



REDUCE, RE-USE, RECYCLE

Notes for parents and carers:

These home learning packs have been compiled by Better Planet Education to support you whilst your children are at home during the Covid-19 lockdown.

Each week, we will include suggestions for activities you can do alongside your children, as well as those that they can do independently, whilst you are working from home.

We will attempt to suggest activities which require no special materials other than those you may find around the house. It may be possible to pick up some resources during your occasional shop for essentials but please do not aim to shop specifically for listed supplies! We will also attempt to minimise the need to print out any materials.

In your pack each week:

- * Open ended project ideas and research topics
- * Activities to explore independently or together
- * Games to play
- * Ideas for science experiments
- * Art and craft ideas
- * Links to other learning resources
- * A use each week for toilet roll tubes...





ACTIVITY IDEAS

You might have noticed some of your household waste or recycling building up over the lockdown, if your rubbish collection was affected. Or maybe

someone you know was waiting to go to the rubbish tip. Everything that we get rid of from homes, businesses and all other areas of life has to end up somewhere on the planet. What happens to it?

Did you know that in the UK, we generate over 200 million tonnes of waste in a year? The amount of waste PAPER alone that we bury in the ground each year would fill 103,448 double decker buses.

So what can we do to stop the Earth being covered in unwanted items, rubbish and plastic that will be around for thousands of years?

Reduce: Reducing the amount that we buy and use in the first place is the best way to help. Reducing the products and packaging that we buy means less to throw away. It also means that we reduce the amount of energy needed to produce and transport the goods and the energy used to treat our waste.

Re-use: If we can find ways to get a longer life out of everything that we buy, it is less wasteful, too. We can try to repair things and repurpose others to stop things going to landfill when they could still be useful.

Re-cycle: If you can't manage the first two, then the next best thing, to avoid throwing waste into landfill, is to try to recycle things like paper, plastic and metal. Some of these can be re-used or turned into new things.





Crisp bag observation:

How long will a crisp packet last in the ground? Crisp bags are designed to keep crisps fresh for a long time. They take a VERY long time to break down and then the tiny parts can contaminate the soil. How long will a crisp packet last when it goes to landfill? Try burying a packet under some soil in a flower pot. Dig up the packet once a month and see if it has broken down



yet. Be prepared to wait a while... This packet of KP crisps was found under

some bedroom floorboards and it was 31 years old (you can tell by looking at the use by date on the pack). The Golden Wonder Crisps packet was found on Caister-on-Sea beach in Norfolk and was FIFTY years old!



Make recycled paper:

It can be interesting for children to use pieces of paper or card from the recycling bin to press their own sheets of recycled paper. This is quite a time consuming and labour

intensive job, but can be really useful for helping show that it's a good idea to use both sides of a piece of paper and to treat paper like a more valuable resource!

If you want to follow the process properly, you will need to make a mesh screen called a 'deckle'. Instructions for this can be found here:

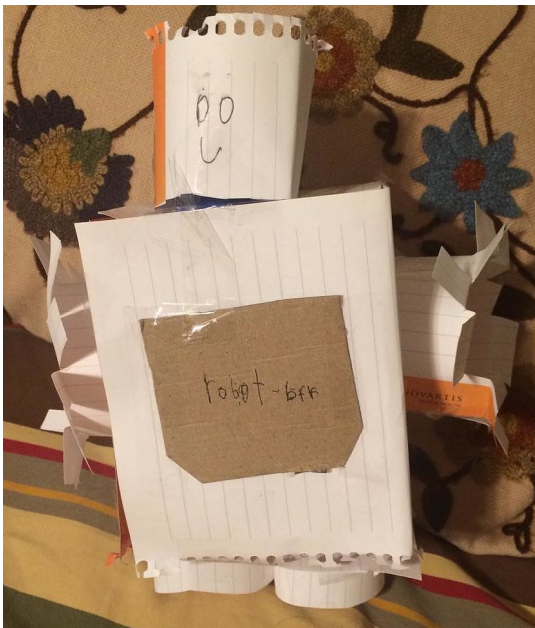
<https://www.instructables.com/id/Homemade-Paper/>

However, there is a simpler method without a screen, that uses a pan for a mould here: <https://www.kenburn.co.uk/recycling-for-kids/>

Make a recycled robot:

Junk modelling is always a fun way to make use of items from the recycling box and designing a robot really lets the imagination run wild as it could be any shape, size or design!

From a simple paper robot, to a complex design with added metal parts (unwanted computer motherboards make great additions!), the robot can be as simple or complex as you like! Obviously, the size of the pieces you use will determine the final design - you may not want something as large as this polystyrene creation by Kevin Kelly!



Top tip - if you open out any boxes that you are using and reconstruct them inside out, it will give you a matte surface which is easier to colour in.

Don't buy single use plastics:

At least 8 million tonnes of plastic end up in the sea every single year causing damage to ecosystems and harming wildlife. One of the easiest ways to reduce the plastics that we throw away is to stop buying single use plastics. Try replacing these with alternatives. You could use a reusable drinks bottle instead of buying water and fizzy drinks in plastic.



World's Direction



Re-use and recycle clothes:

Each year, in Europe, the UK is the second biggest spender on new clothes. The UK is also the 4th largest producer of textile waste, most of which is incinerated (burned) or goes in to landfill to rot, instead of being recycled or re-used. Making clothes uses a lot of energy, both to grow, harvest and treat materials, such as cotton and later, in the manufacturing process. Those clothes also need to be shipped many miles to the shops they are sold in, which creates harmful emissions from vehicles.

Re-use your clothes:

The easiest way to re-use clothes is to pass them on when you have finished with them. If you grow out of clothes, a younger person in your family might wear them. This rainbow top has been worn by Dylan, Lily, Callie AND Kitty from Rochdale!

You can also give clothes to a charity shop (though even they have limited space and have to send unsold clothes somewhere!)

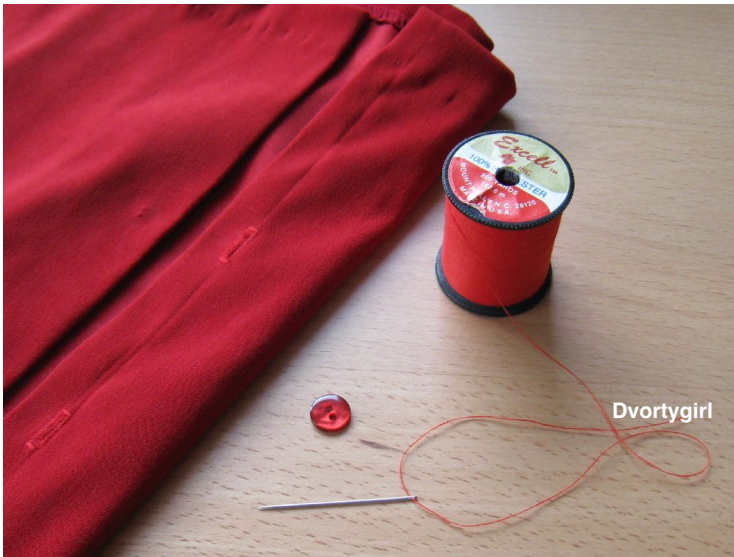


You can also have clothes swapping parties with friends so that you get to try different styles.



Repair old clothes, reduce the need to buy more!

Why not try learning to sew, so that you can change the look of your clothes by sewing on patches or new designs? You could also mend clothes that have torn, instead of throwing them away.



Repurpose - make something new:

If children in your family have clothes with special memories that everyone has grown out of, you could make them into something new, such as a quilt! This quilt by Monkey Sew, Monkey Do is made from a family's favourite old clothes.





RESEARCH IDEAS

What happens to our waste after we put it in the bin?

Bantar Gebang in Indonesia is a giant landfill site with rubbish sent there from around the world.

Did you know:

- The UK generated 221.0 million tonnes of total waste in 2016
- The UK sends two thirds of its plastic recycling waste overseas
- Waste company Biffa was fined £350,000 for sending household waste, including used nappies, to China? The waste was illegally labelled as paper.

Find out:

- * **Where is your nearest recycling centre and what types of waste do they recycle?**
- * **What is a land fill site? Where are some of the world's biggest sites?**

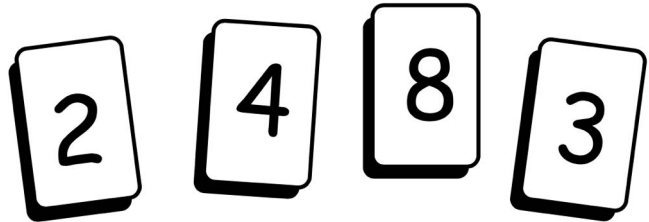
All the waste that we produce has to end up somewhere. How can we reduce the amount of waste that we produce in the first place?

MATHS CHALLENGES

Recycle the numbers:

Challenge 1:

Use any of these cards.



Make these totals:

9, 10, 11, 12, 13, 14, 15

What other totals can you make from the cards?

Challenge 2:

Use any 4 of these digits. Each one must be different.

1 2 3 4 5 6 7 8 9

Put one digit in each box.

This makes two 2-digit numbers reading across and two 2-digit numbers reading down.

1	2
4	7

Add up all four of the numbers. In this example the total is 100.

$$12 + 47 + 14 + 27 = 100$$

How many different ways of making 200 can you find?

*Questions adapted from Mathematical Challenges for Able Pupils, DFE, 2000.
Solutions at end of the pack!*

WORD CHALLENGES

Prefix -'re' :

The prefix 're' comes from Latin and we use it in words like 'recycle' to mean again (in this case to use again or follow a cycle round again) It can also mean back as in to redo something again. See if you can make a list of words with the prefix 're' and work out their meanings. Try:

- * **Review**
- * **Return**
- * **Reappear**



Fast fashion fix :

It can be easier for some people to reuse clothes than others. Good quality clothes that last a long time can cost more. People may have little choice but to choose 'fast fashion' that is very cheap. Find out about the way that clothes are produced and write a report, explaining some of the issues. Can you think of solutions to the problem of fast fashion?

Recycling poster :

Design a poster reminding people of the different types of materials that can be recycled at home. You could put this up near your own recycling bins to make sure everyone knows which materials belong in each bin!



Infowidget



ART AND CRAFT

Make recycled crayons:

To get more use from old wax crayons that have become too small to hold easily, simply gather together scraps of similar colours and put them in a silicone baking mould. A silicone ice cube tray will also work.

Place the mould on a baking sheet for stability, then heat the crayons gently in an oven until they liquefy. Do not use a microwave as the wax can catch fire.

Leave for at least an hour to cool down as the wax can stay hot for a long time, even if they have set on the top, they can be very hot in the centre.

The 'new' crayons can be used as before! Here's a link to show the process:

<https://www.kitchentableclassroom.com/recycling-crayons-how-to-make-crayons/>

Make flowers from plastic bottles:

If you have a lot of plastic drinks bottles in your recycling, you can cut the bottles down and make them into flowers!

This clip will show you how (Youtube clip, supervision recommended):

<https://www.youtube.com/watch?v=B0Z9i7VUSSw>



Dylan, Lily, Callie and Kitty in Rochdale asked all of their friends to help collect bottles too. When they had enough, their mummy wired all of the flowers together on a sheet of wire mesh into this amazing garden rainbow! Wow!

You can just make a vase full though. Top tip - paint the bottles on their reverse side and they will look shinier. These ones were sprayed with a plasticity spray paint but acrylics will work on just a few.



This week's use for a toilet roll tube

Make a phone holder:

You will need:

- A toilet roll tube
- scissors
- paints or pens to decorate the tube
- Tape for the edges (if wanted)

1. First, flatten the top of the toilet roll tube and cut it into a curved shape.



2. Fold the front curve inside the tube and cut two slits. Fold these inside the tube, too.



3. Decorate your tube and cover the edges with tape.



4. Balance your phone in the holder!

A video showing the steps can be found here (Youtube clip, supervision recommended):

<https://www.youtube.com/watch?v=QD9PiqFPtNo>



GAMES & SONGS

Recycled scoop catch:

Use the cut down sections of plastic milk bottles with the handle section retained, to make these great scoops for catching a ball. You might like to tape over the edges of the bottle so they are less sharp.

You can turn this into a single player game by attaching the ball to the handle of the scoop with string taped to it, or play with more than one player.

Felix and Dylan in Devon made these great catching scoops for us!

Here's a 'how to' link:

<https://childhood101.com/diy-milk-jug-catcher-game/>



What is it now?:

This game is a great way to stretch the imagination and also to consider the different uses that an item might have.

You can start with something simple, like a wooden spoon. What is it? A spoon. Pass it to the next player with the question: "What is it now?" The player needs to act out a new use for the spoon, such as miming using it as a golf club, or a guitar! Keep playing until no one can think of any other uses for the item.

As well as using objects from around the house, you could try using items from the recycling. Which things could actually be repurposed into something else? Are there different ways to reuse the materials you have around you?

Reduce, Reuse Recycle Earth Day Song:

This song was written for Earth Day to help children remember the 3 'R's (Youtube clip, supervision recommended)

https://www.youtube.com/watch?v=OasbYWF4_S8&list=RDuSM2riAEX4U&index=1

LEARNING LINKS

There are a large number of resources available for online learning at this time. We'd always recommend that you support your child with this and only follow links from reputable names. **Any links provided here have been checked for suitability.**

This **Kids Academy** video explains the basics of recycling plastic, glass and paper (Youtube clip, supervision recommended)

https://www.youtube.com/watch?v=6jQ7y_qQYUA

What actually happens inside a waste recycling centre? Watch this video from **Wildlife Watch** to find out! (Youtube clip, supervision recommended) :

<https://www.youtube.com/watch?v=NCHciQP7NFO>

Here's a **Wondergrove Kids** cartoon episode explaining why reducing the amount of fresh water that we use is good for the environment. (Youtube clip, supervision recommended):

<https://www.youtube.com/watch?v=rl0YiZjTqpw>

Answers to Maths Challenges:

Recycle the numbers:

Challenge 1:

If each number can be used only once:

$$9 = 2 + 3 + 4$$

$$13 = 2 + 3 + 8$$

$$10 = 2 + 8$$

$$14 = 2 + 4 + 8$$

$$11 = 3 + 8$$

$$15 = 3 + 4 + 8$$

$$12 = 4 + 8$$

Challenge 2:

There are 22 different solutions.

11 of the solutions are as follows:

1	9	2	8	2	9	3	5
7	2	6	3	5	3	7	4
4	1	4	2	4	3	5	1
9	5	8	5	7	5	7	6
6	1	6	2	7	1		
5	7	4	7	3	8		

Eleven more solutions are formed by changing over the two digits in the top right and bottom left boxes.