Year 5

Science

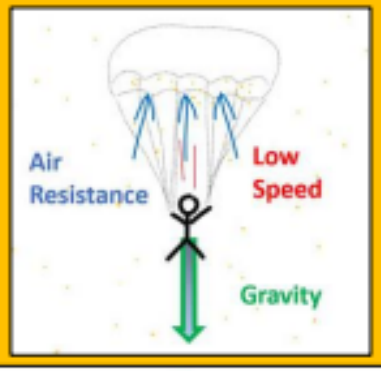
Forces

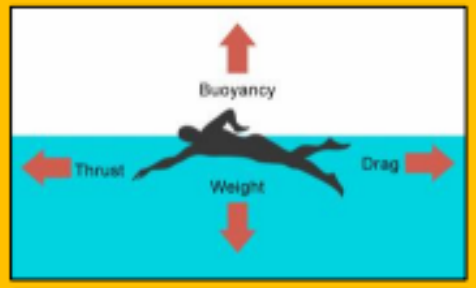
What We Need To Know

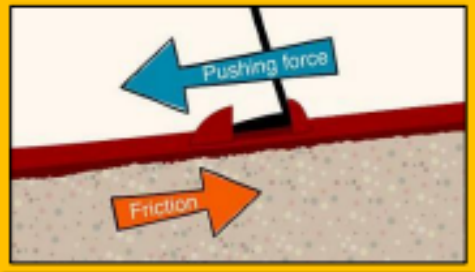
What is a force?	A force is either: a push or a pull.
What do forces do?	Forces can make objects: speed up, slow down, change shape or change direction.

Examples of Forces

A lady is pushing a car to speed it up.	
A man is pulling a dog to slow it down.	
A can is being squeezed (pushed) so it changes shape.	
The racket has hit (pushed) the ball to change its direction.	







Levers, pulleys and gears allow a smaller force to have a greater effect

Key Vocabulary and Phrases

Streamlined	A shape that presents least resistance to air or water
Surface	The top layer of something
Grip	To have a good connection with a surface
Drag	To cause to slow down
Centre	The middle

Types of Forces

Magnetism (Year 3)	Magnets attract or repel each other or other objects Attract:  Repel:  North and South attract whereas North and North or South and South will repel.
Air Resistance	Air resistance slows down moving objects, because air slows you down as you move through it. To travel faster through the air, things need to be streamlined.
Water Resistance	Water resistance slows down moving objects, because water slows you down as you move through it To travel faster through the water, things need to be streamlined.
Friction	Friction happens when two surfaces touch each other. It gives us grip. It produces heat. Rougher surfaces slow objects down a lot whereas smoother surfaces do not slow objects down as much.

Year 5

Science

Working Scientifically – Forces

Key Vocabulary and Phrases	
ask questions	Use the question words **What, where, when why, how**
compare and contrast	Look at two or more objects and describe similarities (what is the same) and differences (what is different)
classify, sort and group	Organise objects by their features (e.g. colour, size, shape).
diagram	A labelled picture
record data	Drawings, scientific diagrams, photos, classification keys, tables, bar graphs and line graph, writing and numbers are ways to show what I have found out.
reporting and presenting findings	Giving reasons, explaining causes and relationships, explaining results and trusting its accuracy

How I could record my findings

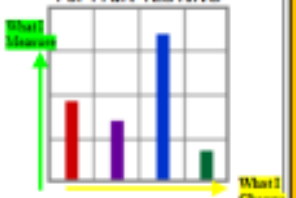
Pictures
For EXPLORING

Use this if you want to tell the story of what you did or what you observed, e.g. bread going mouldy

Line Graph
For FAIR TESTING

Use this if you have continuous (numerical) data for both axes e.g. mass on an elastic band & how long it is or are measuring over time

Bar Chart
For FAIR TESTING



Use this if you have only 1 set of numerical (continuous) data and the other is words, e.g. type of material and volume of water it can hold

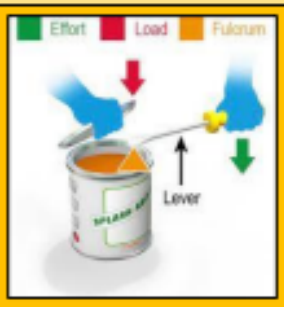
Collect data and identify trends

What I could investigate

Does the size of surface area of a parachute area affect the speed the object falls?

Investigate the best surface area for a foil boat to float

Investigate levers and pulleys



Equipment I could use

Weights for testing whether gravity is affected by mass

Different materials, such as sand paper and aluminium foil to test how much friction is created through different materials.

Water to test the buoyancy of different objects