

Guidance for Teachers

Sustainability *first*

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PRINCIPAL PARTNER
UN CLIMATE CHANGE CONFERENCE UK 2021
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Great Science Share for SCHOOLS

Let's get wise about waste!

Sustainability *first*

Equipment:

- Device to share video
- Pencils, paper and/or computers for pupils' to write questions, comments, concerns etc.

Main concepts:

- What is waste?
- Why do we produce waste?
- What are the impacts of waste on people and the planet?
- How can we use creativity and care to produce less waste?

Curriculum Linking:

England

- Key Stage 2 Science: Pupils should be taught to recognise that environments can change and that this can sometimes pose dangers to living things.

Scotland:

- Social Studies: I can discuss the environmental impact of human activity and suggest ways in which we can live in a more environmentally responsible way. SOC 2-08a
- Health and Wellbeing: I can understand how advertising and the media are used to influence consumers. HWB 2-37a

Wales

- Geography: Pupils should be given opportunities to describe the causes and consequences of how places and environments change, e.g. by season; from past to present; the need for sustainability.
- Science: Pupils should use and develop their skills, knowledge and understanding by comparing the Earth with other planets, investigating materials around them and considering the importance of recycling.

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Step by Step Guidance:

- Watch the video with pupils
- Afterward, encourage pupils in groups, or as a class, to consider what kind of waste they produce in their daily lives.
- Do they produce food, plastic, clothing or electronic waste? Why?
- Are pupils' concerned by this?
- Submit questions, comments and/or concerns in the uploader form here.



Share with us so we can learn with you!

Make sure to upload your work **here** so we can learn with you and share your work widely with waste experts at our June 15th pupils' assembly!

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Let's get wise about waste transcription

Did you know that the average household in the UK produces more than a tonneof waste every year? This comes to a total of 31 million tonnesper year. What does that look like? Well, that's the weight of three and a half million double-decker buses, a queue of which would go around planet earth two and a half times. Imagine that!

But what exactly is this waste that we are producing?

Well, in this case, waste is anything that we get rid of, or put in the rubbish or recycling bin.Whilewe try to recycle 45% of the waste we produce at homein the UK, most wastegets burntor ends up in landfills,which are areas where waste is dumped. Too much waste is bad for the environment and for people – but we'll get to that later!

Can you think of something you might throw away?

We may throwaway newspapers, or plastic bottles. Or perhaps tinned cans, leftover food, cuttings and weeds from the garden, old tea towels or pillows. We even throw away batteries and computers!
Let's explore different kinds of waste!

The waste we produce includes food waste – so think of that loaf of bread that got mouldyin the bread bin which had to be thrown away, or those bananas that got too brownand mushy, or even our leftovers that we didn't want to eat any more. In the UK, we produced 9.5 million tonnesof food waste in 2018... that's more than the weight of 2 million elephants! I don't know about you, but it's hard for me to imagine that many elephants, but that's how much food waste we produce in just one year! Here's another way to think about food waste– all together, homes in the UK waste 3.1 million glasses of milk every year (Wrap UK) . That's over 9,600 swimming pools filled with milk!

Waste can also be plastic, sowhen we buy milk or a bag of spaghetti from the shop and throw away the container, or plastic wrapping. We dispose of so much plastic,you can find plastic waste anywhere in the world – we've even seen plastic embedded into ice in the Arctic!

What about the jumper, or the shirt you're wearing right now? Have you ever thought of that as waste? Well, in the UK, an estimated 350 000 tonnesof clothing go into landfills each year! We'll explore this type of waste together soon.

And there's also electronic waste which includes televisions, computers, andvideo game consoles that we dispose of. What happens to them when they break or when we get newer, upgraded versions? Well, often, they go into landfills.

People produce a lot of waste! Too much waste in fact. And unfortunately, it's hurting our planet.

Our planet is going through a difficult time because of human activities. Activities that people do a lot, like driving cars, flying in airplanes and making large amounts of clothes, cars, electronics and other things in factories, release greenhouse gases into the atmosphere. These greenhouse gases include carbon dioxide, methane and nitrous oxide. Too much greenhouse gas traps too much heat in our atmosphere and causes all sorts of problems as our planet gets warmer.

But what does this have to do with waste?

When waste is sent to a landfill, or is burnt, it releases greenhouse gases as it slowly decomposes, or breaks down. Additionally, as waste sits in landfills, it pollutes our soil and water systems as time passes. This is bad for human health! Electronic waste, for example, is considered dangerous because it contains poisonous substances that affect human health, like mercury (you know, the silver liquid in thermometers) and lead – that's why we have tobe careful when we get rid of computers and televisions!

But waste isn't just bad for human health, it is also bad for animals.12 million tonnesof plastic findsits way into the ocean every year - that's the weight of 120,000 small blue whales! Approximately 5,000 items of plastic pollution have been found every 1 mile on UK beaches. Have you ever heard of the Great Pacific Garbage Patch? The Great Pacific Garbage Patch is a massive, and I'm talking massive, patch of waste in the Pacific Ocean. There are an estimated 1.6 trillion pieces of plastic in the Great Pacific Garbage Patch – many pieces are microplastics, or tiny pieces of plastic that are sometimes hard to even see. One scientist, Dr. Penelope Lindeque, described the ocean as "a soup of microplastics."

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Let's get wise about waste transcription continued

This tremendous amount of plastic pollution has been hurting fish and other marine life. Many pieces of plastic in the ocean are micropastics- ortiny pieces of plastic that are sometimes hard to even see. Microplastics are so small, they are often invisible. This makes it easy for sea life to accidentally eat. A group of researchers in the UK found microplastics in every single marine mammal they surveyed – includingdolphins and grey seals. According to Plastic Oceans, 100% of sea turtles are known to eat plastic.
Making plastic and electronic things, as well producing clothes and foods,releases carbon dioxide and uses up lots of natural resources from our earth, like minerals from deep underground, water from our oceans, rivers and lakes, and fossil fuels, like oil and gas. When we waste foodor plastic, we are, in a way, wasting all the resources it took to produce our burger, or the packaging of our spaghetti, as well as all the gasses released. Food waste accounts for 8% of all our greenhouse emissions across the world! Think back to those glasses of milk, producing 3.1 million glasses of milk uses 360 billion litresof water … that's 12 million swimming pools of water wasted when we throwaway milk (Wrap UK) .

Aside from the planet, waste also has an impact on our society. The European Union, the UK and countries like the United Stateshave given lots of their plastic waste to other, often poorer countries to recycle. These countries have accepted this plastic waste because they get money to do so, but often the waste they receive cannot be recycled, so instead it gets burnt or stays in landfills – this impacts the health of people living in those countries due to pollution! This means some people are creating lots of plastic waste that will impact the health of those who aren't responsible for the waste – that doesn't seem fair to me.

All this waste also affects society in another way. Can you guess what that is?

If we see everything we buy as something that can be thrown away, or something that will eventually become rubbish, then we'll buy more! Which can be expensiveand impactpeople and the planet.Constantly buying new things instead of learning how to reuse or repair our stuff can also make us less creative!

So, what do I mean by this?

For example, if we tear a hole in a shirt, we might see it as something that can be thrown away, but we coulduse our creativity to learn how to sew up the hole, ormake a nice little patch to cover over it.

We could see a plastic bottle as something tobe thrown away, or we coulduseour creativity to think about how else to use it – to personalise it to use a piggy bank or to use it to grow plants, or feed birds.

It's important to produce less waste, as this will help the planet and people!

So, how can we produce less waste?

Well, we can follow this simple idea:
Have youheard of "reduce, reuse and recycle?"- While reduce, reuse and recycle is great, we can add more actions to ensure we're being as wise about waste as possible!

To avoid waste, let's always try and first:

Reduce – this means lowering the amount of waste we produce. How can we do this? We can start by trying not to buy or use things that we think we may throw away, like plastic bags - we can instead use cloth bags. In fact, many people across the world challenge themselves to going plastic free to reduce plastic waste! Does this sound scary? It doesn't have to be! Organisationslike Friends of the Earth encourage us to try going plastic free for a week, or even just a day here and there. There are many ways to do this, from making juice at home instead of buying it in plastic bottles or using our own containers when we are collecting a takeaway.

Even when buying or cooking food, ask your parents or carersnot to buy or cook food that you don't think will be finished. We can also try to buy things only when we need them – like new clothes or new stationary for school.

If we can't avoid buying something, thenwe should try and: reuse, repurpose, repair and donate!

Reuse – this means not throwing away things after using them, so the plastic bag you got at the shop, try and use it many times!
Repurpose – this means reusing somethingbutchanging it slightly so that it can help you in a different way, orserve a different person! Why not take something you would have thrown away, andturn it into something new! For example, you might turn a ripped pair of jeans into shorts! Even for food waste, we can help our families use leftovers to create new dishes, like with leftover rice, we can make fried rice, or pakoras,and in this way, we are using food that may have become waste and creating a new dish with it!

Let's get wise about waste transcription continued

Repair – We can also repair items instead of throwing them away and turning them into waste. Do your trousers have a hole in them? Why not ask a trusted adult to help you sew it back up? Is your computer broken? Why don't you ask a family member to help you repair it?

And,we can always donate our unwanted things if they are still working and useable.

Donate – Don't want something anymore? Why not give it toother people who may be able to use it, at a charity shop?
And lastly, if we can't do all of this, we should try and recycle. Recycling is the last thing we should do to tackle waste for a few reasons. One is because local councils often burn items we want to recycle – so even if we think all our waste will be recycled, that often isn't the case! Another reason why recycling isn't the best option to reduce waste is that it takes resources and energy to recycle items. But,it's still better to try and recycle things rather than have them go into a landfill! Soif you cannot reduce, reuse,repurpose, repair or donate, then definitely still try to recycle!

It may feel overwhelming to change our habits, orask people around us and our loved ones to change theirs, but if we can try and re-imagine items not as waste, but as valuable items that we can creatively remake into something useful or interesting, or reuse, repair or donate, then slowly, we can become wise about waste!