

Recycling metals — KS1

Do you know where on earth metals come from?

Metals are found within rocks deep down in Earth and are called 'ore'. You might have heard of 'iron ore'. There are lots of different ores for different metals.

How does rock get turned into metal?



Step 1: Cut down trees to get to the land to drill.

Step 2: Drill down deep to get rocks and ore.



Step 3: Ore is heated with chemicals until it melts and we get liquid metal.



Step 4: The liquid metal hardens as it cools and becomes hard metal.



Can you think of a reason drilling to get rock to turn into metal might be a problem?

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Reduce, reuse, recycle

What are the problems with metal production?

1. When you buy food or drink in a can, remember it has taken a lot of work, water and energy to turn ore into a can. To use it for a very short time and throw it away is a waste.
2. If we keep cutting down trees and digging for rocks we are destroying the earth and animals that live there.
3. Drilling and getting rock and ore creates a lot of pollution.
4. All this is contributing to climate change.

Are these a good use of earth's resources?



Recycling

just



1 tin can saves enough energy
to power a television for...

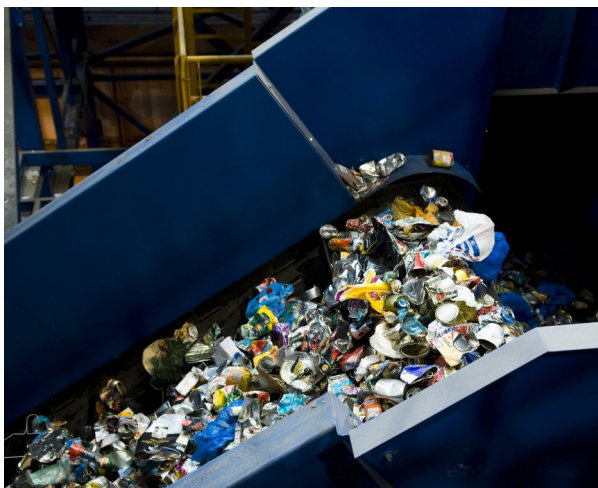


FACT: It takes **much less** energy to melt and remake metals than it does to get new metals - which means **a lot less** water and electricity is used and **a lot** less pollution is created from recycling metals. (see page 6)

Reduce, reuse, recycle

Once I have put my clean metals in the recycling bin where does it go?

It gets taken by the bin men to the Materials Recycling Facility in Smugglers Way, Wandsworth. We call it the MRF (pronounced MURF).



Here the recycling bounces along a conveyor belt and gets separated. The metals are separated by a big magnet.

At the end of the belt is a big crusher which crushes the sorted metals into big cubes called 'bales'.

The bales of metals are put onto a big transport truck and taken to a recycling factory.



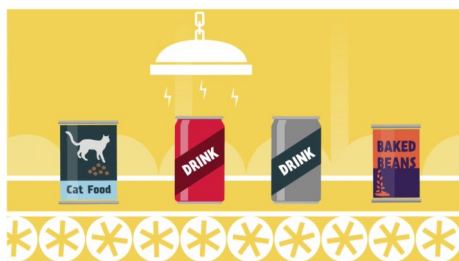
Can you recognise any of the tins in this crushed bale?

I can see a baked bean tin!

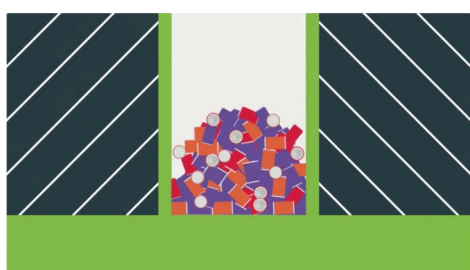
Don't forget clean metal lids and the tops of food tins CAN be put in your recycling.

Reduce, reuse, recycle

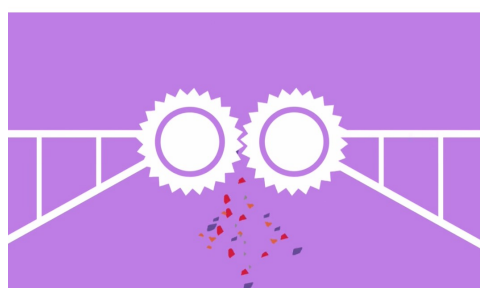
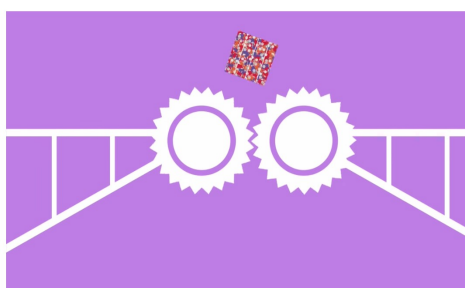
How do metals actually get recycled at the recycling factory?



The bales are unloaded and split onto a conveyor belt. The metals are washed and cleaned. Although they are washed we would like them in the recycling bin clean so other recycling doesn't get dirty.



The clean metals are then are crushed back into bales.



The bales of metals are then shredded into little pieces.

The shredded metal is heated to high temperatures so they can be melted into blocks.

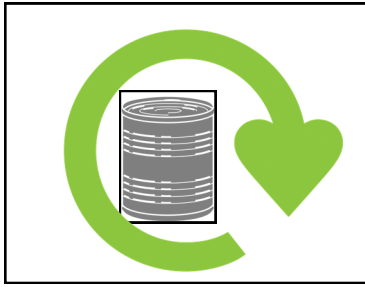
The blocks or ingots are flattened and turned back into cans. It only takes 8 weeks to get a new can back into the supermarkets.



See the full video on metal recycling here:

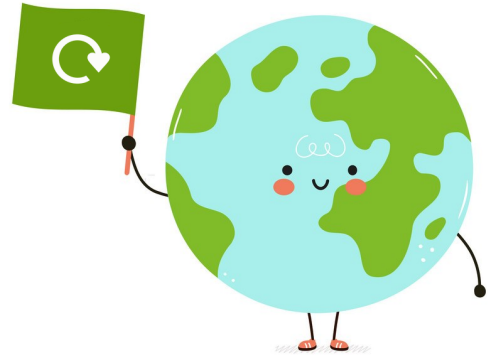
<https://www.recyclenow.com/recycling-knowledge/how-is-it-recycled/cans>

Reduce, reuse, recycle



Did you know that metals can be collected and recycled forever—therefore it makes sense to remember to put it in your recycling bin.

1 in every 3 drinks cans sold in the UK are drunk away from home. It is important that it is saved by putting it in recycling rather than throwing it away.



If you are out and about and can't find a recycling bin, take it home. Take responsibility. If you chose to buy it, choose to get rid of it properly. More outside bins isn't a solution to the amount of rubbish created.

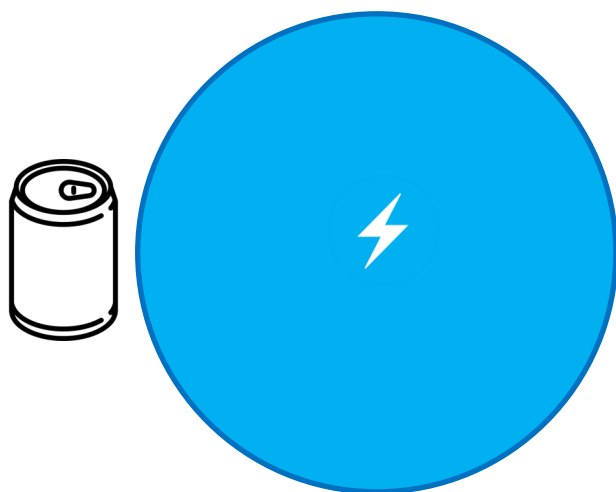
If metals cans end up in the environment it can take as long as 50 years for a steel food can to decompose, and as long as 200 years for aluminium to break down. This isn't as long as plastic bags but it's still quite a long time!



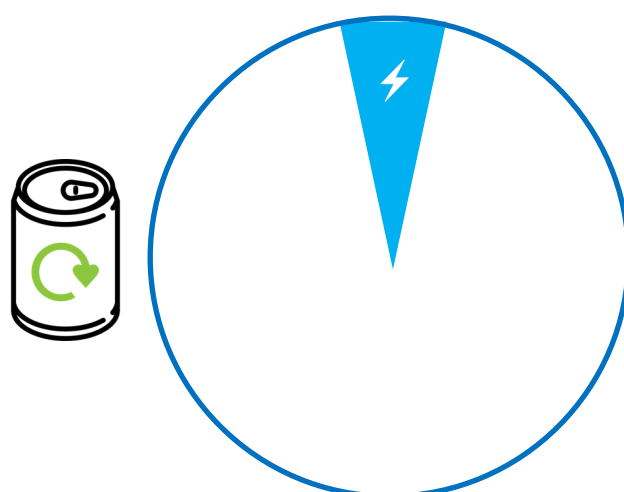
Remember each can could be recycled and be back on the supermarket shelf in just 8 weeks.

Reduce, reuse, recycle

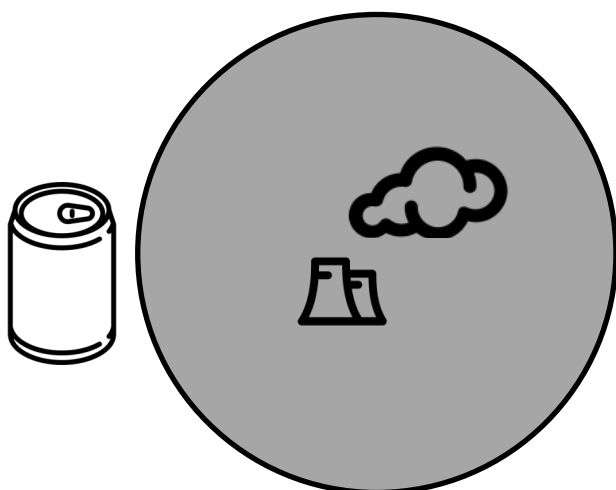
Energy/electricity save by recycling:



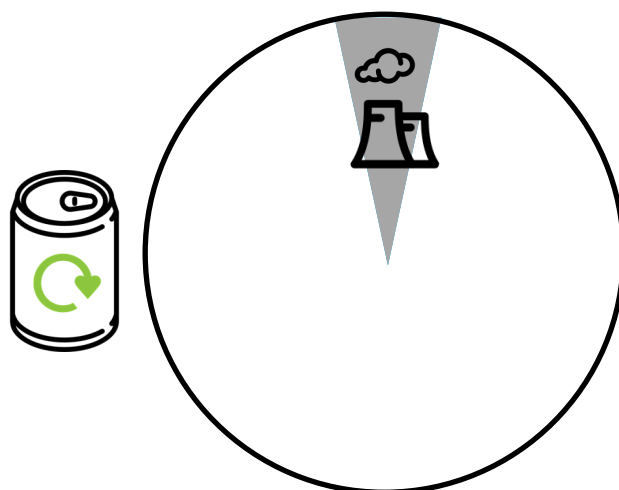
The blue part of the circle shows the amount of energy/electricity used to make one can from rocks/ore.



This blue part of this circle also shows how much energy/electricity used to make one can from recycled cans. Look how little it is compared to the first picture.



The same for this circle—the grey colour both show how much pollution is created from making cans. Can you see how much less pollution is created from recycling?



Reduce, reuse, recycle

Food cans are also fun to turn into something else instead buying something new. Make sure you use a can opener that doesn't leave sharp edges and ask an adult to help. Here are some fun ideas we found:



More Reading:

More about how metals are recycled

<http://ypte.org.uk/factsheets/recycling/recycling-metals#section>