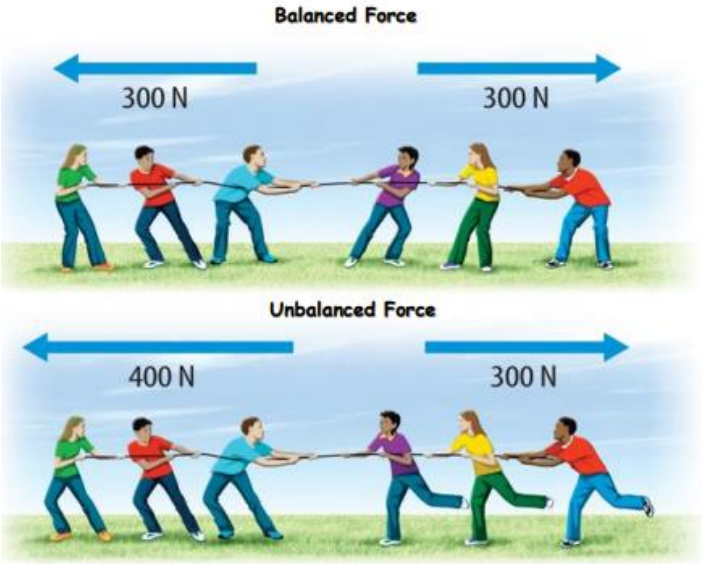
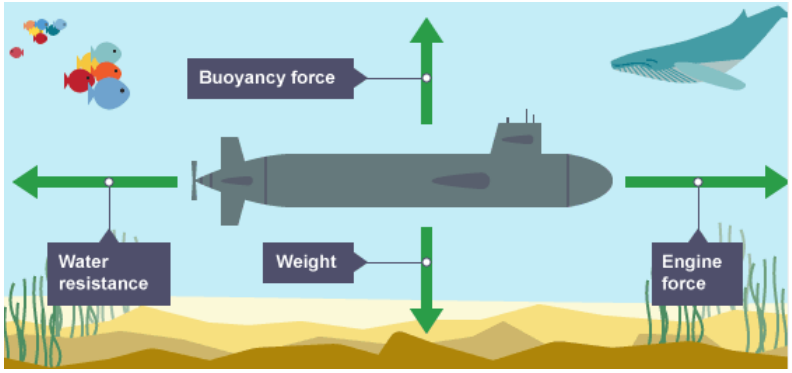
Forces





Key Vocabulary

Air resistance - A force that is caused by air with the force acting in the opposite direction to an object moving through the air

Force - A push or pull upon an object resulting from its interaction with another object

Friction - The resistance that one surface or object encounters when moving over another

Gears - A toothed wheel that works with others to alter the relation between the speed of a driving mechanism (e.g. engine) and the speed of the driven parts (e.g. the wheels)

Gravity - The force that attracts a body towards the centre of the earth

Levers - A rigid bar resting on a pivot that is used to move a heavy or firmly fixed load

Mass - The weight measured by an objects acceleration under a given force or by the force exerted on it by gravity

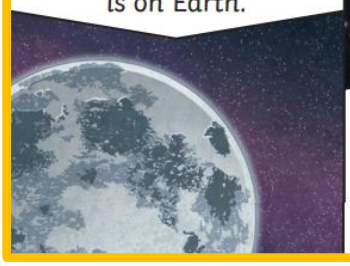
Pull force - To draw or haul towards oneself or itself, in a particular direction

Pulleys - A wheel with a grooved rim around that changes the direction of a force applied to the cord

Push force - To move something in a specific way by exerting force

Water resistance - A force that is caused by water with the force acting in the opposite direction to an object moving through the water

The Moon has a smaller mass than Earth so the gravitational pull on the Moon is smaller than it is on Earth.



Jupiter has a greater mass than Earth so the gravitational pull on Jupiter is stronger than on Earth.

Sir Isaac Newton and the 'discovery' of **gravity**.

First Law of Motion

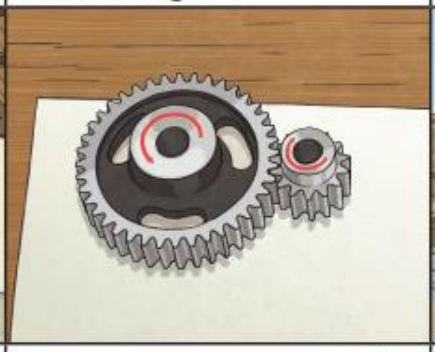
The first law says that any object in motion will continue to move in the same direction and speed unless forces act on it.

Second Law of Motion

The second law states that the greater the mass of an object, the more force it will take to accelerate the object.

Third Law of Motion

The third law states that for every action, there is an equal and opposite reaction.

Pulleys	Gears/Cogs	Levers
		
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.	Gears or 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.	Levers can be used to make a small force lift a lighter load. A lever always rests on a pivot.