SUSTAINABILITY

Activity Pack

Sustainability is a hugely broad topic, but for British Science Week we are focusing on the sustainability of our environment on planet Earth. When something is sustainable in this way, it means it can be carried on for a long time and doesn't harm the environment. Unfortunately, quite a few things that humans currently do are unsustainable and are therefore causing damage to our planet through things like climate change.

Single-use plastics are a good example:

- An **unsustainable** thing to do would be to use a new plastic cup every time you get some water.
- A **sustainable** alternative would be to re-use a plastic water bottle, or better still, use one made from a recycled or recyclable material.

The same goes with plastic shopping bags. When you put those plastic cups or bags into the bin, they get taken to landfill sites where they are just buried and left, so it's much better to recycle or use recyclable products!

Sustainability around technology is also really important. One angle of it would be looking at how we can recover, reuse, or recycle components from old devices so that we reduce the amount of e-waste produced. E-waste is a term for any electronic appliances that are discarded such as mobiles, laptops, or games consoles.

On an individual basis, that may mean finding somebody else who could use your unwanted bit of tech, like a phone, tv or tablet. For businesses such as BT, it may mean using companies like N2S to recover old routers so they can be broken down properly and reused to create new bits of tech instead.

To be more sustainable, we have to all lower our carbon footprint. This is the amount of greenhouse gases released into the atmosphere as a result of what you do day-to-day, like driving a car or charging your phone. You have your own carbon footprint as an individual, as will your household and so do businesses. It is a simple measure of the impact of your activities on the CO_2 produced.

We can all make a difference. If we all change how we do things to be more sustainable then we can limit the damage we're doing to our planet.

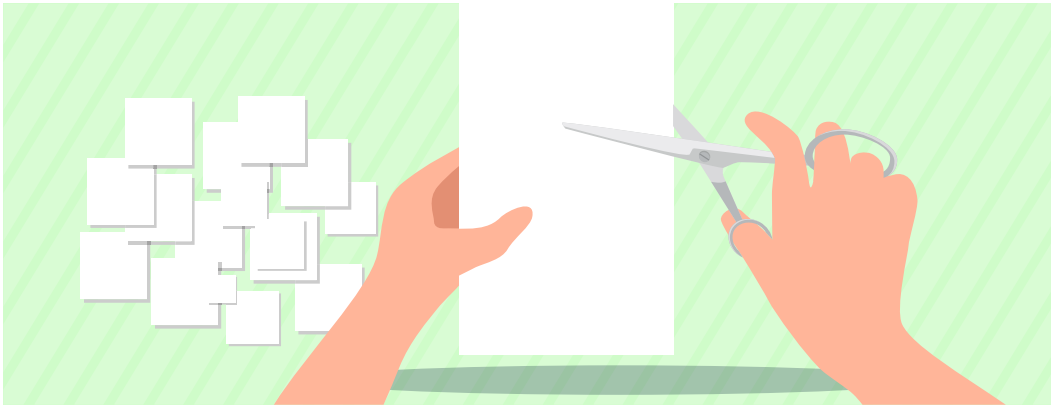
Make your own paper

Kit List

- Used paper
- Scissors
- Sellotape or hot glue gun (with glue sticks)
- Glue
- 8 Lollipop sticks / craft sticks / drink stirrers
- Mesh / sheer fabric
- Bowl (cereal bowl or small bowl)
- Larger bowl or a sink to stand over
- Water
- Blender
- Rolling pin
- Sponge
- Old newspaper

Instructions:

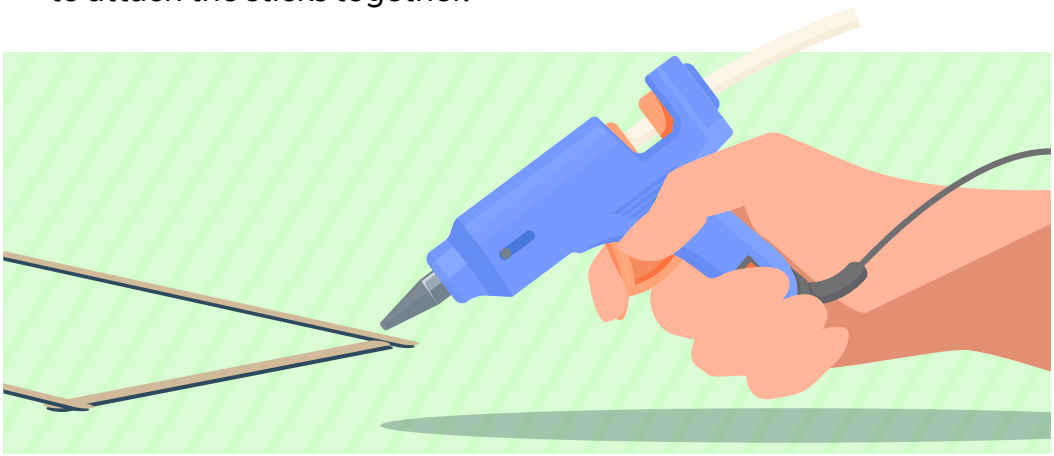
1. Collect some used paper from around the classroom or your home.
2. Cut your used paper into small square pieces.



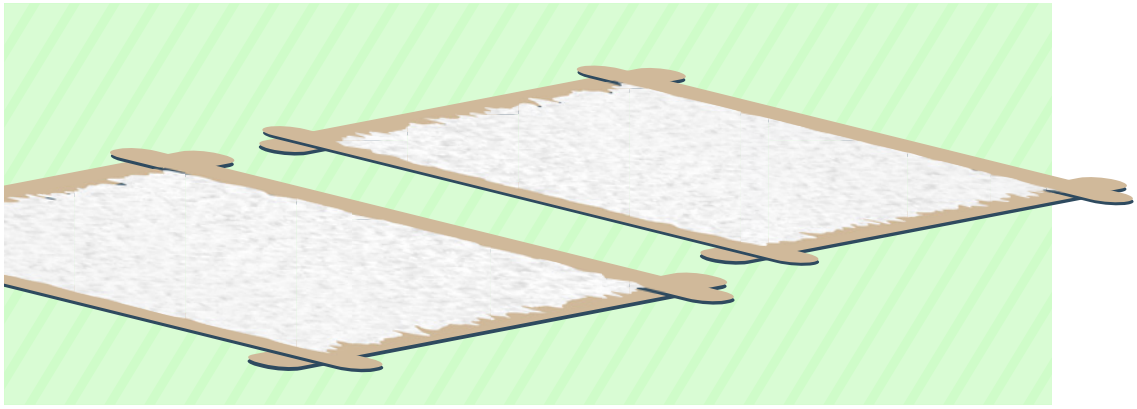
3. Put these small pieces of paper into a blender and fill it up with water.
4. Blend it all up until the paper is turned into a pulp.

5. Put this paper pulp into a bowl and fill the bowl with water. Leave this to one side for 24 hours.

6. Now it's time to use your sticks to create a square or rectangular frame for your new piece of paper. Use Sellotape or a hot glue gun to attach the sticks together.



7. Cut your mesh / sheer fabric so that it is the same size as the frame you've just made.
8. Now attach the mesh / sheer fabric to the frame with glue or Sellotape.
9. Cut out a second piece of mesh / sheer fabric, but this time make it slightly larger than the frame and put it to one side for later on in the process.
10. Once the bowl of paper pulp has been left to soak for at least 24 hours, it should be ready to turn into a new sheet of paper...
11. Lay your frame down in a large bowl or on the sink draining board.
12. Pour some of the paper pulp into the frame, taking care to spread the pulp evenly across the frame.
13. Once finished, carefully pick up your frame, being sure to keep it flat, and lay it on a flat surface that you can leave it to dry on.



14. Time to get rid of the water! Place your bigger piece of mesh / sheer fabric on top of the frame and use your rolling pin to roll out as much water as you can. Use your sponge to absorb any excess water as you roll.
15. Repeat step 14 as many times as necessary in order to remove as much water as possible.
16. Take the top layer of mesh / sheer fabric off of the frame. If the flattened paper pulp sticks to the mesh / sheer fabric it is still too wet and you should return to step 14 to try and squeeze some more water out before continuing.
17. Lay out a few sheets of old newspaper on a flat, solid surface.
18. Carefully pick up your frame and flip it over, leaving the sheet of paper pulp to dry whilst on the newspaper.
19. Carefully separate the frame from the drying sheet of paper pulp.
20. Leave this to dry for approximately 24 hours.

Once it is completely dry, you've got yourself a completely new piece of paper – all made from your old, used paper!

This is a great example of how we can recover, recycle, and reuse materials.

We'd love to see pictures of you all getting involved with the activity. Show us your new pieces of paper or how much you were able to recycle!

Email these to us at computerscience@bt.com stating your school and key stage.

Links

Teacher Links:

- Micro:bit & the Global Goals <https://tinyurl.com/38mxshfc>
- Healthy Oceans <https://tinyurl.com/3s926tf4>
- Energy Awareness <https://tinyurl.com/3ddbw4py>
- Helping Plants Grow <https://tinyurl.com/ybk5hfbf>
- Litter Hunt <https://tinyurl.com/32dwhppd>
- Protecting Animals on Land <https://tinyurl.com/2r5jj67t>
- Saving Sea Creatures <https://tinyurl.com/yc8bm3rt>
- Climate Resources and Activities <https://tinyurl.com/ye29j9km>
- Power Savers <https://tinyurl.com/mrxnv9zc>

Find Out More:

- Hello World – Sustainability & Computing <https://tinyurl.com/mpemk7mu>
- Tackling Climate Change with Technology <https://tinyurl.com/45kc75fm>
- You and the Planet <https://tinyurl.com/mw5pr9a8>
- Climate Change Video Series <https://tinyurl.com/3d52z4cx>

Have A Go:

- Light-up Fishing Nets <https://tinyurl.com/e295eaeb>
- Saving Sea Turtles <https://tinyurl.com/ya7j4z8m>
- Animal Tracker <https://tinyurl.com/kw9e6u38>
- Great Object Hunt: Our Natural Environment <https://tinyurl.com/csfznfjw>

ACTIVITY 2

1. Hunt

Embark on your very own Tech Treasure Hunt, from Recycle Your Electricals, and find the old electricals in your house or classroom!

Ask a grown-up if they have any old or unused electricals which may have been forgotten about in drawers or cupboards.
You'll need to print this page so you can start to fill out step 1.

Step 1: HUNT			Step 2: DECIDE		
Unwanted electrical item	How many?	Is it broken?	Fix it?	Pass it on?	Recycle it?
					
					
					
					
					
					
					
					
					
					
					
					
					
					
					

recycle your electricals

ACTIVITY 2

2. Decide

Now it's decision time! What are you going to do with all the electricals you have found? Are you going to Fix it, Pass it on or Recycle them?

Read more about each option below. Then complete step 2 on your printed worksheet.

Fix it!

Many organisations can repair and refurbish your small electricals.

Your grown-ups can ask the original manufacturer for a list of their authorised repair networks.

Pass it on!

If nobody wants it, pass it on. Charities can raise vital funds by selling your old electricals or giving them to people in need.

Electricals will need to be prepared (personal data cleared etc.) before they are passed on.
You can find out how to do this by visiting www.recycleyourelectricals.org.uk.

Recycle it!

If it has a plug, battery or cable, it can be recycled and turned into anything from life-saving equipment to children's playgrounds.

Find out more by visiting
www.recycleyourelectricals.org.uk.

3. Bag it

Place the electricals you are going to pass on in a bag. Put the electricals for recycling in another bag. Now you are ready to take them to their new home!

recycle your electricals