Forces and magnets – Science Year 3

Key vocabulary	
force	A force is a push or a pull.
magnetic force	An invisible force that attracts magnetic metals.
magnet	Magnets attract magnetic materials. Iron, nickel, cobalt and materials that contain these (e.g. stainless steel) are magnetic.
attract	To pull towards.
repel	To push away.
poles	Magnets have two poles, a north pole and a south pole.
contact force	Many forces need contact to act:  
non-contact force	Magnetic force does not need contact and can act at a distance.

Objects moving on surfaces:

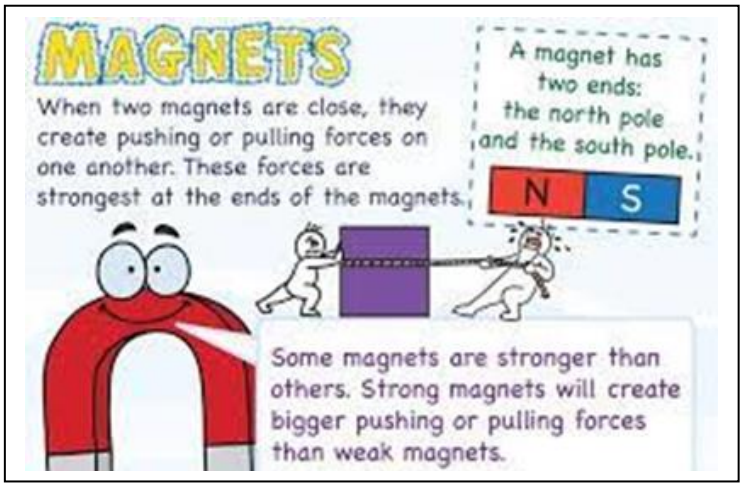
Ice skates have a sharp blade. This helps them move better on ice.

It is much harder to walk on ice in trainers.

A bowling green is closely mown so the grass is short and the balls roll easily.

Significant scientist	
Michael Faraday *(1791-1867)* 	Michael Faraday was an English scientist. In 1831, he discovered electromagnetic induction. This was a very important discovery for the future of science and technology.

Types of magnets:	
Bar 	**Ring** 
Button 	**Horseshoe** 



A magnet attracts magnetic materials.

These metals are magnetic:	
iron nails 	**nickel**  50p coins contain nickel
stainless steel 	**steel** 

We can sort and classify materials as:

A compass works by detecting and responding to the Earth's natural magnetic fields. The Earth has an iron core that is part liquid and part solid crystal, due to gravitational pressure. It is believed that movement in the liquid outer core is what produces the Earth's magnetic field.

- Poles - North and south ends of a magnet
- Attract - The force of one object pulling another object towards it
- Repel - The force of one object pushing another object away.
- Magnetic field - The area around a magnet where the magnetic forces work.