



Rust - Why does metal rust?

Fact

- Rust happens when things made from iron get left lying around in damp conditions and the iron gets reddish brown flakes on it.
- Rust happens when iron water and oxygen mix together. It's called oxidation.
- Rust is a chemical reaction because it makes a new substance called Iron Oxide.
- The oxidation makes the metal weak so it's easy to break

Do you know

- If you stop water and air getting to iron or steel, maybe by painting it, then you can stop the rusting process.
- Stainless steel is a metal that contains iron mixed with carbon and other metals like chromium, nickel and manganese, which help stop rust from happening.
- Not all metals rust but iron and steel (which is mostly iron) do.
- Salt speeds up the chemical reaction and the rusting process so things made of iron and steel near the sea can get rust more quickly.
- Acid rain can help speed up the rusting process too.

Experiments you can do

What you need:

Scraps of iron and steel
A piece of aluminium foil
A five-cent coin
An old metal button

An old screw
An old washer
A magnet (one from the back of a fridge magnet will do)

What you do:

First of all make sure all the items you've collected contain some iron. If they do then the magnet will be attracted to them.

Find a place outside where these things won't get in the way and then lay them out to be exposed to the weather. This experiment will take a bit of time so make sure they won't get in the way of anyone. You'll need to put something on the foil so it doesn't get blown away by the wind.

Which ones rust when you leave them out in the rain? (You need to be patient – rusting is a very slow business!)

Other Investigations

Have a look around your garden for metal things. Use your fridge magnet to help you find them. Look for nails in a fence, wire in a fence, garage doors, (your garage even), hinges, toys, bicycles, your family car... are any of them rusty? What are they made out of? What protective coat do they have on them and is that coat working?

Jokes

Have you read the book "Rusty Bedspings"? It's by I.P Nightly