



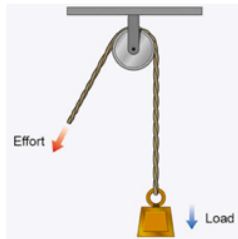
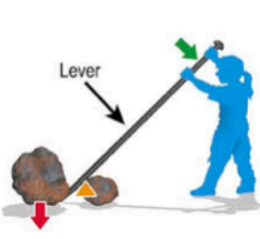

Year 5 - Forces and Movement

Physics

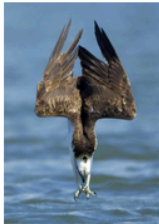
Key vocabulary

forces	All forces involve a push or pull.
gravity	A pulling force exerted by the Earth and anything else that has mass.
Earth's gravitational pull	The pull that the Earth exerts on an object, pulling it towards Earth's centre. This force keeps objects on the ground.
weight	The measure of the force of gravity on an object.
mass	The measure of how much matter is inside an object.
friction	A force that acts between two surfaces or objects that are moving, or trying to move, across each other.
air resistance	The type of friction caused by air pushing against any moving object.
water resistance	The type of friction caused by water pushing against any moving object.
buoyancy	The upward force that a liquid applies to an object.
streamlined	When an object is shaped like this, it minimises the effects of air resistance.
mechanism	Parts which work together in a machine.

Examples of mechanisms

Pulleys	Levers	Gears/cogs
Pulleys can be used to make a small force lift a lighter load. The more wheels on a pulley, the less force is needed to lift the weight.	Levers can be used to make a small force lift a lighter load. A lever will always rest on a pivot.	Gears and cogs can be used to change the speed, force or direction of a motion. When two gears are connected they always turn in the opposite direction to each other.
		

Key Knowledge

Forces can make an object... <ul style="list-style-type: none"> • start to move • stop moving • move faster • move more slowly • change its shape • change direction 	Mass is how much matter is inside an object. It is measured in kilograms (kg). Weight is how strongly gravity is pulling an object down. It is measured in Newtons (N).	This bird diving into water is making itself streamlined by creating a point to cut through water and a shape that allows water to flow over with little resistance.
		

Isaac Newton

Isaac Newton is said to have discovered gravity when he witnessed an apple falling off a tree. He wondered why this happened and began investigating. Newton realised that some force must be acting on falling objects like apples because otherwise they would not start moving from rest.

