

# Science Knowledge Organisers

Science Focus

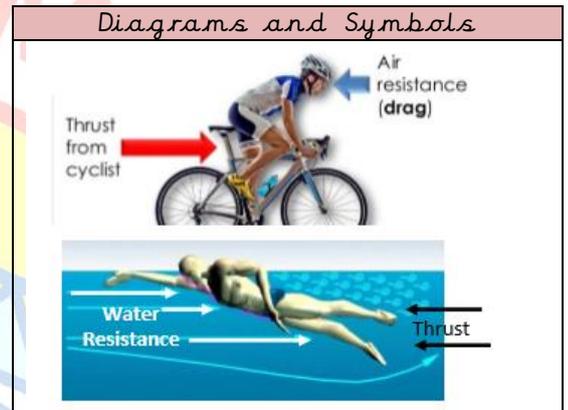
Forces

Year 5

Autumn 1

Key Knowledge	
What is a force?	A force is either: <ul style="list-style-type: none"> <li>▫ A push or 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.
Magnets attract or repel each other or other objects	
Air Resistance	<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>
What is gravity?	Gravity is the forces that pulls objects down 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.

Key Vocabulary	
Surface	The top layer of something
Grip	To have good connection with a surface
Drag	To cause to slow down
Centre	The middle



Possible Experiences
<ul style="list-style-type: none"> <li>▫ Design, make and test parachutes (site manager to launch from water tower)</li> <li>▫ Test water resistance when swimming (during Y5 swimming lessons)</li> <li>▫ Recognise the impact of mechanisms on forces when using pulleys, levers and gears during technology lessons.</li> </ul>

## Greater Depth Thinking

Work in a scientific way to explore concepts, making connections.

When investigating children will justify their choices using scientific language.