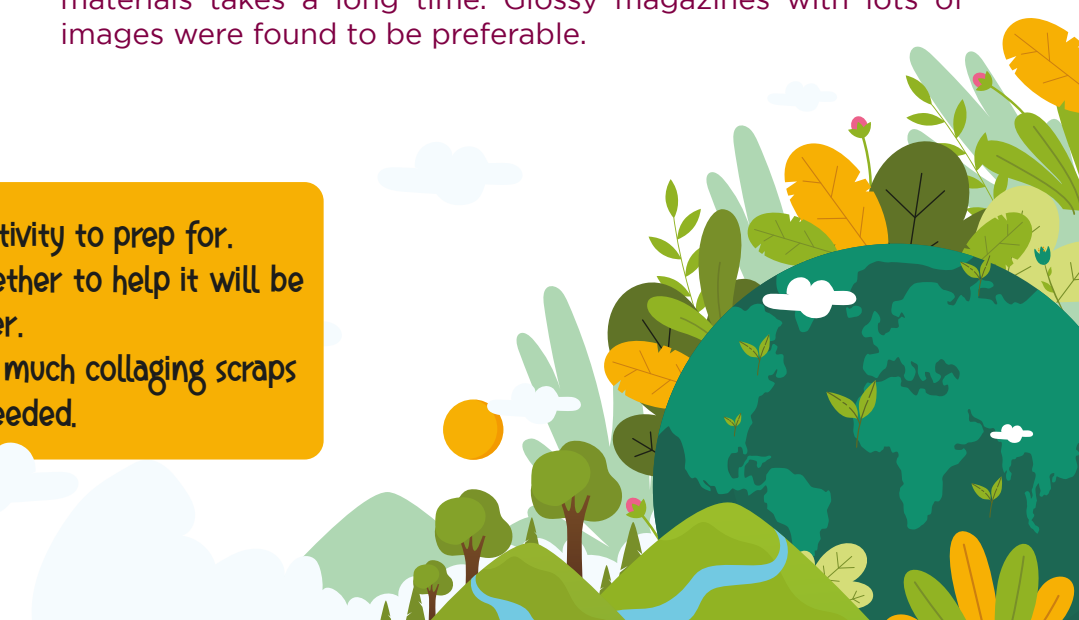
### Materials

Magazines • Scissors (optional) • envelopes (or similar)  
Coloured paper • Pritt stick

### Evaluation

Attendees found the activity to be fun however, preparing the materials takes a long time. Glossy magazines with lots of images were found to be preferable.

A time-consuming activity to prep for.  
If you can get a team together to help it will be quicker.  
Best to overestimate how much collaging scraps will be needed.



# Pallet Christmas Decorations

## Description

Volunteers created Christmas decorations from unwanted pallets and logs. A large Christmas tree decorated the front of the café and welcomed people inside and reindeer were made to decorate the inside.

It doesn't just stop at trees and reindeer; you can make a whole list of Christmas decorations; signs, snowmen, reindeer, tree decorations, etc.

## Materials

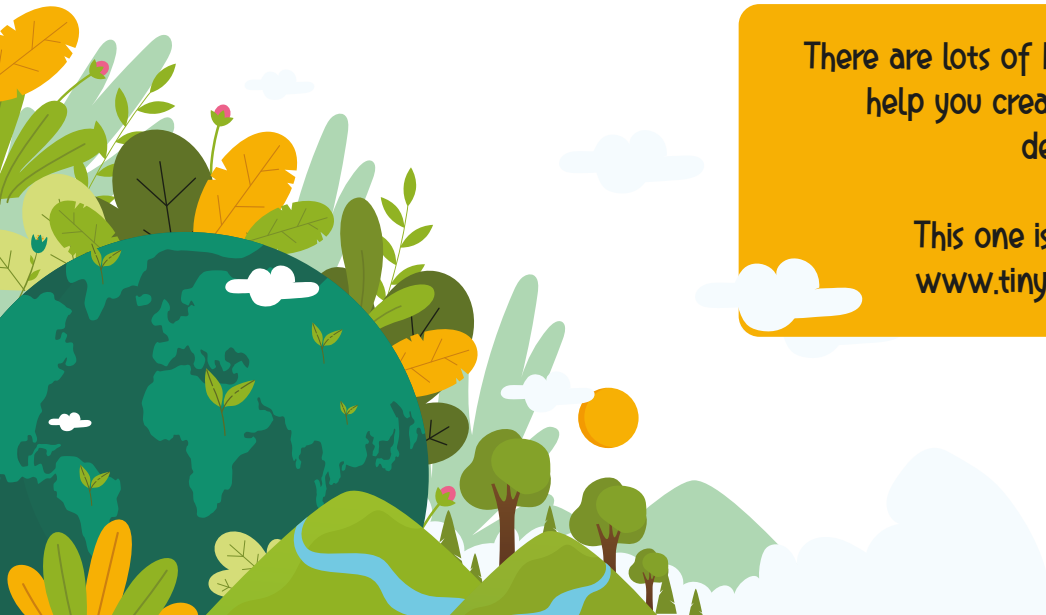
Unwanted pallets • Logs • Wood scraps  
Tools • Saws • Drills • Screws • Paint

## Evaluation

Our wooden decorations brought Christmas cheer to the café and those visiting. They are Eco-friendly and can either be stored for next year or be taken apart and used in a different way and reused again.

There are lots of helpful websites online to help you create wooden Christmas decorations.

This one is particularly good  
[www.tinyurl.com/HGPallets](http://www.tinyurl.com/HGPallets)





## 14 Cardboard Christmas Decorations

### Description

Cardboard is a great, affordable material to use for Christmas decorations. We used cardboard to create gingerbread houses that the public were encouraged to decorate which we then hung around the café.

There are many ways to use cardboard in Christmas decorating from tree ornaments, to banners, to even wreaths. They are simple to make, fun for the family and also help us to reuse cardboard waste we may obtain while ordering presents online in the build up to Christmas.

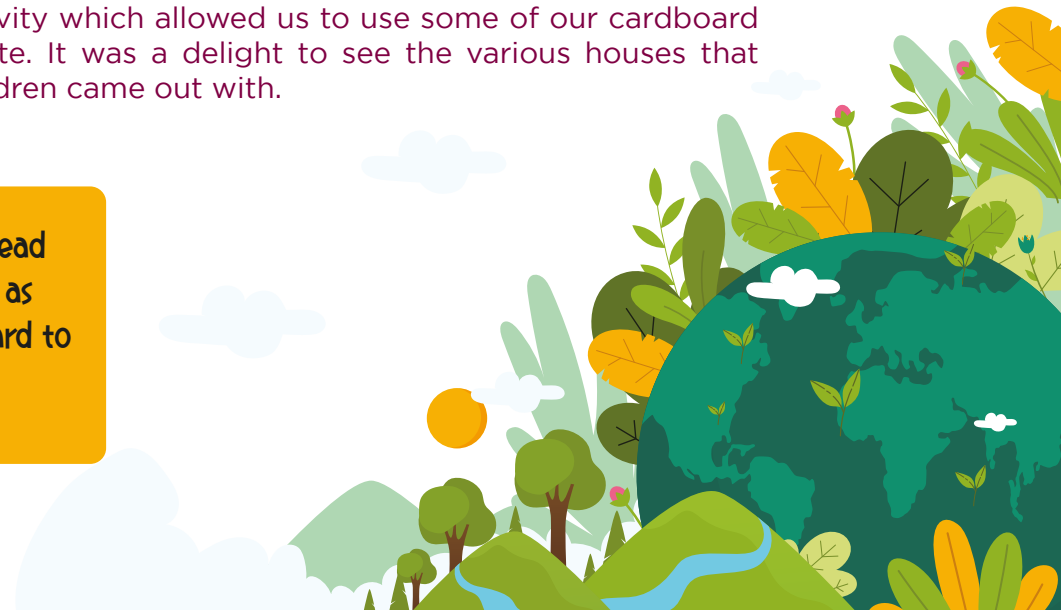
### Materials

- Unwanted cardboard
- Scissors
- Glue
- Pens

### Evaluation

Our cardboard Christmas crafting was setup in the seating area of the café near the children's books. This was a fun activity which allowed us to use some of our cardboard waste. It was a delight to see the various houses that children came out with.

We pre cut the gingerbread houses for the children as cardboard can be quite hard to cut through.



# 15 Paper Making

## Description

A free 2-day workshop focusing on the beauty of botanical paper making. Bring both creativity and sustainability together to develop new, invaluable skills. Participants used paper and botanical waste from the café and their homes to create beautifully conscious gifts and design. The workshop reduced waste, reused plants, and recycled paper.

No previous experience or skill base is needed for this workshop. It is suitable for all ages and creative levels.

## Materials

Mold & deckle, water tubs and felt sheets need to be prepared in advance. Botanical and paper waste needs to be collected and water and towels need to be laid out.

Mold & deckle • Water tubs • Felt sheets • Towels • Paper waste • Botanical waste • Water.

## Evaluation

The workshops outcomes were very successful with happy attendees who learnt the importance of creative waste management and conscious gift designs.

To improve for future workshops, it would be beneficial to develop mold & deckles for a more precise paper outcome.

A wider selection of all materials would also allow attendees to be more experimental and individuals with their designs, rather than having to share paper making stations in groups of 3-4.

Paper making is an adaptable activity for all ages, groups and circumstances, it encourages an enhanced connection to nature and its ecological properties.



## 16 Period Poverty

### Description

Collected worn out or torn garments, bed sheets suitable for the project (i.e. made of soft natural fabric) and old towels, which we turned into reusable sanitary towels.

Pads were sent to [www.therainbowlegacy.co.uk](http://www.therainbowlegacy.co.uk)

**Preconditions:** At least two participants must have some sewing skills and able to use a sewing machine. The use of an overlocker is preferable but not compulsory.

**Age group:** 16+ (use of sharp objects such as scissors and cutting wheels)

**Preparation:** The facilitator will need to prepare batches of pads at different stages, so that all participants have something to do right from the start of the workshop (2 hours+ of prep.) + arrive 30 mins before to set up the different workstations.

### Materials

Worn out or torn garments/bed sheets made of soft natural plant-based fibres (e.g. 100% brushed cotton, bamboo, hemp NO POLYESTER or POLYCOTTON). Fabric should be non-stretchy. Donated items in perfect conditions were handed out to charity shops.

Leakproof fabric: For hygiene reasons, this material must be brand new. We purchased the Repreve Recycled PUL, made from recycled materials, manufactured with no harmful chemicals.

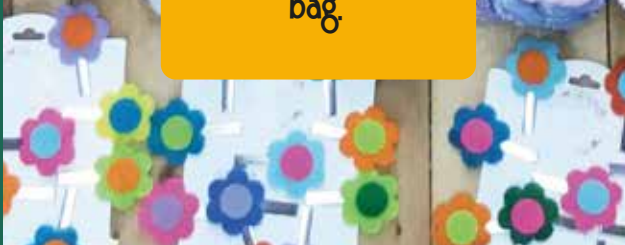
2 sewing machines and preferably an overlocker, cutting mats, scissors, notions (threads, needles, snap buttons, fabric pens, etc.). Cutting wheels are optional but preferable.

Templates for the outer layers, the inserts, and the pads.

### Evaluation

What works well: by allocating a task per person, even people with no sewing skills could take part. However, there must be at least 2 sewists per workshop.

The scraps of fabrics left from making the pads were used as a filler to make a fireless cooking bag.



# 17 Reusable Christmas Crackers

## Description

Making reusable and washable Christmas crackers using fabric and cardboard.

## Materials

Requires the use of a sewing machine.

Recommend: 1 sewing machine per 4 participants

- 1 x piece of fabric measuring 20in x 20in
- 1 x box of cereal (or similar packaging)
- 1 x 1/2" wide and 10" long sew-on Velcro strips
- 2 x rubber bands (preferably small)
- 2 x 12" long ribbons
- Paper tape

## Evaluation

Really fun and easy to make.

There isn't much sewing involved so those who can't sew can prepare the cardboard tubes - step 5 on the tutorial.





## Eco Present Wrapping

### Description

During the Christmas fair, we showed passers-by how to wrap presents using fabric.

Some research and practice are required prior to the event. There are many tutorials on the art of Furoshiki available on YouTube.

### Materials

Square pieces of fabric

Objects of different sizes and shapes: e.g. candles, bottles, books, chocolates.

### Evaluation

Practice at least 3 or 4 different ways of Furoshiki. Start with the easiest See which one suits you best.

Visit [www.tinyurl.com/HGFuroshiki](http://www.tinyurl.com/HGFuroshiki) for a tutorial



# 19 Up-Cycling Tents

## Description

Donated tents were used to create weatherproof drawstring bags which will be used to collect litter during community litter picks.

Sewing skills are required for this activity. To complete a drawstring bag, cut 2 long pieces of fabric from the tent material and one from the ground sheet for the lining of the bag.

Place the loop at least 2 inches from the bottom of one of the side seams. Sew the sides seams. We recommend French seams.

Fold the top of the bag twice (about 1.5in twice), to create a channel for the rope. Sew the seam, leaving a gap to feed the rope through.

## Materials

- Sewing machine and sewing skills
- Scissors
- Old tents and ground sheets
- Keep anything that might be useful to make loops
- Rope

## Evaluation

Although the bags were very easy to make, the tent material is not an easy fabric to work with, with a domestic sewing machine. Even with the use of a Teflon foot, it proves to be a bit tricky.

As tents are made from weatherproof material, they can be repurposed in many ways. Use them to:

- Protect your plants in winter
- Create your own gazebo
- Make ponchos
- Make a kite
- Use them as groundsheets or even use them to protect your garden furniture.

Some of these options do not even require sewing skills so please think twice before throwing them away or leaving them, abandoned at a festival.







## Displays By Local Artists

### Description

We invited Hazel from WhichHazel, a local crafter, to display her products at the Hanging Gardens café. Hazel up-cycles small, discarded objects. For example, she turns curtain rings into pin cushions.

We also have a space in the Hanging Gardens which displays local craft artists in hopes to encourage visitors to purchase locally crafted, recyclable, non-plastic items.

### Materials

- Communication with local waste reductive craft artists.
- A place to display work,
- Advertisements for any craft events.

### Evaluation

A very successful event. Customers who visited Hazel's stall found it very inspiring. We hope to continue to support small craft artists using the display space in the café. This will encourage people to purchase local, ethically sourced items.



## Up-Cycling Curtains

### Description

A workshop was held during our Creative Sessions for Parents, free of charge. This session focused on turning old curtains and fabric remnants into kids' drawstring bags. For the string we used either ropes or made long strips of fabric.

The bags were then donated to The Rainbow Legacy, who are currently building an education centre in The Gambia.

Curtains can be expensive, especially thick ones. Throwing them out is not good for the environment. Instead of throwing out these curtains, why not repurpose them? Here are some ideas on what you can create using old curtains:

DIY Bed canopy , Table Runner, Apron, Cloth Napkins  
Or even a fort for your children!

### Materials

- Curtains
- Sewing machine
- Rope
- Scissors
- Needle and thread
- Measuring tape

### Evaluation

The workshop was successful, and the group was grateful to learn a new skill. We ended up making 10 drawstring bags that will be able to be used by school children in Gambia.





## Stone Carving

### Description

Waste limestone from a quarry in Dorset was collected and used to make stone carvings with a group of young disabled people and older unemployed.

Tools used were all traditional hand tools such as chisels and mallets.

Before arranging this activity, you will need to; contact quarry to assess stone available, agree a time and drive to quarry, collect the stone and ensure all tools are to hand (stone carving tools are a specialist type).

### Material

- Slabs of stone – soft stone such as limestone is good for beginners.
- Sturdy table/plinth to work on
- Goggles to protect eyes.
- Gloves
- Old carpet to protect table.

### Evaluation

This workshop was successful and some lovely stone carvings were made. People learnt a new skill that can help them to create decorative pieces for their gardens.



# Bunting

## Description

Our volunteer group is currently working on creating bunting for our events from our donated fabric scraps.

Bunting is the perfect way to spruce up your home or garden, it's a wonderful choice for celebrations to. You can make bunting for parties, baby showers, birthdays or just every day. Seasonal bunting can always be made and then stored and reused year after year.

Bunting can be created using scraps as fabric as you only need roughly 15 x 15cm for each triangle. Using a variety of fabric adds to the colour and whimsy of the bunting.

You can use more than just fabric! Book pages and plastic bags can also be used. Using plastic bags means the bunting will be weatherproof and can be used outside.

## Materials

- Fabric scraps/fat quarters, book pages or plastic bags
- Sewing machine (optional)
- Needle and thread
- Scissors and pins
- Ruler/tape measure
- Iron & ironing board
- Pencil/fabric marker
- Cotton tape/wide ribbon/string

## Evaluation

Our volunteers are making this bunting which will allow us to easy access decorations during our community events throughout the year. Having handmade decorations made from recycled and repurposed materials means that these materials are not going to landfill and we also do not have to buy any, especially those made from single use plastic.





## 24 Glove Monsters

### Description

We were recently given a donation of old gloves which inspired the idea for 'glove monster'. We will be doing this workshop during our final event and introducing it to the Creative Sessions for Parents in the future.

Glove monsters and sock puppets are easily made and do not even require a sewing machine (you can hand stitch or use a glue gun). You can use gloves or socks missing their partners or slightly damaged (repair the holes by covering up with facial features). You can create facial features using your stash of buttons that most people have in their homes, from scrap fabric or felt. They can be stuffed with old bedding or even with unwanted fabric.

### Materials

- Old socks/gloves
- Buttons
- Scrap felt or material.
- Markers
- Wool
- Needle and thread OR glue gun (to be used by parents)
- Stuffing

### Evaluation

This is a create activity to do as a family which reuses old unwanted items instead of throwing them away. Instead turn it into a joyous memory and beloved childhood toy.



## 25 Creative Rubbish

### Description

When I was younger, I remember being encouraged to use my imagination to create worlds of monsters and creatures from my own home. When looking to inspire your kids' imagination why buy brand new paper and materials when you have a perfectly good canvas in your recycling bin. Plastic, cardboard, and glass are incredibly versatile crafting supplies and give an infinite number of uses, especially to young minds.

Plastic bottles can become flowers, toilet roll tubes can become binoculars on a safari adventure and cereal boxes can become friendly monsters.

We will be using a variety of these ideas during our final waste reducing event but why not try some at home?

Visit [www.tinyurl.com/HGCreative](http://www.tinyurl.com/HGCreative) for ideas

### Materials

- Plastic bottles • Jar lids • Cardboard tubes
- Cereal boxes • Unwanted issue paper
- Old wrapping paper • String/rope
- Pens • Paint • Glitter • Wool
- Any unwanted recycled materials, the possibilities are endless!

### Evaluation

Recycled and repurposed materials means that these materials are not going to landfill and we also do not have to buy any, especially those made from single use plastic.



## 26 Natural Dreamcatchers

### Description

A free workshop was held during August for kids. This workshop allowed children to create workshops from natural materials. This can also be completed at home.

The outside of dreamcatchers can be weaved using tree branches, you will need string for the middle and feathers, stones, shells or whatever fun things you find outside can be collected to add decorative elements to the dreamcatcher. The main element of the dreamcatcher does not have to be circular, it can be weaved into any shape you like as long as it has a centre.

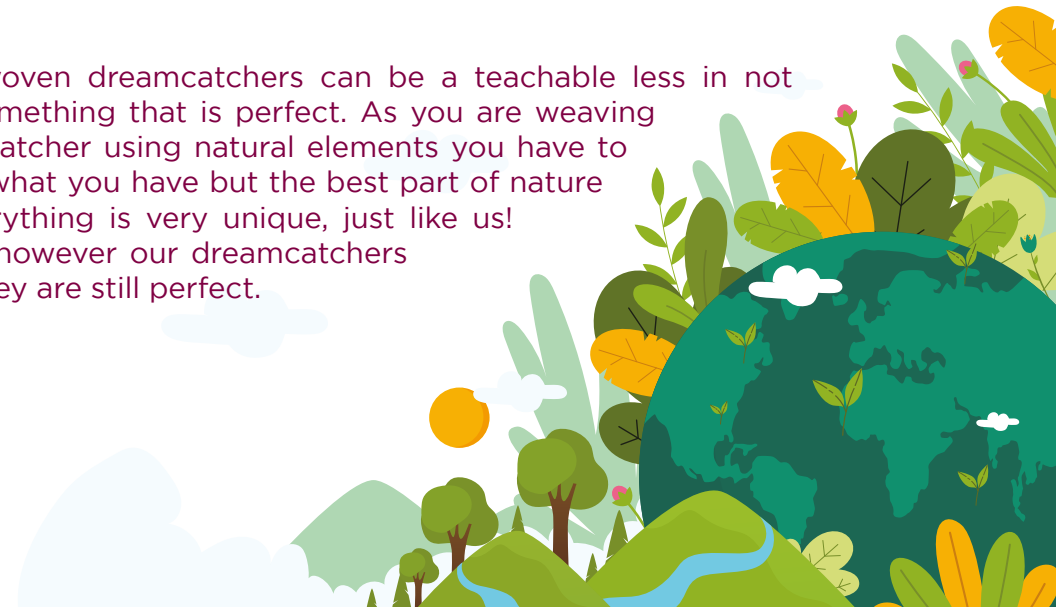
You can find instructions for weaving the centre of your own dreamcatcher online here [www.tinyurl.com/HGDreamcatcher](http://www.tinyurl.com/HGDreamcatcher)

### Materials

- Tree branches
- String
- Feathers
- Stones
- Shells
- Hot glue gun

### Evaluation

Naturally woven dreamcatchers can be a teachable less in not creating something that is perfect. As you are weaving the dreamcatcher using natural elements you have to work with what you have but the best part of nature is that everything is very unique, just like us! This mean however our dreamcatchers turn out, they are still perfect.



# 27 Natural Tie-Dye

## Description

During a summer workshop for children, we brought new life to white clothing by tie dyeing them!

To truly reduce waste produced by this activity you can use natural processes of dying.

You can create natural dyes by using the following plants and vegetables:

- Pink = Beets, Red onion, Strawberries.
- Peach = Avocado skins, Avocado pits.
- Yellow = Onion skins, Carrots, Turmeric.
- Blue = Black beans, Blueberries, Elderberries.
- Green = Grass, Spinach, Artichokes.
- Purple = Red cabbage, Basil leaves, Huckleberries

Chop your plant ingredients, cover with water, bring to a boil and then let simmer for at least 40 minutes, ideally several hours. Let them cool to room temperature and then strain out plant material and move dye directly into dye buckets, glass jars, or back into the saucepan/pot.

## Materials

- White clothing/fabric
- Dyes/bottles
- Items for natural dying
- Rubber bands
- Groundsheet
- Sink
- Washing machine

## Evaluation

Natural dyes are biodegradable, non-toxic, and non-allergenic. Provided they are processed in a way that avoids the use of harmful chemicals during the dyeing and finishing process, they have a much lower environmental impact than synthetic dyes. Even if you are using synthetic dyes for this activity, you can still bring new life to old clothes, instead of throwing them away which reduces clothing waste.



We suggest pre-washing the materials if you can, for sizing and to remove any dirt so that the dye saturates better (do not use fabric softener or dryer sheets, which can leave a residue). There is no need to dry your garment. You want the fabric to be wet (but not dripping) when you tie and dye.



# CRAFT/ENERGY



# 28 Draft Excluders

## Description

Draft excluders allow us to block unwanted gaps around windows, doors and the floors that let the cold air in and the warm air out. By doing this you'll use less energy to heat your home during the winter.

There's no need to even buy one as they are easy to make, and you might even have the materials available to you at home already!

You can create a no-sew draft excluder by taking an old duvet, rolling it up and tying ribbons around it to keep it in a tube shape. The thickness of the duvet will keep the cold out!

You can also use the leg from an old pair of jeans, tights or even woolly jumper sleeves.

## Materials

- Old duvet
- Old jeans, tights, or woolly jumpers
- Scrap fabric
- Old curtains
- Rice
- Sand
- Ribbon

## Evaluation

This is a great way to use up unwanted or old clothes/fabric and help you to save money on your energy bills.

There are many resources available online on how to create draft excluders at home with sewing or no-sew experience, we particularly like this one [www.tinyurl.com/HGDraft](http://www.tinyurl.com/HGDraft)





As the bag will get very hot, we chose not to use any fabric containing polyester.

## 29 Fabric Slow Cooker

### Description

Workshops were held in the Hanging Gardens and facilitated by Sylvie Locque on how to make non-electric slow cookers. The slow cookers were made using worn out bed sheets and fabric scraps left from previous projects. Once made attendees could take home their completed slow cooker and the knowledge of creating them, which would then reduce the energy being used in their household.

Sewing skills and a sewing machine is required for this activity. An overlocker is optional but handy for overlocking the final seam.

This activity requires at least 2 people and can take up to 4 hours to make one bag.

Measurements will depend on the size of the pot. All the detailed info and calculations can be found on the Thrive Institute's tutorial. Check it out here [www.tinyurl.com/HGCooker](http://www.tinyurl.com/HGCooker)

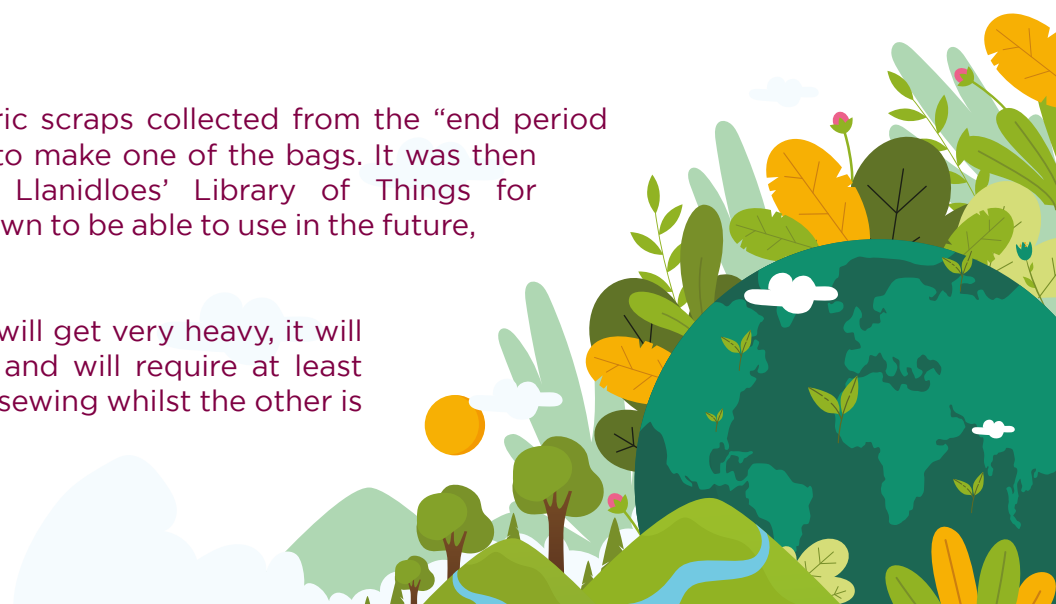
### Materials

- Cooking pot
- Sewing machine/ Overlocker and usual notions
- Old bed sheets
- Fabric scraps
- Rope

### Evaluation

We used the fabric scraps collected from the “end period poverty” project to make one of the bags. It was then donated to the Llanidloes' Library of Things for everyone in the town to be able to use in the future, free of charge.

Note: as the bag will get very heavy, it will be tricky to sew and will require at least two people. One sewing whilst the other is holding the bag.



## Quilting

### Description

We organised a quilting group to complete a decorative quilted wall hanging for the final event of this project.

We used donated, unwanted and repurposed, wadding, fabric and bedding to create an artistic piece which represents how reducing our waste can improve our natural environment.

Quilting can also allow you to create warm pieces to for your bedroom which can be placed on top of your bed to keep the heat of a night. The middle layer created using wadding is a create heat source that can be used instead of having to leave your heating on at night. The quilt can also be made using old clothes, bedding, or unwanted fabric. You can use all of this to create something new instead of buying anything new.

This is quite a hand on activity and does require sewing skills to complete.

### Materials

- Unwanted fabric
- Wadding
- Old bedding
- Old curtains
- Old clothing
- Scissors

### Evaluation

This activity allowed us to work with amateur sewers and pass on skills so people are able to sew at home.

We successfully used up a fair amount of fabric scraps during this project as we made a large quilt.



# ENERGY



# 31 Paper Briquettes

## Description

For this activity cardboard briquette were created making using the press at The Hanging Gardens (without the assistance of electricity or hand powered mixers).

This process created a wonderful briquette which looked wonderful – rugged and natural. It was created with very little specialised equipment.

Paper was torn up by the family, which took a long time but was a fun activity to do together. The processed paper pieces (approx. an inch square) were put into a good washing-up bowl and were covered with water and allowed to soak for 2 days.

An outside area was then used for the next steps. Which were to push the mushy paper through the cuboid gird of the press. Moisture then needed to be pressed out of the brick, which the family took turns doing.

## Materials

- Waste packaging – we selected brown packing paper for our briquette.
- A washing up bowl – to soak the corrugated card

## Evaluation

The family using the press were very pleased with the result as it was produced with very little specialised equipment (except for the press itself). They found it was a very satisfying moment to release the wet briquette out of its mould. It all worked very well for them as a winter family-eco-activity!



Drying took a great deal of time – at least a week to 10 days to look and feel dry externally when drying next to a heat source.

This might be best as a summer activity as the bricks can be left outside to dry in the sun.

## Remote Thermostat

### Description

We created signs in the café to keep the thermostat at 15C, in hopes to maintain a constant warm temperature without raising the energy bill.

It is better to keep your thermostat at a constant temperature as the boiler is continuously using energy. Keeping the thermostat above at night 10C in the winter months avoids the risk of your pipes freezing.


Having a remote controlled thermostat that can be checked and controlled by a mobile phone app allows you to constantly keep an eye on the temperature, even if you are off the premises.

### Materials

Remote Thermostat Control

### Evaluation

We have found keeping our thermostat at one temperature has helped maintain heat. We only felt the cold during extremely cold weather.



We offered visitors blankets on the days that were particularly cold and frosty!



## Passive Heat Exchange

### Description

A basic Building Management System was designed and built using mostly old components to monitor the rooms in the Hanging Gardens Café/Bethel Hall. This included door/window state and ambient temperatures, energy monitoring etc. A heat exchange fan was installed on 3rd June 2022.

A room plan was drawn highlighting all sensors to be installed.

The server(s) operating system and HMI software was loaded and configured.

The PAC software was pre-written and offline tested prior to deployment.

### Materials

Server • Programmable Automation Controller • Network Equipment  
Temperature Transmitters • Door contacts • PIR • Cabling • Power meter  
Extraction fans.

### Evaluation

The system was initially installed to monitor the temperatures of various rooms and monitor the vent status (doors & windows) to evaluate the room temperatures and temperature differences. This data could then guide the use & installation of heating & cooling equipment to hopefully keep hot areas cooler & cold areas warmer.

The fan installed between the hanging garden roof space and Bethel Hall were automatically controlled. It maintained a cooler hanging gardens and warmer Bethel hall.

Further investigation and trials, along with additional measures should improve the condition of these rooms.





## 34 Using Warm Spaces

### Description

For those struggling with the cost of energy bills or even those looking to reduce their energy usage, the Warm Spaces scheme was made available. The Hanging Gardens offered this scheme in the café space. Warm Spaces are places where people can gather for free in a warm, safe, welcoming place and maybe enjoy a hot drink and some company. The cafe is accessible 5 days of the week and when it is closed on Sunday, Soup-er Sundays is run by volunteers where free food and hot drinks are offered.

### Materials

- Access to a warm space.
- Communication with the public to invite those to the space.

### Evaluation

The café space is constantly used by the public for workshops, a space to meet loved ones for food or to have meetings. The constant use and familiar faces that walk through the door are evidence that we are a space that is warm, inviting and safe.



## Batch Cooking

### Description

From preparing community meals, lunch boxes for children or preparing food for the café, the Hanging Gardens uses batch cooking to help us reduce the amount of energy we use.

Defrosting a pre-made meal in the microwave costs far less than oven-cooking a meal from scratch. Therefore batch cooking could largely reduce your energy expenditure. During our Sunday community events meals are prepared through batch cooking and then any leftovers are boxed up and left in the community fridge.

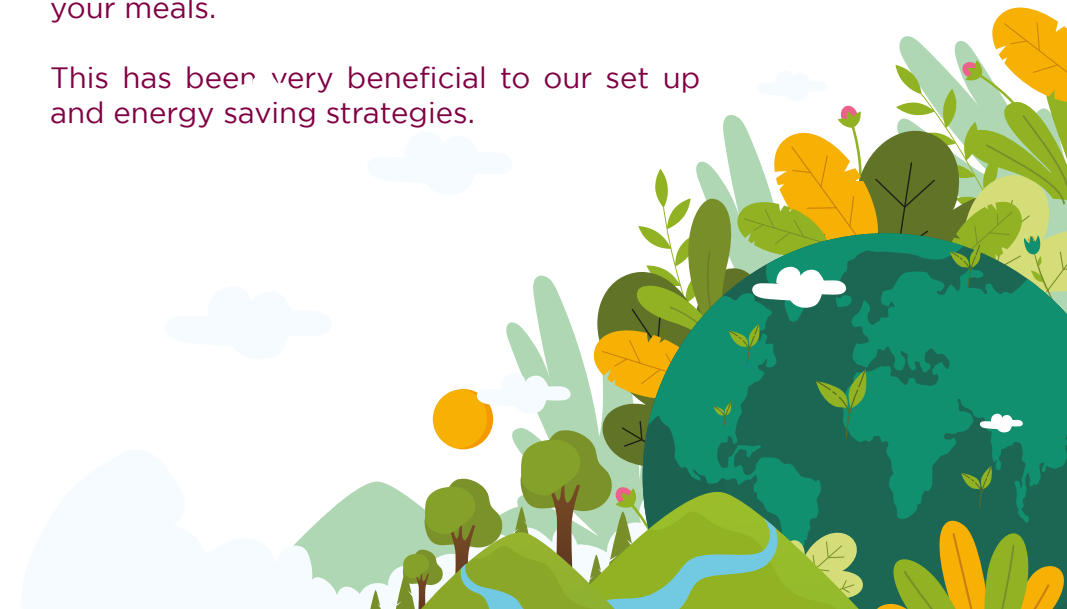
### Materials

- Meal plans
- Large pots for batch cooking
- Containers

### Evaluation

There are various meal-planning apps, such as Whisk and Mealtime, that help you map out your grocery shop and weekly meals. Alternatively, use a notebook or whiteboard to plan your meals.

This has been very beneficial to our set up and energy saving strategies.



# EVENTS



# SOUP-ER SUNDAYS



## Soup-er Sundays

### Description

Soup-er Sundays is an event set up by The Hanging Gardens, Llanidloes Community Fridge and local volunteers providing a free safe warm space where local residents can come every weekend to socialise, get involved or just relax. The event is held in the Hanging Gardens unique environment, a beautiful relaxing indoor garden space, where visitors are surrounded by lemon & orange trees, tomatoes, chilli plants and passion flowers.

Hot drinks, soup and bread for lunch (made from food donations that would otherwise go to waste) are offered, as well as organising entertainment by local businesses and artists who provide live music, mindfulness classes, board games and other activities, all in a laid-back atmosphere and free of charge.

### Materials

- A community space
- Volunteers
- A Level 2 chef
- Collaboration with local food surplus groups
- Advertisement to share with the local community

### Evaluation

Soup-er Sundays are funded solely by donations and grants, with proceeds being invested back into the project to provide supplies and cover energy. We have successfully raised £3,120 via a Crowdfunder campaign, the amazing response to this event and the money local residents have pledged will allow us to continue the event beyond the winter months as originally planned and on throughout the year.



# 37 Hike To Kite Festival

## Description

We worked with a local walking group to encourage attendees of the Kite and Meadow festival to use soft-transport options, which included using footpaths from town to the festival site.

Once Llani Saint Terres were on board to promote the walking option to the festival they created wooden kite signs which marked the route.

We used event posters and flyers, as well as social media and our email newsletter to promote the walking option to the festival.

## Materials

- Wood, Zip Ties & Paint for signs
- Social Media • Posters

## Evaluation

Not very many people used the walking option to reach the festival. More people preferred to use the free shuttle bus service. Considering the horrible weather on the second day of the event, this is not surprising!

Our event was small, free, and not ticketed which made it hard to estimate number of attendees.





## 38 Kite Festival Shuttle Bus Service

### Description

In the summer of 2022, The Wilderness Trust and Zero Carbon Llanidloes hosted the Kite and Meadow festival. The event brought together themes of ecological restoration, environmental protection and zero waste. The event took place about 4 miles outside of town. To minimise the number of cars driving to the site we hired a local bus service (Celtic Travel) to provide free shuttle bus services to the festival site.

In the planning of the event, we maintained that reducing the waste/emissions footprint of the event was vital.

Once the dates were confirmed, contact was made with the travel company to ensure that they were available dates.

We estimated how many attendees would be at the event, and tried to arrange shuttle buses at times that would be most appropriate.

### Materials

We outsourced the shuttle bus service to our local travel company, using of social media and a large board at the pickup point to keep local residents informed of the shuttle bus timings.

### Evaluation

To make sure that there were not any wasted trips, we kept in touch with the shuttle bus driver. When there was no one waiting for a lift down to town or to the festival, we cancelled that shuttle. This meant that no fossil fuels were used without reason.

To encourage people to use the shuttle bus services we could have added a car parking ticket & operated a park & ride scheme



# 39 Litter Picking Event

## Description

We arranged community picking around our venue and around the town to reduce the amount of waste that ends up affecting wildlife and degrading the environment.

## Materials

- Hi vis jackets.
- Gloves
- Bin bags
- Bag rings
- Grab sticks
- Risk assessment (template provided by Keep Wales Tidy)

## Evaluation

The Hanging Gardens signed up to the Keep Wales Tidy scheme which helped us to publicise some of the larger litter pick sessions.

We also signed up to being a Litter Free Zone, meaning we have pledged to keep the area around our venue clean of litter.

Doing this means that staff members and volunteers all have a chance to improve the visual appearance of the project, as well as having a change of scene during the work day.

Keep Wales Tidy uses a citizen science app called 'Epicollect' which helps to count how much and what type of litter is collected. It is good for team members to familiarise themselves with the app so that entering data is easy.





## 40 Litter Picking Hub

### Description

We contacted Keep Wales Tidy and collaborated with their Newtown associate who covers this area. We set up The Hanging Gardens as a Litter Hub. Equipment was donated to by Keep Wales Tidy to allow the public to borrow the equipment on a pre-booking and walk in basis. People can pre book the equipment by email to [activities@thehanginggarden.org](mailto:activities@thehanginggarden.org) or via the Powys County Council website.

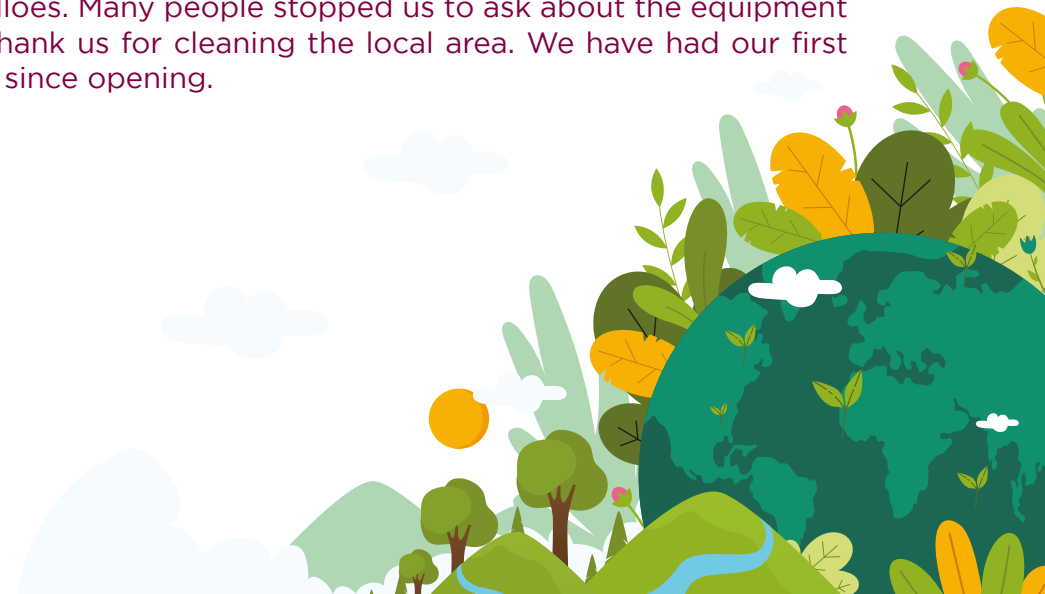
Many Litter Hubs are situated in local libraries but if you would like to set up a Litter Hub contact your local Keep Wales Tidy representative.

### Materials

- Contact with Keep Wales Tidy
- Storage for litter picking equipment.
- Posters to advertise litter picking.
- A contact for picking up the equipment.

### Evaluation

The launch of the Litter Hub was very successful and we managed to pick up several bags of rubbish around The Hanging Gardens and other areas of Llanidloes. Many people stopped us to ask about the equipment and to thank us for cleaning the local area. We have had our first booking since opening.





# 41 Toy Fair

## Description

On the lead up to Christmas, old, unwanted toys were collected from the people of Llanidloes. We collected toys for a month before the event. A fair was then held where toys were priced at a reasonable price to allow an affordable Christmas for families suffering during these times.

## Materials

- A space to hold the event.
- Tables
- Donated toys
- Posters to advertise the event.

## Evaluation

This event was successful in helping people to afford Christmas presents. Many people were happy with the presents they were able to pick up.

This event was successful because we prepared in advance. We collected a month before the event using drop off points around town. We then needed time to organise the toys before the event.





## Clothes Sale

### Description

The Hanging Gardens Café hosted a clothes jumble sale to raise money to continue the projects organised by the Hanging Gardens. This even also helped to reduce clothes waste and support sustainable fashion.

We kept prices affordable; items of clothing were either £1 or £2 and children's clothing was kept at 50p.

Selling donated clothing at affordable prices allows clothes to have a second life while raising money for a cause.

### Materials

- A space to hold the event
- Donated clothing
- Clothes rails
- Hangers
- Tables
- Advertisements for the event

### Evaluation

This event allowed us to sell donated clothing at affordable prices for the community and gave pieces of clothing a second life while raising money for a community cause.



# 43 Plastic Free Communities

## Description

The Hanging Gardens has been working with a community group called Plastic Free Llanidloes to obtain a Plastic Free Accreditation given by Surfers Against Sewage.

In order to obtain this accreditation, we need to complete a 5 step plan which involves communicating with local businesses, like-minded allies, the local council, a steering group formed from local people and holding community events. Once all steps are completed evidence is uploaded to the dashboard and submitted.

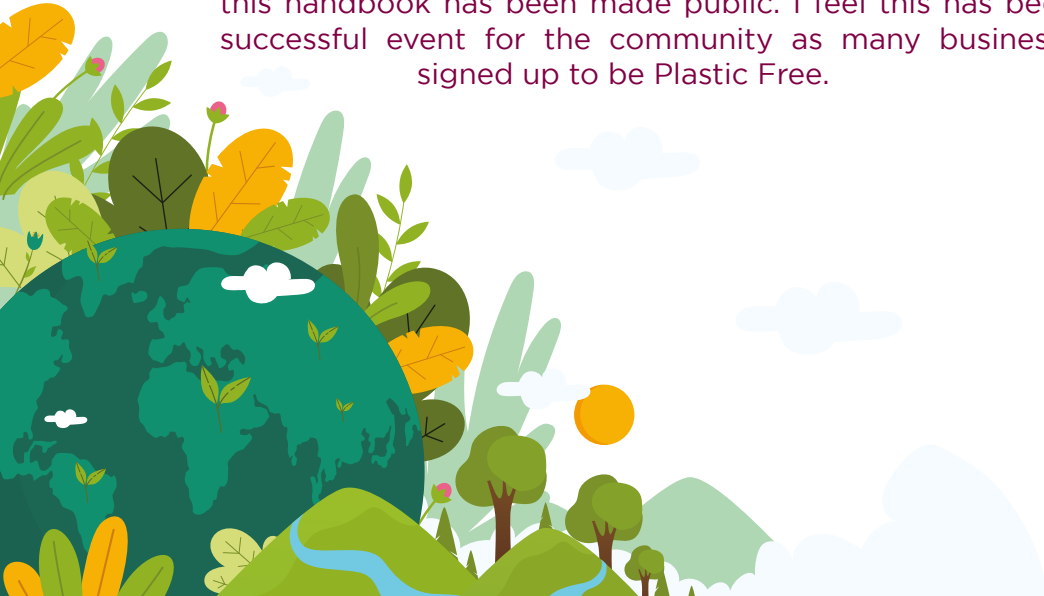
Once we have been approved Llanidloes will be included on the websites map of Plastic Free Communities via a green pin to show we are a plastic free community.

## Materials

Sign up as an individual, your business, or your local community here: [www.plasticfree.org.uk/community-toolkit](http://www.plasticfree.org.uk/community-toolkit)

## Evaluation

We are currently 67% complete and hopefully be approved by the time this handbook has been made public. I feel this has been a very successful event for the community as many businesses have signed up to be Plastic Free.



## 44 'What A Load Of Rubbish'

### Description

An event was arranged to inform people of what happens to our rubbish and ways to reuse it. Waste reducing businesses and the local authority were contacted and invited to come and give talks at the Hanging Gardens over a two-day session.

Keep Wales Tidy, Llanidloes Community Friday, Cobbler's Tea Room, Waste Not Newtown, Newtown Food Surplus, and a Powys Waste Management representative all attended the event and gave very information talks.

### Materials

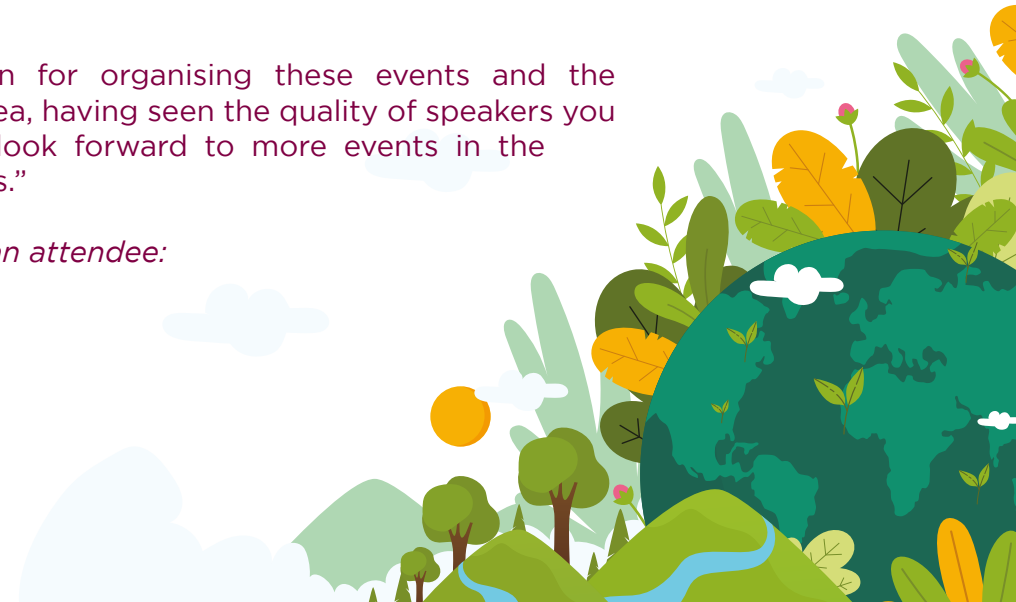
- Communication with local businesses and local
- A space for the event
- Screen to present.
- A way to advertise the event.

### Evaluation

"I was so glad I got to both events because there was so much to learn about what happens to our waste and how we can avoid creating it in the first place. I know so much more now and feel really empowered to make better decisions and how I can do more. I especially enjoyed hearing about the exciting initiatives like food sharing and reuse shops, which are saving carbon but also connecting communities together.

Thanks a million for organising these events and the welcoming hot tea, having seen the quality of speakers you put together, I look forward to more events in the Hanging Gardens."

*Feedback from an attendee:*



# Llanidloes Pumpkin Festival

## Description

A zero-waste community event organised in collaboration with local businesses, groups, organisations to celebrate the strength of our community and the magic of growing food.

We organised a round of litter picking during the day to carry the food leftovers (from apple pressing and pumpkin carving) to the compost bins.

Our Marshals on the day were there to help participants use the right bins and not leave any waste.

## Materials

- Recycling materials (fabrics, plastic, sticks...)
- Recyclable or compostable containers
- Recycling bins
- Communication material (website, social medias, poster, leaflet...)

## Evaluation

Between 2000 and 3000 people took part in this 2nd edition of the Pumpkin Festival, with many family groups & at least 1000 people attending the parade and Fire show.

We worked with 30 local businesses and organisations, partnered with three local venues (Minerva centre, Community centre, St Idloes Church), liaised with all the local emergency services (St Johns Ambulance, Fire department and Police) as well as Powys Council and the Town Council. We also engaged the local primary school, the high school and Newtown College. To help create a buzz The Wilderness Trust co-hosted craft events in the run up to the festival & Porth Farm supplied us with all the pumpkins we needed.

The Wilderness Trust engaged more than 40 members of the community to work as volunteers to Marshall, play music, photograph, run workshops, entertain or help prepare food, each volunteer received drinks and food and were invited to an after-Festival celebration at the Hanging Gardens to share a meal and enjoy music.



# FOOD



## 46 Community Meals

### Description

We have offered free community meals (pay as you feel basis) using food collected by the Community Fridge.

These events create a social link while reducing our waste.

In preparation for community meals, we are always; organise a group of volunteers, find available funding to buy additional ingredients, link with the community fridge team to find out what food is available and find a suitable recipe and buy the complementary food.

### Materials

Access to a kitchen, food and ingredients, plates and cutlery

### Evaluation

This was highly successful and feedback from participants was very positive. People especially liked the recipe cards provided and tips on how to reduce food waste.

Many of the people there had been suffering from feelings of isolation and loneliness and enjoyed an event to come together. Participants included young parents who said the often find it hard find time and afford to cook healthy meals for their kids, elderly people who rarely cook for themselves, as well individuals with learning disabilities who said they do not know how or find it difficult to cook.





## Community Fridge

### Description

The Llanidloes Community Fridge is a project run by The Hanging Gardens.

We collect surplus food from local supermarkets and bring it to a fridge freezer and pantry space at The Hanging Gardens for people to access. Anyone can access the food, without any questions. Additionally, anyone can donate food to the fridge from gluts of home grown produce to jars and tins that they aren't using. The project was set up with support and funding from the charities Hubbub and Social Farms and Gardens.


The Community Fridge team is made up of about 10 volunteers, who came together through a general shout out to the community. The volunteers are keen to address food wastage and work to share excess food with the community.

The community fridge has saved close to 1000kg of food that would otherwise end up in landfill, since it started in April 2022.

### Evaluation

The project has been a great success so far and we have had a great response from our community.

We had various challenges setting up, especially with the health and safety requirements & paperwork. It slowed us down in the beginning but are fortunate to have such a strong team of people who are on board with the project. We've all just stuck together as a team and tackled problems together.



This is quite a big operation. It's not just a case of buying a fridge and putting food in it. However, if you have really dedicated people, even a small team can accomplish a lot.



## Pumpkin Festival Meal Prep

### Description

As part of the Pumpkin Festival, we wanted to Offer a free meal to any child that wanted one. A recipe was created using as much donated food as possible. The main ingredients were pumpkin and pasta which was donated or sourced through the Community Fridge which helped to reduce food waste.

The food was prepared on Friday and served over an extended lunch period during the festival on the Saturday.

### Materials

- Pumpkins
- Pasta
- Tomatoes
- Herbs
- Kitchen Space

All the equipment needed was provided by the Church Hall who gave us there kitchen the boxes the food was served in and the cutlery used was all fully bio-degradable.

### Evaluation

Overall, the outcomes were very positive. The aim was to feed as many children as we could for free so 100 portions were with 95 being handed out. The kids seemed to love it the remaining 5 portions were eaten by volunteers.

The process of preparing the food was relatively simple. The only change made here is to use a larger kitchen, or at least a larger hob to cook more at the same time - this would help save energy.

We used Community Fridge volunteers to hand out the meals and to make everyone aware that there were free meals available for children. That worked well and being pro-active in talking to everyone we could meant that most the meals were eaten.





## 49 Community Apple Press

### Description

Community apple pressing reduces the amount of food waste and reuses apples by turning it into apple juice or cider, which has a longer shelf life.

The apples press was used for the Pumpkin Festival on the street for drop in apple juice/cider making sessions. It was also used in Llandinam during a community pressing and is regularly 'on tour' in and around the villages near Llanidloes.

### Materials

- Apple press
- Scratter
- Apples
- Bottles
- Buckets
- Pasteuriser for apple juice
- Demijohns for cider making.

### Evaluation

All the community apple pressing events which have taken place have all worked extremely well. We have produced lots of apples juice for the community and to use during events. We plan to do even more community press events and take it to different villages. These events successfully brought the community together while reducing food waste.



# 50 Fermenting

## Description

During the final event Annie, an experience fermenter, will be giving a fermentation workshop. Annie has a special interest in using what is seasonal and available. She will demonstrate making a sauerkraut with goodies from the Community Fridge and discuss how to make fizzy Kombucha (and a natural cleaning solution!) with kitchen scraps.

If you missed the Annie's cabbage Sauerkraut workshop here is a link to how it's done: [www.tinyurl.com/HGSauerkraut](http://www.tinyurl.com/HGSauerkraut)

## Materials

- A vessel to hold the food.
- A tool to pack the food into your vessel (hands work too)
- Something to hold or weigh the food below the brine.
- A way of releasing CO<sub>2</sub> as it the food ferments.

## Evaluation

Fermenting is a process in which beneficial bacteria, yeasts or other micro-organisms break down and acidify food, transforming and persevering it. It is also an incredibly powerful way to turn your food scraps into something delicious, making the most of all elements of food waste.



# WASTE



# 51 Rotating Compost Bin

## Description

A rotating compost bin was bought to process food and garden scraps from the café and community garden. Food waste was collected from the café and fed into the rotating bin. The bin was semi-regularly rotated to allow for oxygen to reach the composting material and speed up the decomposition. The bin was checked weekly.

Once the waste had decomposed sufficiently, a wheelbarrow was placed underneath the bin and the contents tipped out. This compost was then added to the garden beds to help fertilise them and grow more crops.

## Material

- Food waste
- Garden waste
- Rotating Compost bin
- Wheelbarrow
- Garden fork and shovel

## Evaluation

Having a diverse set of composting types means that the growing medium which we add to the garden beds has a broad range of nutrients and macro nutrients. It also reduces the possibility that any 1 of our composting systems will be overwhelmed with material which allows us to compost more scraps.





## 52 Vermicomposting

### Description

Worms (Red Wigglers) are used to process food scraps from the café and garden waste from the community garden into compost (worm castings), which is then added to the beds in the community garden.

Before ordering our worms, research was done to check which type of worm was best suited for the job.

To keep the worms happy, they need a mixture of 'brown' (carbon) and 'green' (nitrogen) waste scraps.

The worm bin needs to be suitable for the job, it must have drainage holes to stop the place from becoming anaerobic as this will kill the worms.

### Materials

- Vermicompost bin (stacked compost bin with air holes and drainage)
- Worms (bought from Organic Originals)
- Garden scraps
- Food waste scraps
- Bins to collect food waste.
- Wheelbarrow to distribute worm castings.
- Spade/shovel

### Evaluation

Using vermicompost as a part of our diverse compost system has given us a wider range of nutrients and macro nutrients are present in our compost.



# 53 Wool Mulch

## Description

Using wool sheered from local sheep as a mulch in our community garden.

The wool was collected in a large storage bag and brought to the community garden and indoor garden. Volunteers wore gloves to sort through the wool.

The wool was pulled and separated into thinner clumps. Once the clumps were separated they placed gently on the growing bed.

## Materials

- Wool (collected from local shepherds)
- Storage bags
- Gloves (optional)
- Garden beds

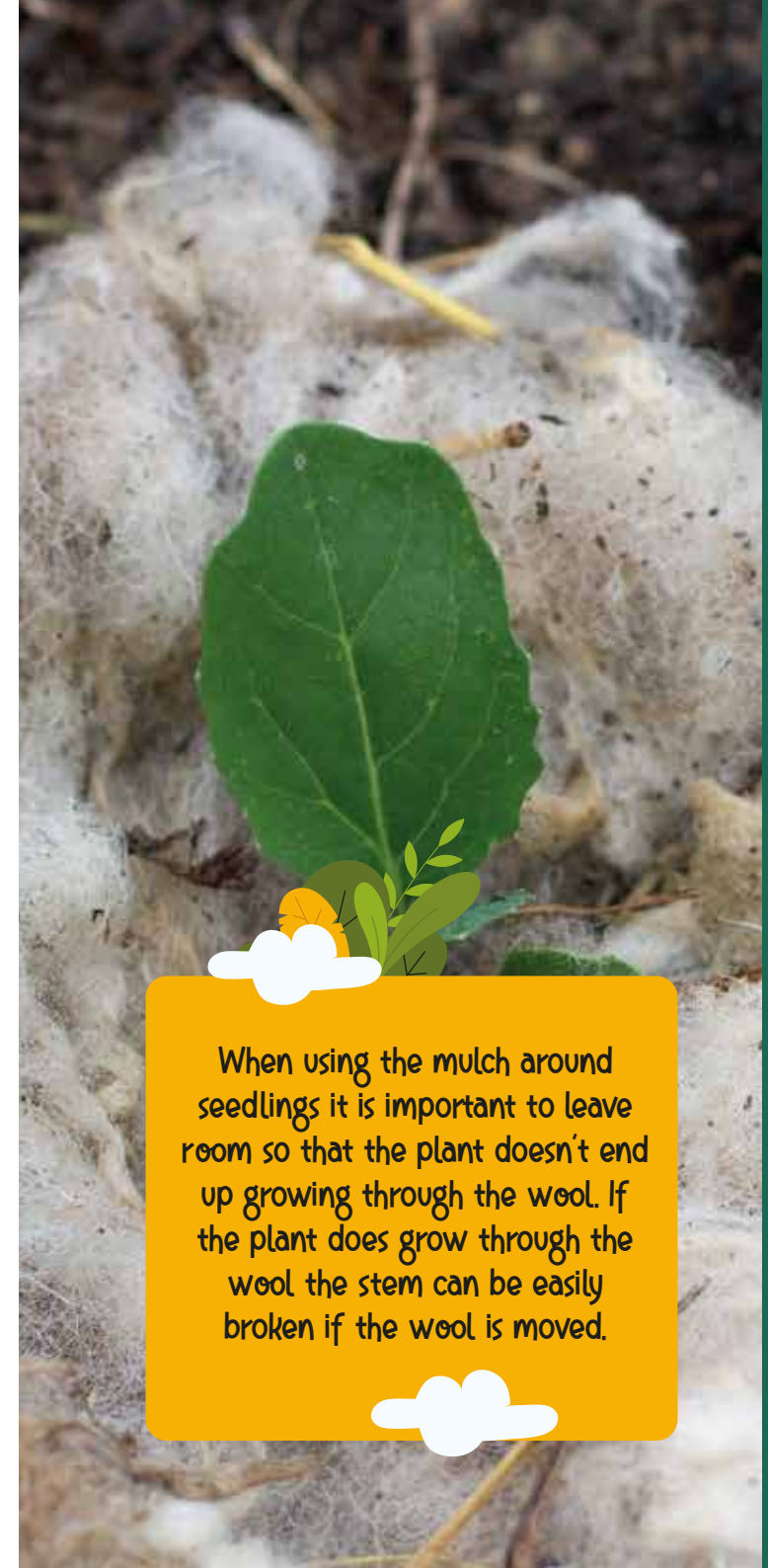
## Evaluation

Using wool mulch has helped to keep our beds from getting frost damage which is vital at the beginning of the growing season. It is not uncommon to have frosts as late as June in Llanidloes, so being able to protect seedlings and transplanted fruit and veg from frost damage is essential.

Using wool mulch has also reduced damage from slugs and snails in the garden as they do not like to crawl over the wool.

Wool mulch makes use of a product which has sadly become a by-product of sheep farming. By using wool in this way, we have saved money from having to buy in other forms of mulch. It also stops piles of wool from being left in the field after sheering.

Wool mulch also reduces the rate of water loss from the compost.



When using the mulch around seedlings it is important to leave room so that the plant doesn't end up growing through the wool. If the plant does grow through the wool the stem can be easily broken if the wool is moved.

## 54 Compost Teas

### Description

We made 2 fertiliser tea using comfrey and nettles, which can be used in the garden to add nitrogen, phosphorus and potassium as well as many micro-nutrients.

### Materials

- Two large bins
- Water
- Pillow case or similar
- Nettles
- Comfrey leaves
- Gloves
- Knife or spade
- Watering can

### Evaluation

Nettles are a great source of nitrogen. They are also a weed in most cases, so clearing them from a patch of garden often leads to lots of material which can be used for making compost teas.

Comfrey has a broad range of available nutrients due to its long roots which bring nutrients from deep in the soil/bedrock up to the surface which is stored in its leaves.

If you are planting comfrey in your garden to have a patch, be warned that most varieties of comfrey will spread rapidly. Plant in containers to avoid this.

Nettles are best harvest before they set seed, however they can still be used any time of year.

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# 55 Mushroom Growing

## Description

Cultivation of Oyster mushroom on a substrate of ground coffee and sawdust to reuse the waste produced by the community coffee.

Oyster mushrooms are possibly the easiest variety of mushroom to grow. They are super quick, relatively resistant to competitor organisms and they can grow on a wide range of substrate materials.

## Materials

Ground coffee, sawdust or straw, plastic bags with small holes or air filters, mushroom spawns, water

## Evaluation

### Health Benefits of Oyster Mushrooms

In addition to recycling already processed products (ground coffee and sawdust), the ease of growing Oyster Mushrooms isn't the only perk. Here are just some of the medicinal and nutritional benefits of Oyster mushrooms well:

Boosts immune system

Improves strength and regulation

Antimicrobial (Helps fight off E. coli, Staph, Candida overgrown,

Streptococcus, and

Enterococcus infection)

Protein rich

Cholesterol Free

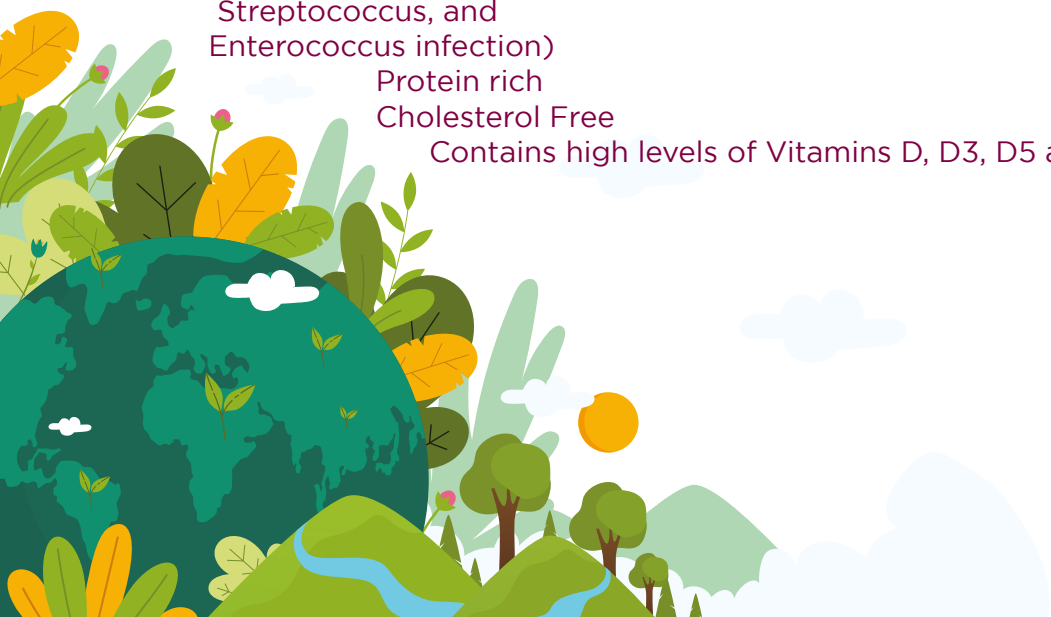
Contains high levels of Vitamins D, D3, D5 and A



There is a lot of information and tutorial on Internet how to grow your own mushroom.

One I really like and it's more DIY is the one from BBC gardener's world:

[www.tinyurl.com/HGMushrooms](http://www.tinyurl.com/HGMushrooms)



## 56 Bokashi

### Description

Bokashi composting is a system that uses yeast bacteria to break down food scraps in an anaerobic environment. This system reduces the smell of the compost and ensures swift break down of food scraps.

Training was provided for café staff so they understood the conditions that the bokashi compost needs (anaerobic). Several bins were purchased and yeast bran was also bought online to be added to the bins as a means of starting the bokashi bins.

### Material

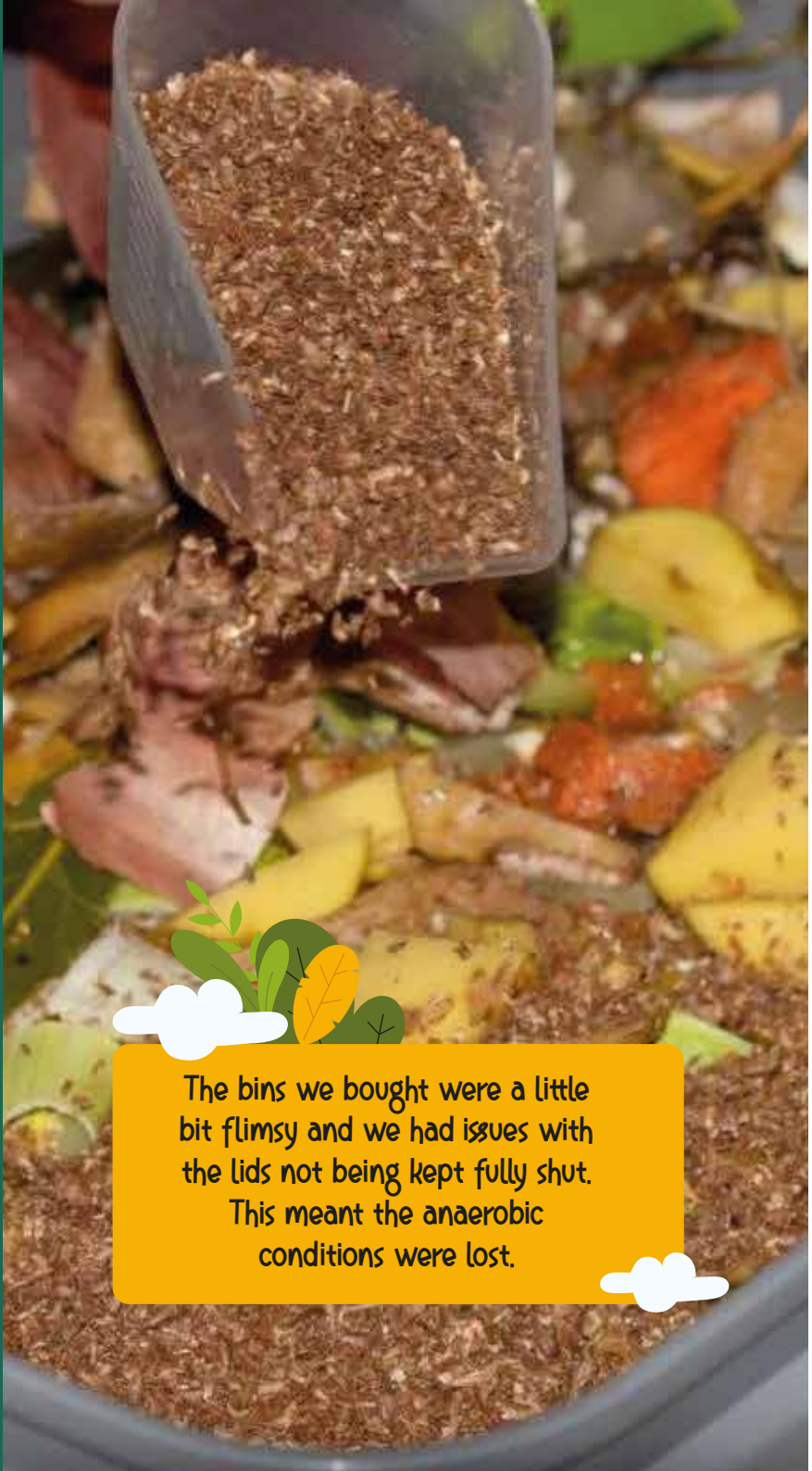
- Bokashi compost bin (needs to have secure seal to prevent air getting in and a false bottom to drain the liquid out)
- Yeast bran
- Food scraps

### Evaluation

Using this system allows the café workers to compost items that otherwise wouldn't go into the 'raw compost' (cooked items, dairy, meat, eggs).

As bokashi doesn't smell as much as conventional compost it can be kept indoors which reduces the labour involved with disposing of food scraps

What didn't work well was that the lids of the bins were sometimes not closed properly, which allowed oxygen in and stopped the bacteria from working as well. It also allowed flies to enter the bin which is a food hygiene hazard.



The bins we bought were a little bit flimsy and we had issues with the lids not being kept fully shut. This meant the anaerobic conditions were lost.



# 57 Seed Swap

## Description

The Hanging Gardens have partnered with Great Oak Foods for the past couple of years to arrange a Seed Swap event. Anyone interested in saving, swapping, or sharing seeds are invited to the event, whether they have seeds to swap or not.

Attendees are also able to talk to experienced growers and seed savers about how to grow and save seeds. We hope this helps to form a local group of folks interested in saving and sharing seed.

In the current climate of food price inflation and failures in the global food supply chain, it is more important than ever to take what action we can to improve food security and keep ourselves safe.

## Materials

- Seed storage
- Advertisement of the event
- Seed packets
- Experts on growing.
- Information on growing seeds at home

## Evaluation

The first event in 2022 was very successful. We had a large group of people attend.

During the year we have had the spare seeds available to public via a storage cupboard in the Hanging Gardens café.

We have also arranged another of these events this year due to the positive feedback we received.





## 58 Pot Swap

### Description

We have recently set up a 'Pot Swap' at the Hanging Gardens café. A wooden storage box was made by one of our volunteers and pots were donated to start us off.

The general public have been encouraged to use this spot as a place to swap spare plastic, terracotta or ceramic pots via our social media page.

### Materials

- Wooden storage area
- Spare garden pots
- Communication with public

### Evaluation

We have had a few people pick up and donate pots using the space. It is successful in encouraging people to reuse unwanted pots instead of buying them new.



# 59 Green Woodworking

## Description

We produced a stool as a group of 8 on Thursday afternoons from waste hedge cuttings.

## Materials

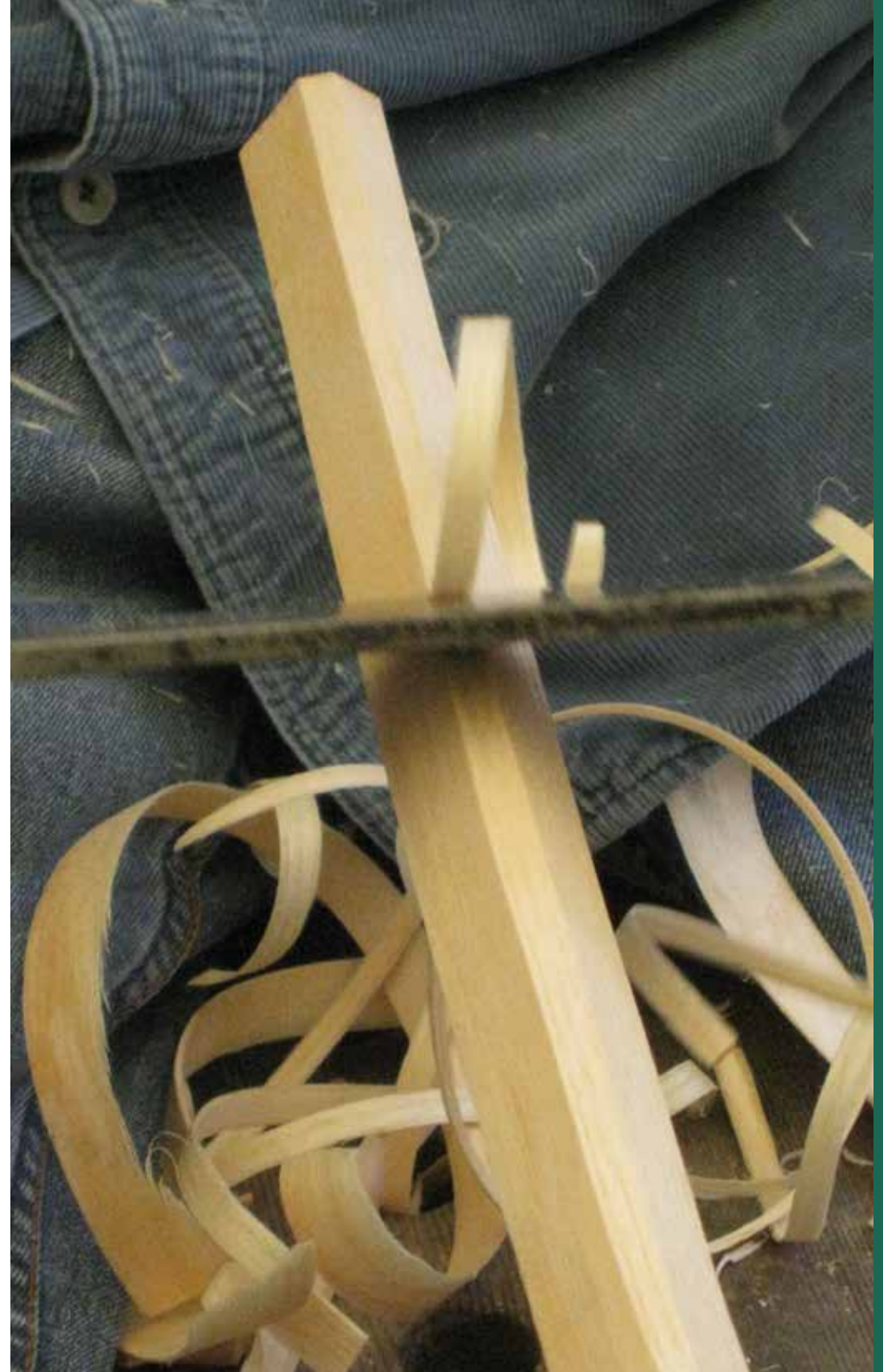
We located a source of timber and brought the materials we needed to the group. We used sticks from the hedges and an old plank for the base of the seat.

Wooden branches from hedge or tree

Hand tools – saw, knife, chisel, drill.

## Evaluation

Repurposing fallen trees or branches stops them from being sent to landfill. We successfully used timber to create a wooden stool but tree remains can be used to make a variety of wooden furniture. For a list of ways to do this follow this link: [www.riverbendva.com/repurpose-recycle-fallen-tree](http://www.riverbendva.com/repurpose-recycle-fallen-tree)





## 60 Cardboard Box Mulch

### Description

If you do not have access to wool, you can also use cardboard as mulch. If you have recently moved or collected a large amount of cardboard, you can use this to help your garden instead of filling up your recycling bin.

Reusing cardboard for the garden provides compostable material, kills unwanted weeds, and develops a bumper crop of earthworms. Cardboard in the garden will also kill lawn grass and help you get a new bed ready for vegetables and plants, whatever you wish to grow!

### Materials

Cardboard

### Evaluation

For more information on the best ways to use cardboard effectively in your garden, go to:  
[www.tinyurl.com/HGMulching](http://www.tinyurl.com/HGMulching)

It is important what type of cardboard you use in your landscape. Any cardboard that is not heavily printed, has no tape, no shiny finish, is unwaxed and plain brown is considered clean and okay to use. Some tapes will breakdown, such as the brown paper tape with strings through it.

Llanidloes is aiming to achieve 'Plastic Free Community Free Accreditation' from Surfers Against Sewage, this step is a helpful step in achieving this, and in creating a more robust circular economy.



# KITCHEN/HOME





## 61 Glass Milk Bottles

### Description

The café made the decision to use as little plastic as possible. All the milk we use is supplied by a local dairy and the milk is delivered in glass bottles which are returned, cleaned and reused by the supplier.

This can be set up for households as well. If you wish to set this up you should research and communicate with your local milk suppliers.

### Materials

- A contract with a milk supplier.
- Fridge to store our milk.
- Milk crate to store the glass bottles until they are returned.

### Evaluation

Using local milk is important to the ethos of our business.

Using the glass bottles visually looks better to our customers, our kitchen is open so café users can see inside at what is going on.

A clear system needs to be in place to clean and store the used milk bottles safely so that they don't get damaged, go missing or get put in the recycling.

Llanidloes is aiming to achieve 'Plastic Free Community Free Accreditation' from Surfers Against Sewage, this step is a helpful step in achieving this, and in creating a more robust circular economy.





## Loose Local Tea

### Description

The Hanging Gardens Café is a business run with environmental principles at its core. To minimise the use of virgin resources the café only serves loose leaf tea which can be easily composted on site.

### Materials

Fine pluck – local loose-leaf wildflower and herbal teas  
Organic Welsh breakfast tea – Castell Howell  
Tea strainers

### Evaluation

Most people are used to using tea bags at home, so going to a café and ordering a tea that is loose leaf is a, generally, novel, and good experience.

As there is no tea bag used the loose leaves can be deposited straight into the compost bin which was easier for us and beneficial in reducing single use plastic.



## 63 Using Local Produce

### Description

To reduce the emissions footprint of the café business we have used as many local products as possible. This has included produce from our indoor garden, the community garden and local producers.

Using local produce positively adds to the local economy which enables further growth in the sector.

### Materials

We have relied on produce from our indoor garden – tomatoes, cucumbers, basil, lettuce, rocket.

Our community garden has supplied us with a plethora of foods seasonally.

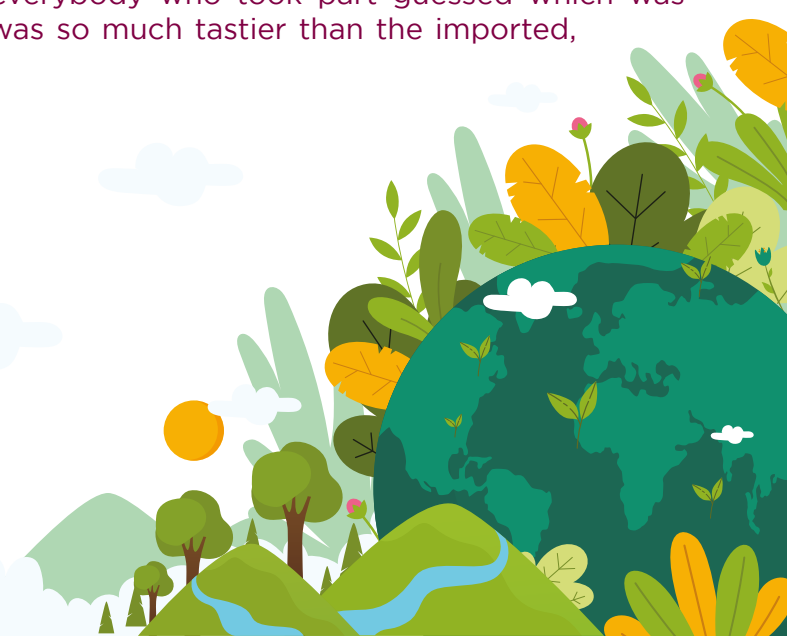
We have a good relationship with neighbouring food retailer, Great Oak Foods, which has supplied us with organic, locally grown produce.

### Evaluation

During the Pumpkin Festival 2022 The Hanging Gardens had a stall with a taste test game. Attendees tried to guess which produce had been grown locally and which was imported. Almost everybody who took part guessed which was locally grown as the produce was so much tastier than the imported, shop bought produce.

Although Llanidloes is a rural community surrounded by farming communities, there isn't a huge local produce culture.

By working with local producers, we hope that we can increase the number of local producers and the diversity of produce.



FAF-3277

## 64 Soft Plastics Recycling

### Description

The Hanging Gardens have been recycling their soft plastics at the local Co-op. Lightweight plastics such as lids on yoghurt pots, soft fruit punnets and ready meals, as well as plastic crisp packets, pasta bags and chocolate wrappers can all be recycled at the any local Co-op. It is asked that you clean out the wrappers first. The best way to test if a soft plastic can be recycled is by scrunching it and if it pings back into shape, you are good to pop it into your Co-Op plastic recycling unit. The best bit is, it doesn't have to be Co-Op branded, you can put any soft plastic in!

### Materials

- A collection of soft plastic.
- Water to wash them in.
- A way to travel to your local Co-op (walk if you can)

### Evaluation

The scheme is helping members of the public to recycle and do their bit for the environment in their local communities. Being able to recycle soft plastics in at a local business is helping to easy and accessible.



## 65 Library Of Things

### Description

Llani Library of Things has been set up to support more sustainable lifestyles and increase community resilience. Through an online site people can borrow items from the library which helps reduce waste, increases community cohesion, and supports those who may not have the means to purchase the equipment or tools they require. The Library of Things helps to save money and reduce waste by affordably renting out useful Things. Most of the Library items have been donated by members of the community, repaired/ cleaned up to be given a new lease of life and are then made available for others to hire out, meaning that people can avoid buying specialist items that they may only use once or twice and then throw away or neglect.

### Materials

- Social media and word of mouth to ask for donations from the community and bought second hand where needed.
- Somewhere to store everything
- A web-based booking system

### Evaluation

It is surprising how much the community was able to donate. So far people have been very supportive of the library and have commented on what a good use of reusing and sharing tools it is.



## 66 Donated Items

### Description

The Hanging Gardens Café is a community project started by The Wilderness Trust. Whilst it is important to us that we create the best food and atmosphere possible, we have had to be very careful on how we spend our money. To ensure that we didn't overspend whilst setting up the café business we have accepted donations of mugs, cutlery, crockery, and other kitchen items.

Social media is the best place to advertise free items that are no longer needed or if you are looking for something in particular there are also websites for this; Freecycle and Preloved.

### Materials

We used our social media presence to ask for donations from the community.

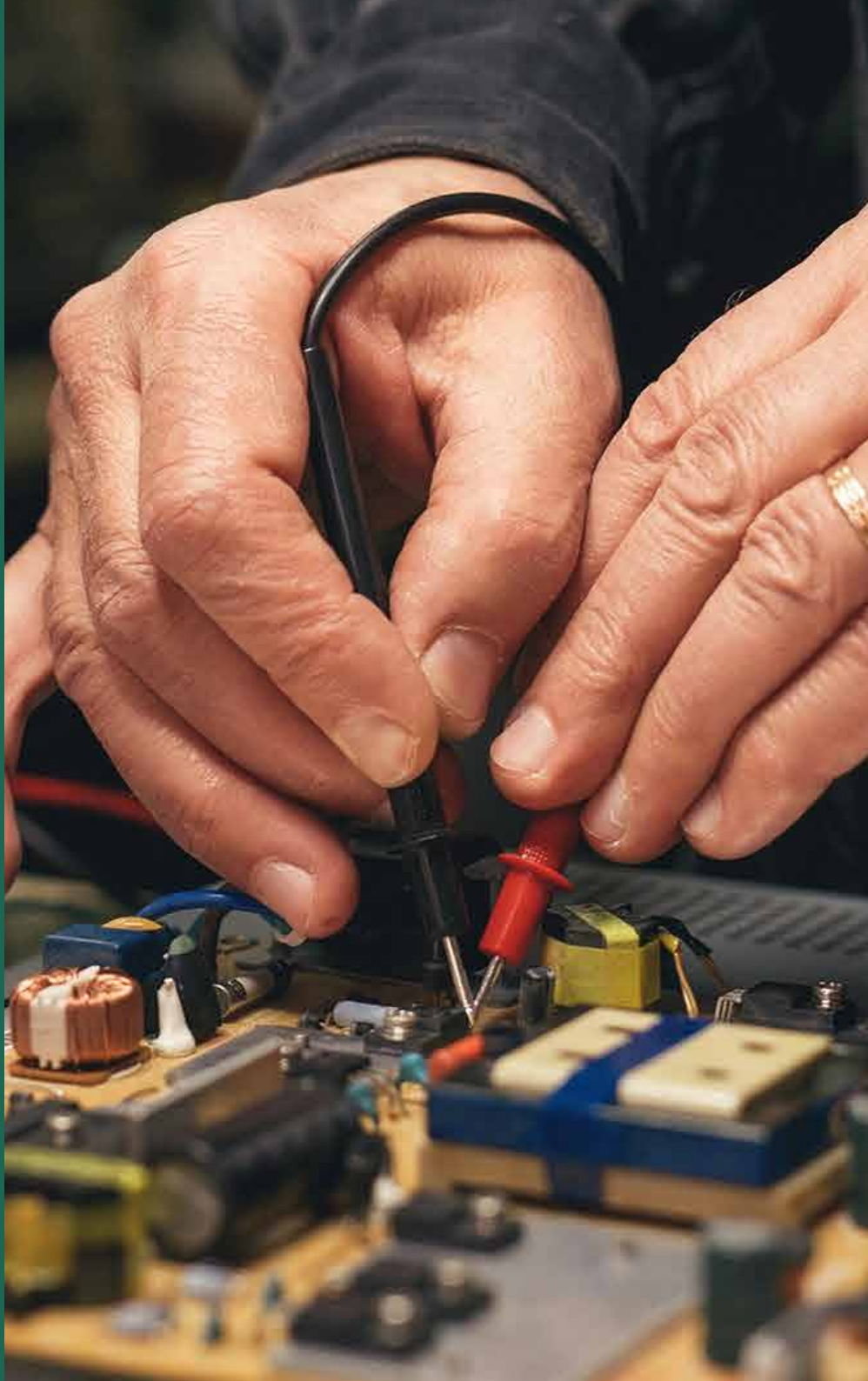
### Evaluation

We were inundated with donations for cutlery and crockery from the community. This has been helpful for us to keep our set up costs down, as well as preventing items from entering landfill.

We have had to be mindful about how many donations we could accept as we only have limited space for storage. However, the large amount of items donated has meant that we are able to host large community meals without the need for extra items to be purchased.

It is essential that all items were checked for cracks/chips or other dangerous problems.





## Repair Events: Electronics

### Description

Repair events have opened up all over the UK, they are events run by communities which give broken electronics a new lease of life. This year the Hanging Gardens has been host to a repair event held once a month by Zero Carbon Llanidloes.

A group of skilled volunteers have helped to fix clocks, small mechanicals, electricals, woodwork, sharpen tools for the people of Llanidloes.

The events are run free of charge, but people can make donations.

By having your electronic equipment repaired instead of simply replacing it, you're preventing your own toxic addition to overstuffed landfills. In other words, electronics repair is a tool to help your business function in a greener, more environmentally conscious way.

### Materials

- Community space
- Tools
- Skilled volunteers

### Evaluation

This event has been successful in repairing household items that would have otherwise been disposed of. Volunteers are also happy to talk through and demonstrate easy fixes so you can do them yourself at home. Otherwise, there are lots of tutorials on YouTube that people can easily follow. If you don't have the tools at home, why not have a look in the Library of Things?



## 68 Repair Events: Textiles

### Description

As well as electronics and household items the repair event also helps to repair clothing. Skilled volunteers are there to repair holes in jumper, rips in jeans, broken bags, or shoes.

Clothing can be repaired with simple stitches, darning or even decorative patchwork sections. If you can not get to a local repair event, there are many tutorials online on simple stitching, invisible mending, and more decorative ways to repair your clothing.

### Materials

- Thread
- Needles
- Scissors
- Pins
- Spare fabric
- Wool
- Embroidery hoop

### Evaluation

By investing in your wardrobe and mending your clothing, you are ensuring that you can wear the pieces for longer, slowing down how much you consume and making sure that less goes to waste.

Fundamentally, mending is a radical act of care in a fast fashion system that thrives on carelessness.





## Windowsill Gardens

### Description

The Hanging Gardens café is a unique environment as it is an indoor garden and home to many fruits and vegetables that are used to produce the food served in our café. You may not have the space to do this in your own home but growing herbs on a sunny windowsill is possible and can help you to reduce your household plastic packaging intake.

You can bring your herbs indoors for the winter—or all year—by planting a windowsill herb garden. Many herb plants grow quite well in containers and require only minimal care. However, there are some extra considerations when growing them indoors. Providing adequate sunlight and enough space are key.

### Materials

- Peat-free, multi-purpose compost.
- Potted perennial herbs such as oregano, mint, chives, thyme and rosemary, or annual herbs that you've grown from seed.
- Large container with drainage holes.
- Hand trowel.

### Evaluation

It's better for your bank balance and the environment too. Growing your own parsley, rosemary or mint will mean you'll no longer have to buy those cellophane-wrapped fresh herbs from the supermarket, that tend to go bad after a few days causing wastage.





# 70 Reusing Packaging - Refills

## Description

The Hanging Gardens have collaborated this year with Trefeglwys Refills. This business reduces single-use plastic by refilling plastic bottles with personal care and household products. They have a stall at the Hanging Gardens once a week but also cover other areas in Llanidloes to Newtown and also offer free delivery to these areas. Plastic bottles are not available to buy, the aim is to reuse plastic bottles you have at home. Trefeglwys stock Miniml and Sesi brands, both use locally sources ingredients whenever possible.

If you do not have a local refill station in your local area it is always better to purchase products in large quantities and use this to refill the plastic bottles you have at home.

## Materials

- Plastic household containers
- Access to a local refill station

## Evaluation

You may already be recycling your used washing up liquid, anti-bac, laundry detergent packaging and bottles and this is a great step to reducing waste in your household.

But refilling these items is an even better way to reduce the amount of packaging that goes to landfill.



## In Conclusion

Everyday people are working to better our planet. We work to reduce the waste collecting at the bottom of the ocean and piling up to obstruct beautiful view. By reducing the amount of waste you create, you help prevent pollution and protect the environment. You also limit the amount of waste going to landfill, preserve natural resources and save money.

As a society we have improved a great deal since the Well-being of Future Generations Act was first published in 2016 but this does not mean that we should stop working on improving our impact on the nature that surrounds us and the Earth that homes us. We should be continuing to help each other improve, learn and grow in a way that offers an opportunity to make a long-lasting, positive change to current and future generations.

Sharing these 70 activities in the world gives us hope that we will one day we achieve a zero waste, single-use plastic free, circular economy. One that does not focus on greed and a new for the latest item, but one that makes use of what we have so we do not suffocate the planet where we live. This is a problem we can all help solve by reducing, reusing and recycling.

**REDUCING** the amount of stuff you consume has the greatest benefits for the planet. It's best to avoid waste in the first place, so think more carefully about your purchases.

**REUSING** items saves the natural resources and energy needed to manufacture new ones—as well as saving money.

**RECYCLING** (or composting) enables your old stuff to be turned into something new, rather than just thrown away.

We hope these 70 activities inspire people and help to make people think before throwing away items. These activities have also been very successful in bringing our community together, involving every generation and helping to support those who are currently struggling with the modern economy.



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