



Jerry Clay Academy
Subject Knowledge Organiser

Subject: Science (Forces and magnets) Year Group: 3 Term: Spring

Core Learning of This Unit:

- To know how magnets work
- To know magnets can differ in shape and size and some of the different uses for them.
- The children will get to explore how the south and north pole differ on a magnet and investigate what repel and attract means.
- The children will get to set up their own experiment to find out about friction by using e.g toy cars and different surfaces for them to travel on.

Prior Learning:

Children may have some knowledge about forces and magnets from exploration through everyday items.



National Curriculum Statements:

Pupils should be taught to:

- compare how things move on different surfaces
- notice that some forces need contact between 2 objects, but magnetic forces can act at a distance
- observe how magnets attract or repel each other and attract some materials and not others
- 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 2 poles
- predict whether 2 magnets will attract or repel each other, depending on which poles are facing

Key Vocabulary:

- force – a push or a pull. A force makes an object move, change direction or stop.
- magnetism – a pushing or pulling force that a magnet has. magnetic field – the area round a magnet within which its magnetic force will work. horseshoe magnet – a curved magnet whose poles are close together.
- bar magnet – a long straight magnet with poles at each end. attract – is what a magnet does when it pulls something towards it. repel – (the opposite of attract) when a magnet pushes another magnet away. poles – are the two ends of a magnet, named 'north pole' and 'south pole'.
- iron – is the material that makes an object magnetic. compass – an instrument that tells you which direction is North and which is South.
- gravity – a force that pulls objects together. friction – the force between two objects that are rubbing against each other.

Significant People

Sir Isaac Newton developed the theory of gravity, the laws of motion (which became the basis for physics), a new type of mathematics called calculus, and made breakthroughs in the area of optics such as the reflecting telescope.