
Forces?

# Magnetic Force

We have learnt that **an object moves when a force acts on it**. One type of force that can move an object is magnetic force.

**A magnet is an object which can exert a magnetic force on another object.** Magnets come in **various shapes and sizes.** Two common types of magnets are **bar magnets** and **horseshoe magnets.**

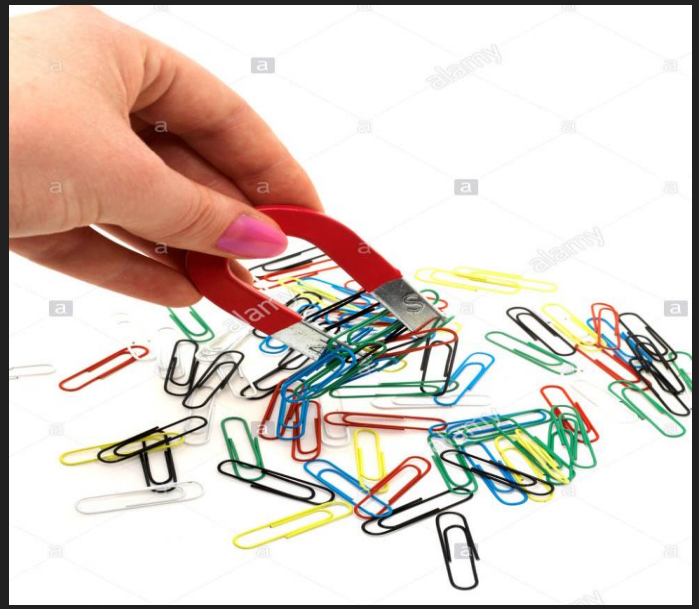
- Types of magnets

## Bar magnet


## Horseshoe magnet

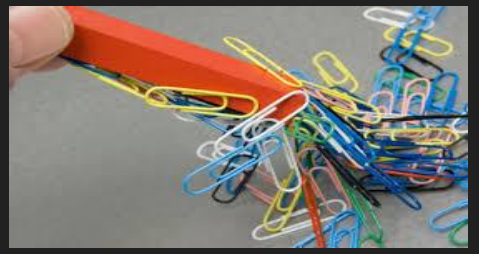
# Magnets can move objects

- Let us see what happens when we hold a magnet over some iron fillings or steel paper clips. The iron filings and the steel paper clips appear to ´stick´ to the magnet because the magnet exerts a magnetic force on these objects.



# Distance can affect movement caused by a magnetic force

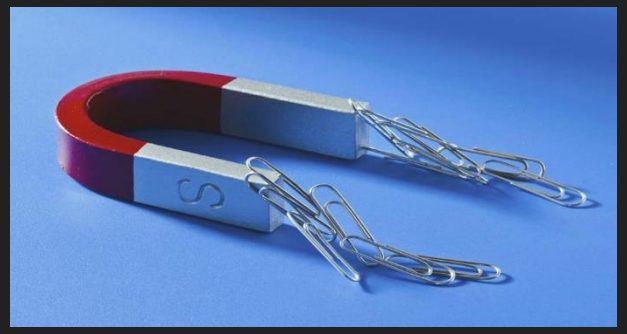
- Magnetic force can act a distance. This means that a magnet can exert a magnetic force on an object even when they are not in contact.
- The strength of the magnetic force acting on an object depends on many factors, including the distance between the magnet and the object.



# Magnetic materials and non-magnetic materials

- Materials which are attracted by magnets are known as magnetic materials. Iron and steel are examples of magnetic materials.
- When we hold a magnet over some pieces of paper, we find that the pieces of paper do not move. Materials such as paper, wood, glass, plastic, rubber, aluminium and copper, which are not attracted by magnets, are called non-magnetic materials.

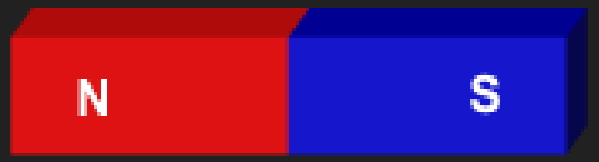
**Magnetic materials**




**Non - magnetic materials**

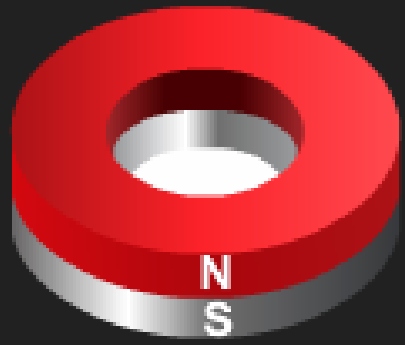
# Attraction and repulsion between magnets

- A magnet can also push or pull another magnet. Every magnet has a North pole and a South pole.




Bar magnet


Horseshoe magnet




Ring magnet

# Attraction and repulsion between magnets

- **Unlike poles attract each other:** if we bring the North Pole of one magnet close to the South Pole of another magnet, we can feel the North and South Poles pulling each other. The force which pulls the magnets together is called the force of the attraction, the North Pole and South pole are unlike poles. Unlike poles attract each other.

# Attraction and repulsion between magnets

- **Like poles repel each other:** if we bring the North poles of two magnets or the south poles of two magnets close to each other, we can feel the poles pushing each other apart. The force which pushes the magnets apart is called the force of repulsion. The two north poles and the two south poles are like poles. Like poles repel each other.