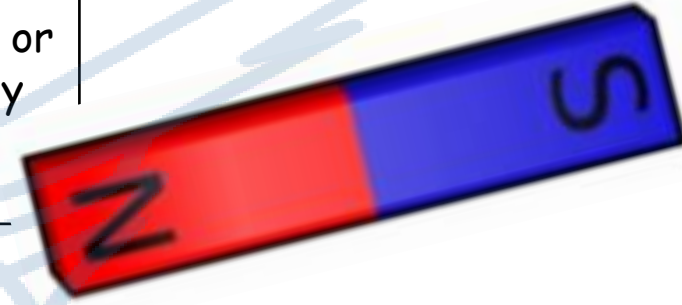


# Science - Force Fields

## Key Vocabulary

Magnet	Object which is made of materials which create a magnetic field
Magnetic field	Area around a magnet where there is magnetic force
Force	Push or pull which causes an object to change direction or speed
Attract	A pull force that magnets exert over materials which contain iron, nickel or cobalt
Repel	A push force which magnets exert against like poles
Poles	Each end of a magnet where its force is the strongest - magnets have a north and a south pole
Friction	Resistance caused when two objects rub together.

Magnetism can attract objects or push them away without actually touching them!



Magnetism was discovered in 1600 by Britain's William Gilbert.

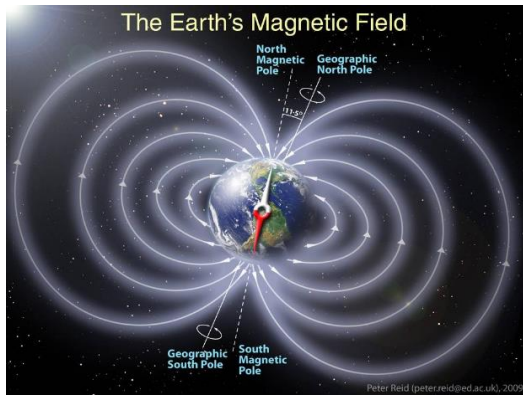
What else can you find out about Mr Gilbert and his discovery?

Magnets are used to help people find their way. They are contained in compasses which help people find North, East, South and West. These interact with the Earth's own magnetic field.

Magnets attract metallic objects, but not all metals are attracted to magnets, only those containing iron, nickel or cobalt.

# Science - Force Fields

The Earth is a giant magnet! Its magnetic field is a bit like a bar magnet right at its centre.



Whilst most forces rely on contact between two objects, magnetism can affect objects from a distance.



PUSH



PULL



What forces might you use to make a roundabout at the park move?

**Friction** is a force exerted when two objects rub together.

How many other instances can you think of where high friction is helpful?



Where one or more of the surfaces is rougher, friction will be higher. This is needed to stop us slipping around whilst out running.



Where one or more of the surfaces is smooth, friction will be lower, which is why we can glide along on ice skates.

Which would travel furthest - a toy car pushed across a vinyl floor or a toy car pushed across a fluffy rug? Why?