

Carr Head Primary School - Knowledge Organiser

Science

Forces

Year 5

Spring 2

Key Knowledge

Isaac Newton is famously thought to have developed his theory of gravity when he saw an apple fall to the ground from an apple tree.
Water resistance and air resistance are forms of friction. Friction is sometimes helpful and other times unhelpful.
Pulleys can be used to make a small force lift a lighter load. The more wheels in a pulley, the less force is needed to lift a weight.
Cogs or gears 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.
Lever can be used to make a small force lift a lighter load. A lever always rests on a pivot.
A force meter is measured in newtons and measures the weight of an object.
Any kind of force is really just a pull or a push
Magnetic force is an invisible force created by electrons. Magnetic force controls magnetism and electricity.
Frictional force is any force that is caused due to friction. An example of this might be when you put the brakes on your bike.
Gravity is the pulling force acting between the Earth and a falling object, for example when you drop something. Gravity pulls objects to the ground.
Surface resistance is the force on objects moving across a surface, such as an ice-skater skating on ice.
Air resistance is the force on an object moving through air, such as a plane

Key Vocabulary

Air-resistance	The frictional force of air against a moving object. The faster an object moves, the greater the air resistance
Gravity	The area around a large object when a weight can be felt. The sun's gravity keeps the planets orbiting around it
Friction	The resistance of motion when one object rubs against another. Friction causes objects to slow down and the energy becomes heat.
Force	A push or pull on an object which can cause it to move, change speed, direction or shape. Measured in Newtons (N).
Gears	Rotating machine part having cut teeth
Mass	The amount of matter contained in an object. Measured in units such as g, kg.
Lever	A simple machine consisting of a beam or rigid rod pivoted at a fixed hinge.
Water resistance	The frictional force of water against a moving object. The faster an object moves, the greater the water resistance
Pulleys	A wheel on axle or shaft that is designed to support movement and change of direction
Buoyancy	An object's ability to float
upthrust	A force that pushes objects up in water or air
streamline	To shape an object in a way that reduces the effect of air resistance or water resistance
Mechanism	Parts which work together in a machine.
Parachute	Device used to slow down an object that is falling to the ground

Know how to...

Working Scientifically	- 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

