

When we throw things away, we are losing the natural resources and the energy that was used to manufacture them. Most of these natural resources cannot be replaced – for example, the rocks from which metals are mined. So, if we keep on using and throwing away resources in this way, eventually they will run out.

When we throw things away, we are also making an impact on the environment – the waste, or rubbish, has to go somewhere. In the UK, much of the waste is still either buried in landfill sites, or burned.

Recycling is one way in which we can contribute towards sustainability. Recycling means turning waste products into raw materials to make new products.

Aluminium is a good example of why recycling makes sense. The metal doesn't occur naturally in the earth's crust, like many other metals it has to be extracted from rocks – in the case of aluminium, the rock, or ore, is called bauxite. To extract aluminium from the bauxite uses a great deal of energy, in a process called 'electrolysis'. This takes place in a factory, or smelter. The energy used for smelting has to be generated from other natural resources, and, the smelting process produces side products, such as gases, which can be harmful to the environment.

Aluminium can be recycled over and over again without losing any of its properties. It is impossible to tell the difference between recycled or 'primary' aluminium.

One of the properties of aluminium is that it melts at a much lower temperature than other metals. So, melting down 'old' aluminium uses much less energy than the smelting process. It also produces fewer gas emissions, so is much better for the environment.

We call the cycle of recycling a 'loop'. For aluminium cans, it is a 'closed loop' because the cans are melted down into metal that is used to make more drink cans – over and over again.