

Gawber Primary School Science

PHYSICS: Forces

	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Science Knowledge End Points:	• Recognise that some objects float and others sink • Notice that magnets 'stick' to metal • Observe how water flows down pipes	• Observe and describe movements of everyday moving objects • Explain what a force is and explore forces around them • Recognise that both pushes and pulls are examples of forces • Notice that some forces need contact between two objects. • Compare how things move on different surfaces	• Understand the effects of a force on an object when manipulated e.g. twist, push • Understand the basic properties of magnetic materials	• Use their knowledge of forces to help them create a wind turbine by introducing air resistance • Explore forces which could act on an object to make it move	• Notice that some forces need contact between two objects, but magnetic forces can act at a distance • Observe how magnets attract or repel each other and attract some materials and not others • Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials • Describe magnets as having two poles • Predict whether two magnets will attract or repel each other, depending on which poles are facing. • Measure a force using Newton meters / Force Meters	• Understand balanced and unbalanced forces and how this affects the movement of an object – linked to P.E. Gymnastics and tug of War	• Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • Identify the effects of air resistance, water resistance and friction, that act between moving surfaces • Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

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Key Scientists Study:		Introduce Isaac Newton			William Gilbert (Theories on Magnetism)		Galileo Galilei (Gravity and Acceleration) Isaac Newton (Gravitation)
Key Vocabulary:	Float, sink, magnet, flow	Move, push, pull, force, fast and slow, surface	Magnet, magnetic, metal, Twist, slide, spin, swing	Air resistance, turbines, movement, force	Force, Push, Pull, Gravity, Air Resistance, Friction Magnetic, attract, repel Magnetic materials, Poles, North and South	Balanced, unbalanced, forces, movement	Force, gravity, Air resistance, water resistance, friction, surfaces, force diagrams, Mechanism, levers, pulleys, gears, Newton

Science Knowledge End Points: Black = Normal NC Positioning Blue = NC requirement but moved Red = Extra learning