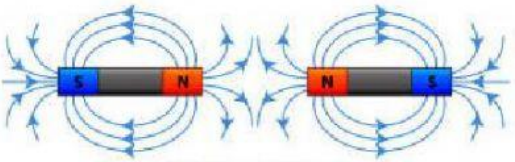
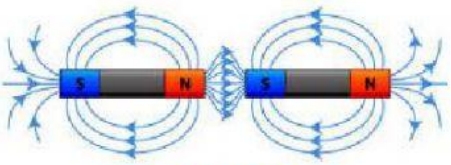
Forces
Magnetism

The force in which magnets are used is the force of **magnetism**. A **magnet** is an object that attracts certain material, usually objects made of iron or steel.

A magnet has two ends called magnetic poles or just poles. A magnet's pull is strongest at the poles. The north pole is marked **N** and the south pole is marked **S**. Opposite magnetic poles attract (NS). The same [like] magnetic poles repel. (NN/SS)



LIKE POLES ATTRACT



UNLIKE POLES ATTRACT

A **magnetic field** is the space all around a magnet where the force of the magnet can act.

Magnets have different shapes and are sometimes identified by their shapes which include round, rectangular, horseshoe, rings or disks.

Types of Magnets

There are three main types of magnets

- Permanent Magnets
- Temporary Magnets
- Electromagnets

Permanent Magnets

Permanent magnets are the ones that you see hanging on refrigerator doors. They are permanent in that once they are magnetized, they will always have some level of magnetism.

Temporary magnets

Temporary Magnets act like permanent magnets when they are within a strong magnetic field, but lose their magnetism when the magnetic field disappears. Example of temporary magnets are paperclips, mail and other soft metal.

Electromagnet

An **electromagnet** is a very special kind of temporary magnet that uses electricity to create a magnetic field. It only acts like a magnet when electricity is flowing through it. Unlike other magnets, electromagnet can be controlled by a switch. When the switch is turned off, the electromagnet loses its magnetism. Whatever the electromagnet was holding drops to the ground. This type of technology is used to operate large cranes that lift heavy metal objects such as cars. Electro magnets are also used to make motor runs in small appliances.