

# **Hapton CE Methodist Primary School — Knowledge Organiser** Science Unit (Physics) - Forces (yr5)



	What? (Key Vocabulary)		
Spelling	Definition/Sentence		
Streamlined	A shape that presents least resistance to air or water		
Surface	The top layer of something		
Grip	Grip To have a good connection with a surface  Drag To cause to slow down		
Drag			
Centre	The middle		

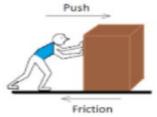
	What? (Key Knowledge)		
	Forces		
	What is a force?	A force is either: push or a pull	
	Forces can make things	Speed up, slow down, change shape and change direction	
	A force that speeds something up	The child is pushing the car to speed it up	
Ī	A force that slows	The girls is pulling the	

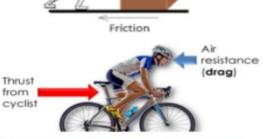
something down



# **Diagrams and Symbols**

## Diagrams of forces in action







**Recommended Experiments** 

A minimum of two experiments should take place during

this unit of work with one final written outcome linked to

the scientific enquiry skills and approaches used.

Identify the effects of air resistance by designing and

testing a parachute which would slow a car down a ramp

Testing water resistance when swimming (during Year 5

Recognising the impact of mechanisms on forces when

using pulleys, levers and gears during technology lessons Choosing a feature of a spinner to investigate, for

#### The can is being squeezed A force that changes the shape of something so that it changes shape and becomes smaller



When the ball is hit A force that changes the with the racket, it will direction of something change direction



#### Types of force

dog to slow it down

Magnetism	Attract:
viagnets attract or repei	Repel:
each other or other objects	North and South attract. But 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
- Friction gives us grip

#### Friction produces heat

- Rougher surfaces slow things down a lot
- Smoother surfaces don't slow things down as much

# Gravity (another force)

Gravity is the forces that pulls objects down towards the centre of the Earth.

What is gravity?

Gravity stops things from floating away into When things go into the air (like a football) gravity pulls them back down.

## example, size of wings, height dropped or number of paper clips Builds on: learning in Year 3 - Summer - Unit:

Sound and Electricity

swimming lessons)