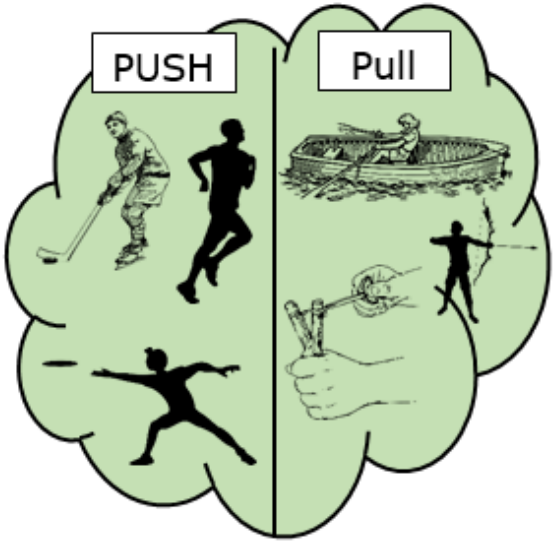
Forces and Magnets

Year 3 – Science – Spring 1

PUSHING AND PULLING

A force is a push or pull acting on an object as a result of the object's interaction with another object. Forces can make objects stop or start moving.



Friction

When objects are pushed or pulled, an opposing force can be felt. This opposite force is called 'friction'. Friction causes things to slow down or stop. The grip on our shoes stops us slipping. Therefore, friction is great.

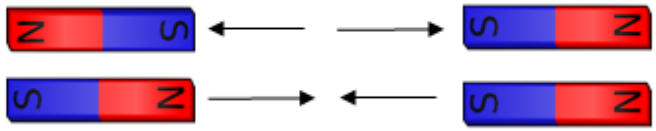
Ice-skates on an ice-rink will move for a long time because there is very little friction. The rougher the surfaces, the greater the friction.

Magnetic Poles

When two magnets are close, they create pushing or pulling **forces** on one another. These forces are strongest at the ends of the magnets. The two ends of a magnet are known as the **north pole** (N) and the **south pole (S)**.

The Same poles repel / The opposite poles attract

If you try to put two magnets together with the **same** poles pointing towards one another, the magnets will push away from each other. We say they ***repel*** each other. Opposite poles ***attract*** and are brought together.



FUN FACTS

Some forces need contact between two objects, but magnetic forces can act at a distance.

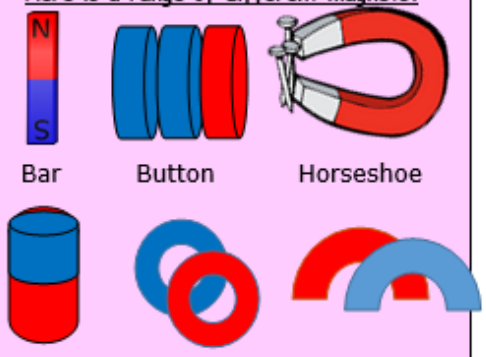
By using iron filings you can 'see' the magnetic field around a magnet.

What is a Magnet?

A magnet is a special object which produces an area of magnetic force around itself called a ***magnetic field***.

If a ***metal*** object enters this magnetic field, they will be attracted towards the magnet and end up sticking to it. (Non-metallic objects such as wood, plastic or fabric would not be attracted to it.)

Here is a range of different magnets:



Inside a compass is a small magnetic pin which constantly points north.

Earth has a natural magnetic field which means the pin turns to always face north and helping people find their way.