E-Waste - KS2

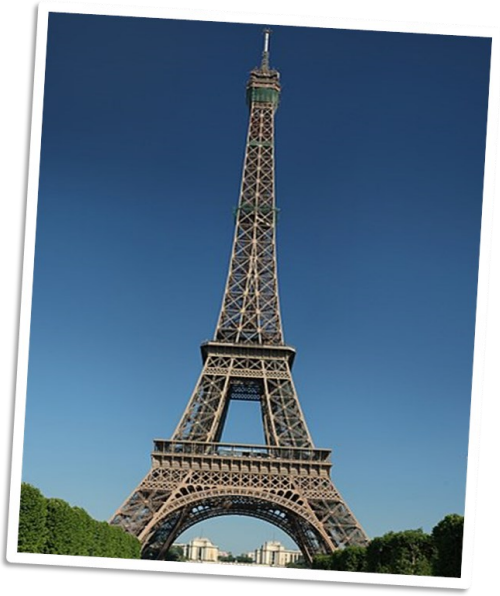
Let's explore how much electronic waste we create and what happens to the things we throw away?

- We use electronic devices every day, you might even be using one right now. These include everything from toasters and kettles to fridges and washing machines to phones and laptops.
- Let start by looking around us, you have two minutes to count how many devices you can find in your house or classroom! See if you can find one in every room?

  How many did you find? .....
- As they break or technology advances, we replace our devices with new ones creating electronic waste or 'e-waste'.
  The amount of e-waste we create is skyrocketing, globally it is the fastest growing type of waste!
- As a planet we throw 40 million tonnes of e-waste away every year. That pile of discarded electronic items would weigh the same as,

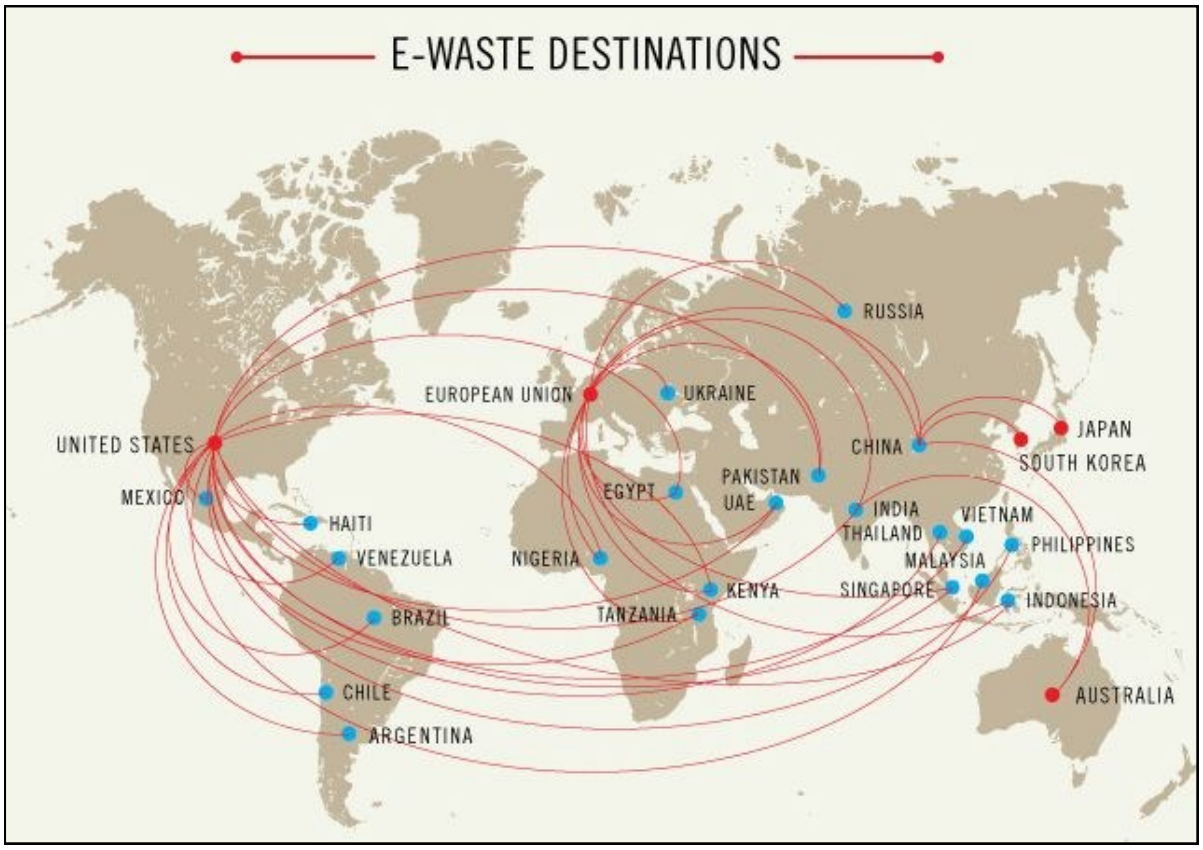
4500

Eiffel Towers



Where does our e-waste end up?

- For many years we have discarded old electronic devices and replaced them with a brand new one without thinking about the problem we are making. We are now becoming more aware of the issues that come with creating so much waste and are thinking more and more about what actually happens to e-waste when we discard it.
- The best thing we can do to is to throw less electronic devices away but when they do need replacing our government demands that the companies who sold us the item provide ways for customers to deal with the e-waste responsibly. We need to make sure they are doing what they promised!
- Often what happens is that our e-waste is shipped to other countries across the planet. Do you think its fair for another country to have to deal with the things we throw away?



Source of e-waste Destination of e-waste

The 'Digital Dump'

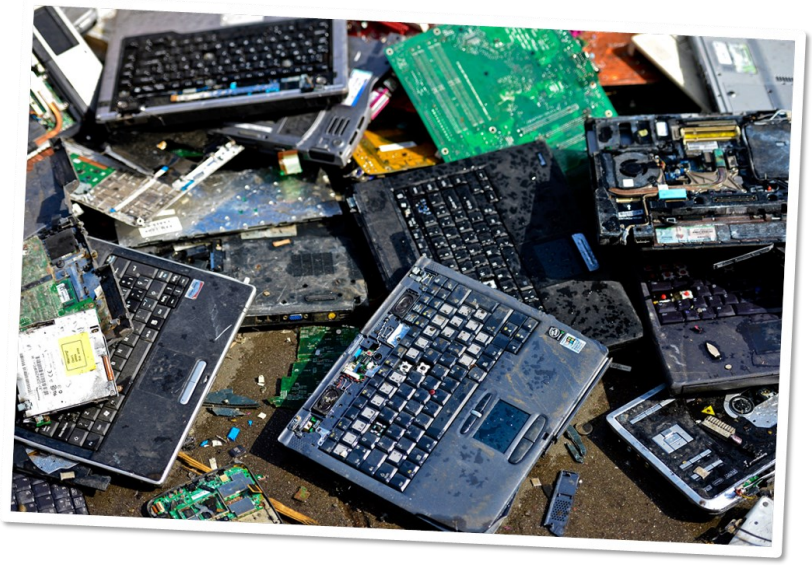
- Only 20% of e-waste is collected and recycled properly, the rest is shipped abroad or not dealt with responsibly.
- The majority of e-waste is from more developed countries such as the USA, the world's largest source of e-waste, and sent to developing countries where it is dumped in landfill or poorly 'recycled' under dangerous conditions. This often involves burning the plastic wires to get to the metal underneath, giving off toxic smoke clouds.
- Many dumped devices are wasted when they could have been fixed and used second-hand by people in the country they were sent to.

Ghana is the world's biggest digital dumping ground, having to deal with more e-waste than any other country. Almost all of the e-waste was created by other countries.

Why should we change?

- Firstly, we have to think about how our devices were made. For example, a laptop contains many wires, batteries and other components made from metal. That metal was taken from rocks that were mined from the ground. If the laptop is dumped then we need brand new laptop parts which means mining more rocks, damaging our environment further.

- It is also dangerous for the environment to dump our e-waste. If the laptop ended up in landfill, either in this country or abroad, poisonous chemicals from parts such as batteries can leak into the soil and nearby rivers, risking the health of both animals and local people.



The value hidden in e-waste

- As well as the need to look after our planet, we should also investigate the hidden value in thrown away electronics. A broken phone might look useless but there are rare metals, such as gold, inside the device that we are just throwing them away. These metals are hard to find in nature and very useful, we should make sure we recycle these parts so that they can be used again.
- These old electronic materials are so useful that there is actually more gold in one tonne of e-waste than in one tonne of mined rock!

So we know we make and use A LOT of electronics, and much of it is thrown away. We know that dumping our e-waste is dangerous to both people and to our planet but what can we all do every day to help?

The 3 Rs

Three simple ways to help limit the problem of e-waste and look after our planet are the 3Rs

Reduce, reuse, recycle

reduce

Reducing our waste just means to throw less away. It is the simplest, most effective way to look after the planet. How could we throw less e-waste away?

We can create less e-waste by using a pre-owned device. If you get a new electronic device but your old one still works it's important not to waste it. Someone else you know might love to use it after you.

You can also donate old working devices to charities, who help to provide people with more affordable electronics. This can be very useful for items such as laptops and phones that can be very expensive when new! Sharing our old electronic items is a vital way to help reduce e-waste.

reuse

Broken electronics can still be used again as well. Something simple like a cracked phone screen can be taken to repair shops where the screen is replaced for a price that is tiny compared to buying a new phone. However the largest contributor to e-waste is household appliance, which aren't as easy to repair.

The WRWA recycling centre can take your appliances such as old washing machines and fridges where 'Rework Project' engineers fix them in their workshop and give them to local charities. This is a great way to **reuse** these old items and provide jobs for local people.

RE WORK

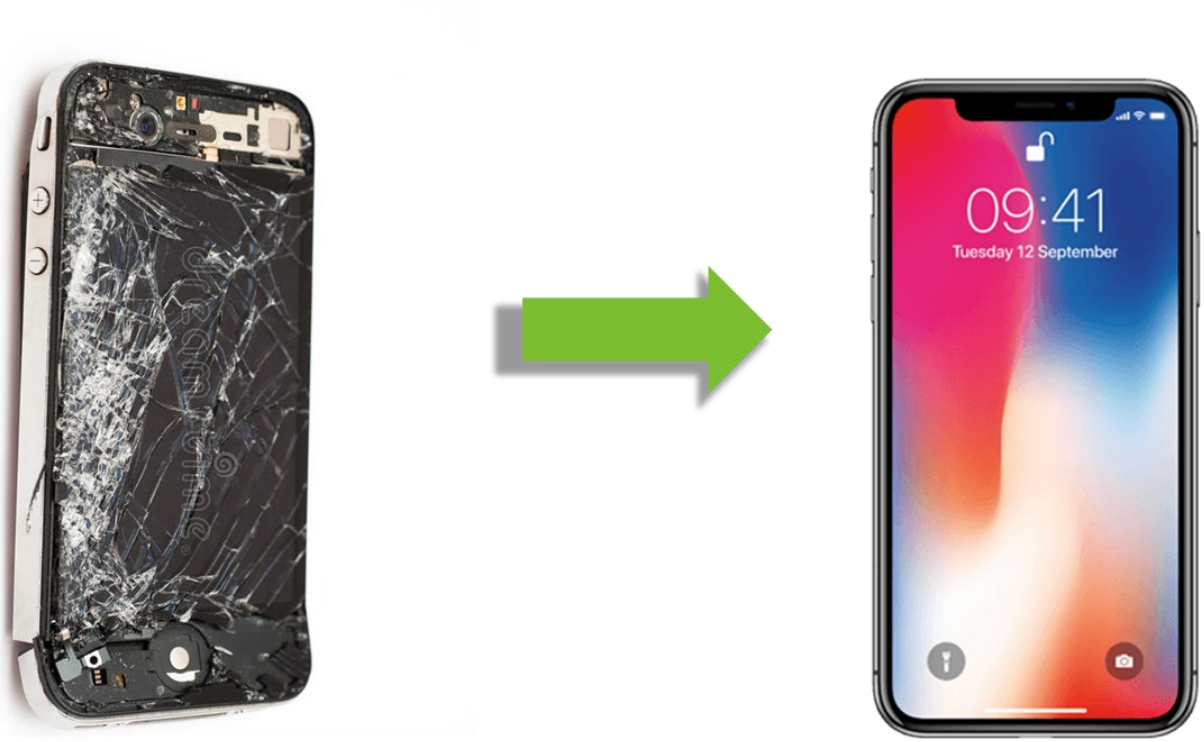
Reduce, reuse, recycle

recycle

If something is broken beyond fixing it can often still be **recycled.** The materials inside the electronic can be taken out and used in something brand new!

At home or school you can put certain materials made of paper, cardboard, plastic, metal and glass into your recycling bin that is collected by bin lorries and brought to the WRWA recycling centre.

You can NOT put any electronic waste into your council recycling bin but there are other ways to recycle your old electronic devices.



Currently only 20% of e-waste is recycled so we need your help to recycle as much of it as possible. Separate recycling points are available at the WRWA centre as well as in schools and supermarkets for a range of things from batteries to lightbulbs. From here they are collected and the materials recycled.

That means to make something new we can use these old materials rather than taking resources from our planet. Taking less from nature helps create less pollution and to protect habitats.

Let's see much you know about e-waste!

What does e-waste actually stand for ?

A) Emergency waste

B) Environmental waste

C) Electronic waste

D) Edible waste

Which country creates the most e-waste ?

A) France

B) Ghana

C) Brazil

D) USA

Which country gets the largest amount of foreign e-waste ?

A) Ghana

B) Japan

C) Ireland

D) Egypt

Let's see much you know about e-waste!

How much e-waste is currently properly recycled ?

A) 80%

B) 50%

C) 20%

D) None of it

Which contains more gold ?

A) One tonne of mined rock

B) One tonne of old electronics

What are the 3Rs ? (this one should be easy…)

A) Reduce, Return, Reply

B) Retrieve, Remove, Reappear

C) Reduce, Reuse, Recycle

D) Rewind, Reflect, Remind

Well done !

Reduce, reuse, recycle

If your pupils have any photos of their work, feel free to share them with us on Twitter at @WRWArecycling

We love seeing what schools have come up with!

Links to further reading to learn more

The problem with e-waste

https://www.recycleyourelectricals.org.uk/problems-with-e-waste/

Where you can recycle electronics

https://www.recycleyourelectricals.org.uk/how-to-recycle-electrical-items/

The Rework Project

https://wrwa.gov.uk/reuse-workshop/

BBC Documentary on e-waste dumps

https://www.bbc.co.uk/programmes/p05dmmns

Reuse/Donate your old phone

https://www.fonebank.com/oxfam/

https://www.freecycle.org/

Quiz Answers

What does e-waste actually stand for ?

C) Electronic waste

Which country creates the most e-waste ?

D) USA

Which country gets the largest amount of foreign e-waste ?

A) Ghana

How much e-waste is currently properly recycled ?

C) 20%

Which contains more gold

B) One tonne of old electronics

What are the 3Rs ?

C) Reduce, Reuse, Recycle

Thanks for playing!