# Forces & Magnets

## Objectives

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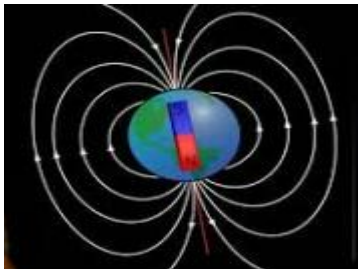
| Notice that some forces need contact between two objects, but magnetic forces can act at a distance |
| Compare how things move on different surfaces. Investigation with a car, ramp and different surfaces (friction). |
| Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. |
| Describe magnets as having two poles. Predict and observe whether two magnets will attract or repel each other, depending on which poles are facing. |

## Scientist William Gilbert (1544 to 1603)

Gilbert was the first to suggest that Earth's core contained iron and that magnets point north because Earth itself is a giant magnet.

Although magnetism and static electricity were known about by the Ancient Greeks, the understanding of how they worked didn't progress until Gilbert took on the task over 2000 years later!



## Scientific Terminology

**Attract– -** to pull towards

**Contact -** when objects touch

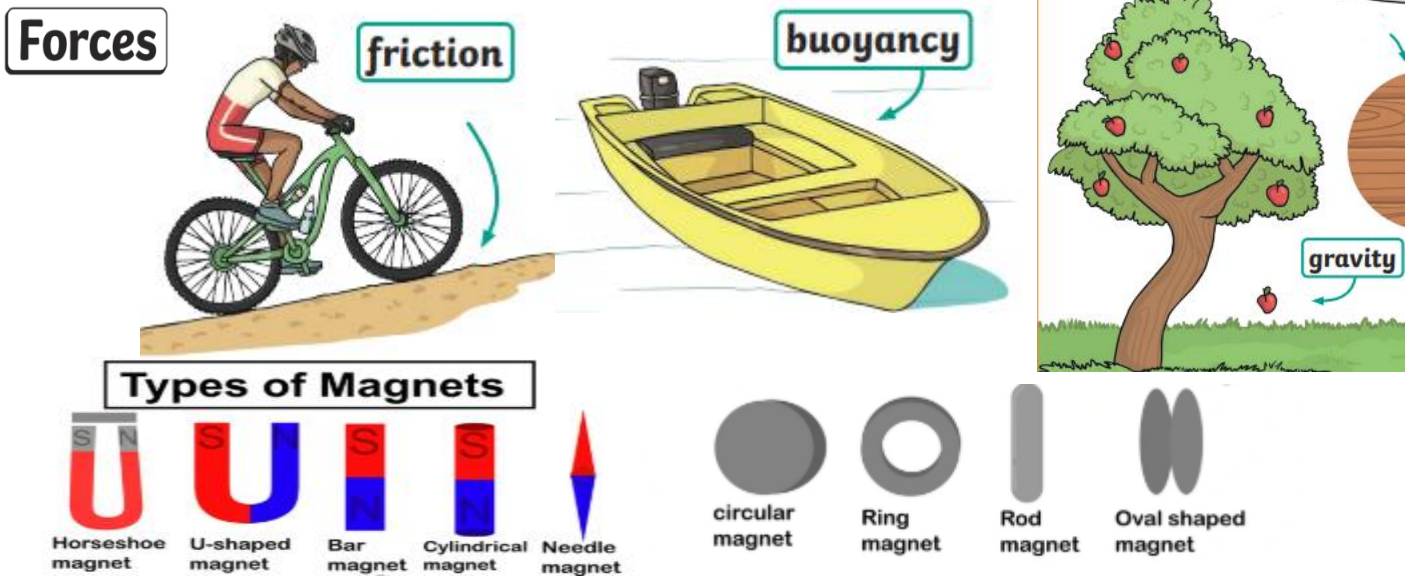
**Force** - a push or pull that acts upon an object that can cause it to move, change shape or change direction

**Friction-** the force that acts upon one surface when it moves against another

**Magnetic force –** when a magnet pulls objects towards it or pushes objects away

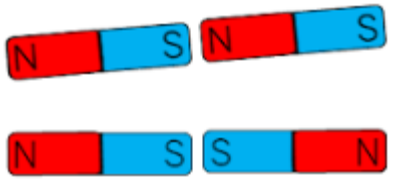
**Magnetic pole** - each end of the magnet where the force is the strongest

**Repel** - to push away.




## Questions

1) Name a contact force
2) Name a non-contact force
3) Name an object or material that is magnetic
4) Will the magnets attract or repel?




5) Are all metals magnetic?
6) Why is friction a useful force?