

# National CofE Junior School - Knowledge Organiser

**Science Focus:**





**Forces**

**Year 5**



**Autumn 2**

## What? (Key Knowledge)

### Forces

What is a force?	A force is either: <ul style="list-style-type: none"> <li>• A push or</li> <li>• A pull</li> </ul>	
Forces can make things...	<ul style="list-style-type: none"> <li>• Speed up</li> <li>• Slow down</li> <li>• Change shape</li> <li>• Change direction</li> </ul>	
A force that speeds something up	The child is pushing the car to speed it up.	
A force that slows something down	The girl is pulling the dog to slow it down.	
A force that changes the shape of something	The can is being squeezed so that it changes shape and becomes smaller.	
A force that changes the direction of something	When the ball is hit with the racket, it will change direction.	

### Types of force

Magnetism	Attract: 
Magnets attract or repel each other or other objects	Repel: 
Air Resistance	North and South attract. But North and North or South and South will repel. <ul style="list-style-type: none"> <li>• Air resistance slows down moving objects, because air slows you down as you move through it</li> <li>• To travel faster through the air, things need to be streamlined.</li> </ul>
Water Resistance	<ul style="list-style-type: none"> <li>• Water resistance slows down moving objects, because water slows you down as you move through it</li> <li>• To travel faster through the water, things need to be streamlined.</li> </ul>
Friction	<ul style="list-style-type: none"> <li>• Friction happens when two surfaces touch each other.</li> <li>• Friction gives us grip.</li> <li>• Friction produces heat.</li> <li>• Rougher surfaces slow things down a lot.</li> <li>• Smoother surfaces don't slow things down as much.</li> </ul>

### Gravity (another force)

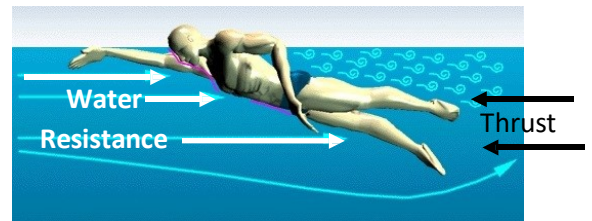
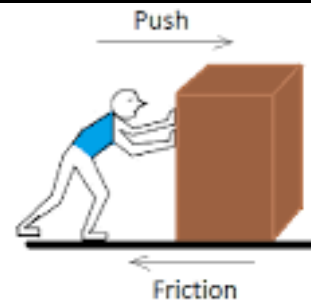
What is gravity?	Gravity is the force that <b>pulls</b> objects <b>down</b> towards the centre of the Earth. Gravity stops things from floating away into space. When things go into the air (like a football) gravity pulls them back down.
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## What? (Key Vocabulary)

Spelling	Definition/Sentence
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

## Diagrams and Symbols

### Diagrams of forces in action



Gravity pulls us towards the centre of the Earth.

## Prior Knowledge

- Compare how things move across different surfaces.
- Magnets attract and repel.
- Notice how some forces need contact between 2 objects whilst magnets can act without direct contact.
- Make predictions based on forces and magnets.



