Recycling

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# Introduction

“Recycling is the process by which previously used objects and materials are converted into something else, rather than discarded.” (Alexander, Catherine; Joshua, Reno, 2012, p. 2)

We will look at recycling [paper](#_Paper), [plastic](#_Plastic), [glass](#_Glass) and cans. We will look at recycling paper, plastic, glass and cans. These items can be processed and re-used to make new products – for example, glass, or recycled items can be used in other creative ways, e.g. >>>.

The following chart shows what percentage of material is recovered:

Figure 1 Percentage of material recovered

# Paper

## How is paper made?

Paper is made by chopping wood up into small pieces, and treating it with chemicals. This produces a soft ‘pulp’. The pulp is then spread out on a flat surface, the water is squeezed out, and it is dried, producing big sheets of paper that are then cut to size.

## How is paper recycled?

At the paper factory, the paper is chopped into small pieces, then boiled and treated with different chemicals to clean and bleach it. This produces a pulp that can be used to make new paper and cardboard products.

## What paper can be recycled?

Most paper and cardboard can be recycled. This includes newspapers and magazines, leaflets, old school books, old phone books, envelopes with no plastic ‘windows’, cereal boxes, egg cartons, paper bags, and much more.

You cannot recycle:

* Wet or dirty paper
* Tissue paper
* Wax or plastic coated packaging
* Self-adhesive paper
* Carbon paper

## Why should we recycle paper?

It is good to recycle paper, because then they don’t have to *make* so much paper. The process of making paper is really bad for the environment. When paper is made, trees are chopped down, and the environment is polluted in many different ways.

This pollution causes an increase in

* acid rain[[1]](#footnote-1)
* climate change
* illnesses like cancer and diabetes
* reproductive, developmental, immune and hormonal problems.

## What do we need to do?

* Bring the paper to the school, and place it in the container marked ‘paper’.
* It must be clean, dry, and as flat as possible.
* It should not contain any other materials, like pieces of plastic.

# Plastic

## How is plastic made?

Oil is used to make petrol. During this process, different chemicals are produced as by-products. Plastic is made from these chemicals. There are many different types of plastic, and they are used to make many different products. Some plastics melt when they are heated, and other plastics are liquids which become hard when the right chemicals are added to them.

## How is plastic recycled?

Different types of plastic have to be recycled in different ways, so when our plastic reach the recycling centre, workers start by sorting the plastic. These days, most plastic products have a small symbol on them to tell the recycling workers what type of plastic each product is made of.

After it is sorted, some plastics are melted down and re-used, while others are chopped up and used as ‘ingredients’ to create new products.

## What plastic can be recycled?

* Any plastic containers, like the ones used for food, drinks, detergents, etc.
* Plastic bags and sheets, like shopping bags, old covers for school books, etc.
* Any plastic products, like toys, erasers and pencil cases.

## Why should we recycle plastic?

Because decomposing plastic pollutes the environment. When plastic ends up at a dump, it releases a lot of harmful chemicals into the soil over many years, and this leaks into the water underground. Plastic takes a very long time to decompose.

At this stage the percentage plastic recovered is the lowest. (See >>>.)

## What do we need to do?

* Bring the plastic to the school, and place it in the container marked ‘plastic’.
* It must be clean, dry, empty and as flat as possible.
* It should not contain any other materials, like pieces of metal.

# Glass

## How is glass made?

Glass is made by mixing materials like sand, limestone, soda and dolomite, then heating them together at a temperature of over 1500˚C. (All about glass, n.d.)

## How is glass recycled?

The glass is sorted, crushed and melted down to make new glass.

## What glass can be recycled?

Beverage glass bottles and food jars can be recycled.

## Why should we recycle glass?

It is also good to recycle glass, because then they don’t have to *make* so much glass. The process of making glass uses a lot of energy, and releases a lot of carbon dioxide into the environment. It also causes a lot of water pollution.

## What do we need to do?

* Bring the glass to the school, and place it in the container marked ‘glass’.
* It must be clean, dry and empty.
* It should not contain any other materials, like steel wire or tin lids.
* You don’t have to remove paper labels, as these will simply burn away when the glass is melted.
* Do not break the glass, or, if the glass is already broken, do not mix different colours of broken glass.

# Cans

## How are cans made?

Tin cans are not made of tin! Tin cans are made either of tin-coated steel, or of aluminium. These have to be recycled separately.

## How are cans recycled?

The different types of cans are separated and melted down, so that the materials can be re-used.

## Which cans can be recycled?

The cans used for cold drinks, food, paint, etc. can all be recycled.



Figure 2 Car made with recycled cooldrink cans

## Why should we recycle cans?

When cans are made, it takes a lot of energy, and a lot of carbon dioxide is released into the atmosphere. Making a can by melting down old cans takes a lot less energy and creates a lot less pollution.

## What do we need to do?

* Bring the cans to the school, and place them in the correct container.
* The tin cans must be clean, dry, and as flat as possible. The ‘can squasher see-saw’ next to the container can be used to flatten the cans.
* They should not contain any other materials, like paper labels.

1. ACID RAIN forms when clean rain comes into contact with pollutants in the air, like sulfur dioxide (SO2), carbon dioxide (CO2), and nitrogen oxides (NOX) [↑](#footnote-ref-1)