Year 5/6 Forces Knowledge Organiser

What do I know ?

- A force is a push or pull.
- The texture of a surface can affect how an object moves over it.
- Some forces need contact, but magnets work at a distance.
- Magnets attract some materials but not others.
- Magnets have two poles. Opposite poles attract and the same poles repel.

All of these objectives are from the Year 3 unit.

Gems of knowledge

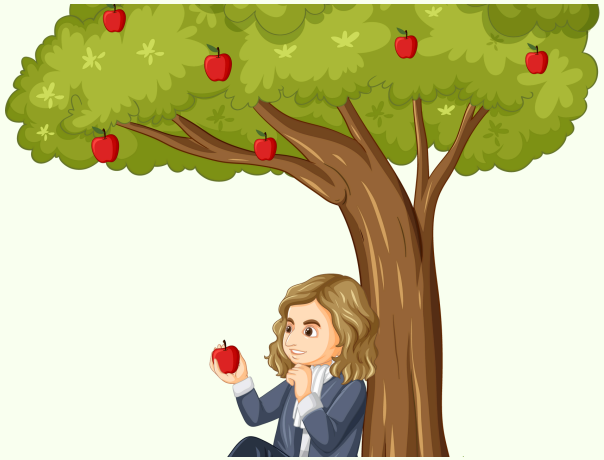
- I will learn that a force causes an object to start moving, stop moving, speed up, slow down or change direction.
- I will learn about non-contact forces such as gravity.
- I will learn about contact forces such as friction, air resistance and water resistance.
- I will learn about mechanisms.

How will I work like a Scientist?

- I will plan different types of scientific enquiry to answer a variety of questions.
- I will recognise and control variables where necessary (Y5- with support).
- I will select all equipment needed (Y5- with support).
- I will use a range of scientific equipment to take measurements with increasing accuracy.
- I will identify when to take repeat readings (Y5- begin to understand).
- I will take repeat readings.
- I will record data and results of increasing complexity e.g. line graphs.
- I will report and present findings from enquiries, including conclusions and suggest causal relationships (Y5- with prompting).
- I will report and present findings from enquiries in oral and written forms.
- I will identify scientific evidence that has been used to support or challenge arguments.
- I will use test results to suggest further comparative or fair tests (Y6- make predictions)
- Y6 only- I will report and present findings from enquiries, including explanations of the validity of results.

Vocabulary	Meaning
Force	A force is a push or pull that can cause an object to start or stop moving or change its speed, direction or shape.
Gravity	Gravity is a non-contact, pulling force exerted by the Earth (or any object with mass).
Friction	Friction is a contact force that occurs between two touching surfaces.
Air resistance/ water resistance	A form of friction that occurs between air and an object moving through it or water and an object moving through it.
Mechanism	The smaller moving parts of a machine. Levers, pulleys and gears are all types of mechanisms.

Significant Scientist



Isaac Newton was a physicist who famously developed his theory of Gravity, believing that Earth has a force that pulls objects down.

Read me!

Marvellous Machines by Jane Wilsher and Andres Lozano.

The Aerodynamics of Biscuits by Clare Helen Welsh

Careers in Physics (learning about the Earth and how it works)

Civil engineers design structures to withstand forces.