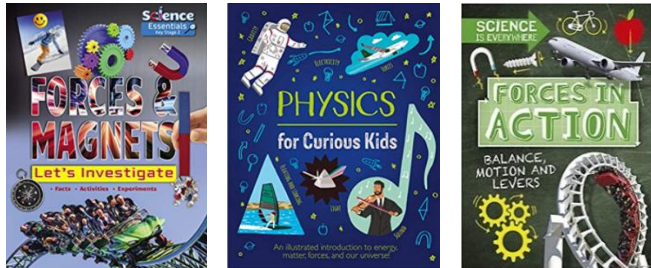
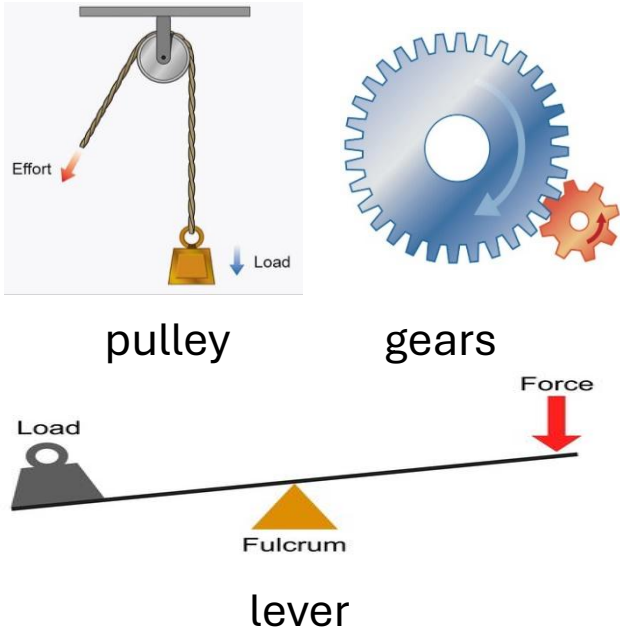


YEAR 5 SCIENCE – FORCES (Autumn 2)

Tier 3 Vocabulary	Knowledge Facts	Recommended Reads
Balanced forces – two opposing forces of equal size.	On Earth, gravity pulls objects towards the centre of the Earth. Sir Isaac Newton discovered gravity.	
Unbalanced forces – two opposing forces where one is greater than the other..	When forces acting on a object are balanced, the object does not change. When forces acting on an object are unbalanced, the object may start moving, stop moving, change speed, direction or shape	
Gravity – a force that pulls any object with mass towards each other.	Air resistance impacts the way objects move. The greater the surface area, the slower the speed of the object. The smaller the surface area, the faster the speed of the object.	
Air resistance – a force caused by the air that acts in the opposite direction to the object moving through it, slowing its speed.	Water resistance acts in the opposite direction to the movement of the object, slowing it down. The more streamlined the object, the less water resistance there is.	
Water resistance – a force caused by water that acts in the opposite direction to the object moving through it, slowing its speed.	The rougher the surface, the greater the amount of friction produced. Friction creates heat and slows a moving object.	Mechanisms
Friction – the resistance that is created between two surfaces moving across or against another.	Mechanisms such as levers, pulleys and gears can minimise the amount of force (effort) needed to lift the load or move objects.	
Newton Meter – a piece of equipment used to measure force. Force is measured in Newtons.	Gears contain a driver wheel and driven wheels. The driven wheel rotates in the opposite direction to the driver wheel.	 pulley gears lever
Lever – a mechanism which uses a rigid bar resting on a pivot to reduce the force needed to lift a load.	National Curriculum End Points 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 greater effect.	
Pulley – a mechanism which uses a grooved wheel with a cord to transmit and reduce the force needed to lift a load.	 	
Gear – a mechanism which uses cog wheels to make objects move with less effort.		