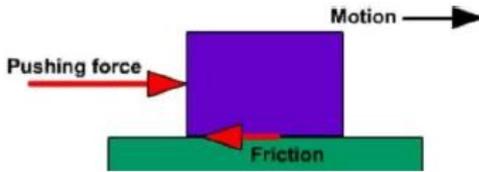


**Key Concepts**

**Key Vocabulary**

What are forces?

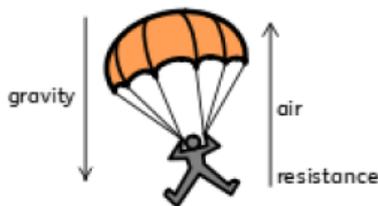
- Forces are pushes and pulls.
- These forces change the motion of an object.
- They will make it start to move or speed up, slow it down or even make it stop.



- For example, when a cyclist pushes down on the pedals of a bike, it begins to move. The harder the cyclist pedals, the faster the bike moves.
- When the cyclist pulls the brakes, the bike slows down and eventually stops.
- Friction is a force - it is the resistance of motion when one object rubs against another.

What is gravity and air resistance?

- Gravity is the force that pulls objects to the centre of the Earth.
- Air resistance pushes up on the parachute, opposing the force of gravity. This makes the parachute land more slowly.



What are examples of mechanisms?

Levers

- Levers allow us to do heavy work with less effort.
- For example, trying to pick up a large heavy box is difficult, however if a lever is used it becomes much easier to move it.



Pulleys

- Pulleys also allow us to do heavy work - objects are attached to ropes and pulley wheels, and so instead of lifting heavy object upwards, we can pull on the pulley rope downwards.



Gears

- Gears are toothed wheels. Their 'teeth' can fit into each other so that when the first wheel turns, so does the next one.
- This allows forces to move across a surface.



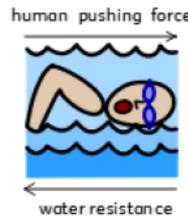
Springs

- Springs can be stretched by pulling them or squashed by pushing them.
- The greater the force pulling or pushing the spring, the greater the force the spring uses to move back to its normal shape.



What is water resistance?

- Water resistance is the friction that is created between water and an object that is moving through it.
- Some objects can move through water with less resistance if they are streamlined.



friction	The resistance of motion when one object rubs against another.
force	The pulling or pushing effect that something has on something else.
gear	A part of a machine that causes another part to move because of teeth which connect the two moving parts.
gravity	the force which causes things to drop to the ground
lever	a basic tool used to lift or pry things open
motion	the activity of changing position or moving from one place to another
pulley	a simple machine that makes lifting something easier. A pulley has a wheel or set of wheels with grooves that a rope or chain can be pulled over
resistance	a force which slows down a moving object or vehicle
streamlined	A streamlined vehicle, animal, or object has a shape that allows it to move quickly or efficiently through air or water

**Famous Scientists**



Sir Isaac Newton (1643 – 1727) – English mathematician, physicist, astronomer and author who discovered gravity by an apple dropping on his head.

**Working Scientifically Skills**

???	Using Scientific knowledge to ask questions.		Planning different types of enquiry, controlling variables where necessary.
	Using scientific language to draw conclusions.		Recording data, taking repeat measurements where necessary and calculating a mean.
	Recognising when to use other sources to answer questions, separating opinion from fact.		