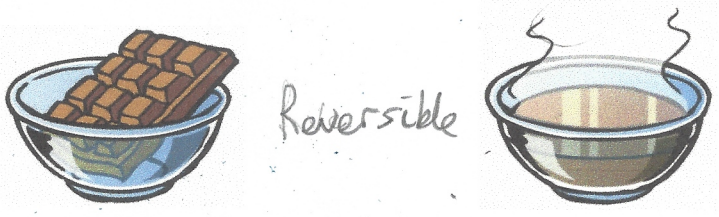
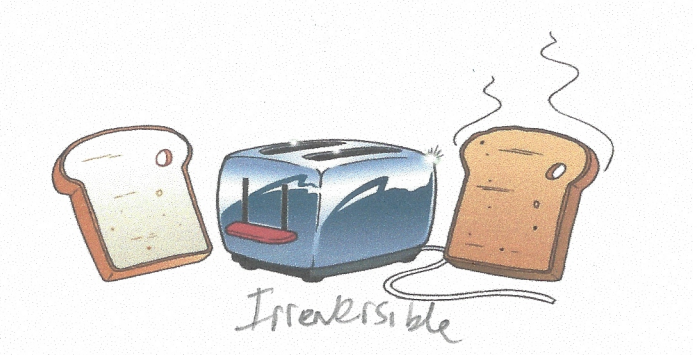
Irreversible reactions

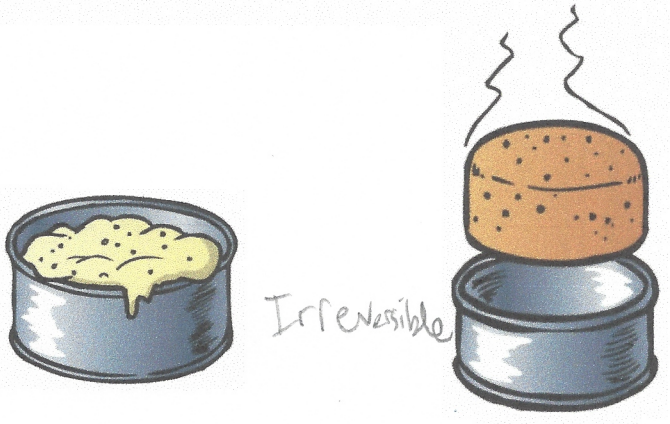
In an irreversible reaction, a new material is formed. This is also called a chemical reaction. It is very difficult, or even not possible at all, to recover the original materials.

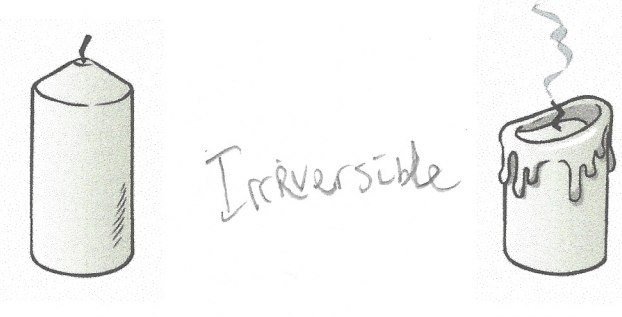
Activity 1

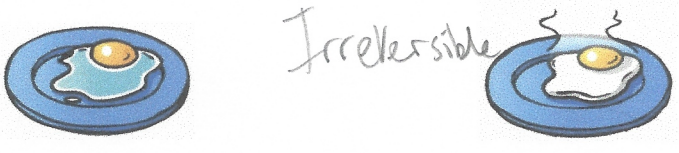
Which of the following are irreversible?





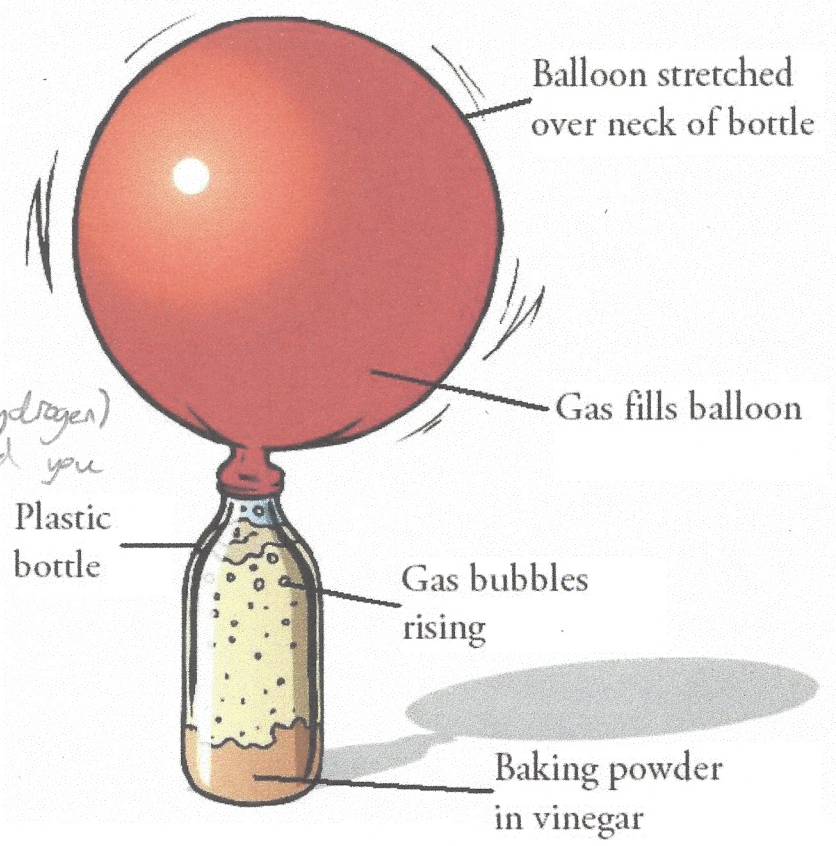






Activity 2

Lara noticed that when she added baking powder to vinegar fizzed, so she placed some vinegar and baking powder in a and collected the gas using a balloon, as shown in the diagram.



it

bottle

Is this an irreversible reaction? Give a reason for your answer.

Yes because the gas (hydrogen) has already been made and you can't take it out

Activity 3

Lara wanted to find out if the amount of baking powder affected how much gas was made. Look at the following chart decide which will be investigated, changed and controlled. Tick the correct boxes.

and

Variable	To be investigated What you are going to measure and record.	To be changed (Will change)	To be controlled (Not Changed)
Type of balloon	X	X	✓
Amount of gas produced	✓	✓	X
Amount of baking powder	✓	✓	X
Amount of vinegar	X	X	✓
Type of container	X	X	✓
Temperature	X	X	✓

Can you think of a way that she could measure the amount of gas produced?

She could Measure the diameter of the balloon

Activity 4

Jim wanted to investigate whether the type of vinegar affected the investigation. Look at the following chart and decide which will be investigated, changed and controlled. Tick the correct boxes.

Variable	To be investigated	To be changed	To be controlled
Type of balloon	X	X	✓

	Investigated	Changed	Controlled
Amount of gas produced	✗	✗	✓
Amount of baking powder	✗	✗	✓
Amount of vinegar	✗	✗	✓
Type of vinegar	✗	✓	✗
Type of container	✗	✗	✓
Temperature	✗	✗	✓

Challenge *Fizzy sherbet!*

Make some fizzy sherbet.

You will need:

- 20 teaspoons icing sugar
- 1 teaspoon citric or tartaric acid
- 1 teaspoon baking powder (bicarbonate of soda)
- A bowl

Method:

In a bowl, mix the icing sugar, acid and baking powder.

Try eating some. What happens in your mouth? It fizzes in my mouth and I could feel the bubbles as soon as it mixed with my saliva.

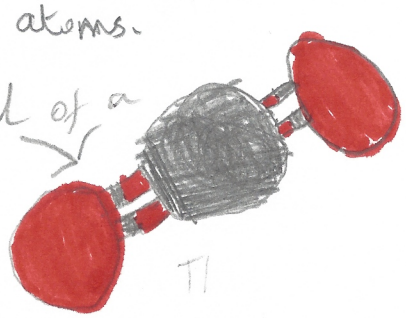
What is going on?

When you eat the sherbet it mixes with the liquid saliva in your mouth. The acid reacts with the baking powder to make bubbles of carbon dioxide gas, which makes the sherbet fizzy on your tongue.

Find out about the gas called carbon dioxide.

Carbon dioxide (CO_2) is one of the most common compounds in the world. Plants breathe in CO_2 and breathe out oxygen, and we humans breathe in Oxygen and breathe out Carbon dioxide. CO_2 can stands for 1 carbon atom and two Oxygen atoms.

This is a model of a CO_2 molecule →



Carbon dioxide is found in the sea and the air. It takes up less than 1% of the Earth's atmosphere. People burn fossil fuels for instance when they are driving and every day it is unfortunately rising.