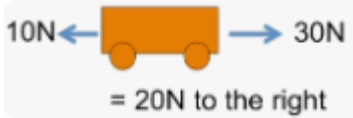
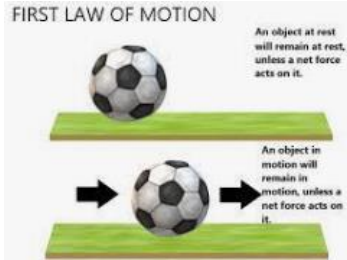
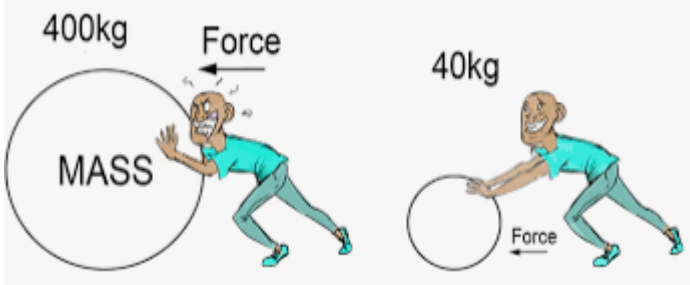
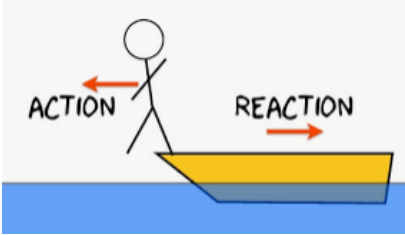
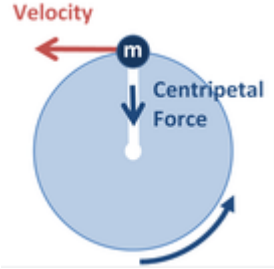


Topic: <u>P2.4- Forces</u>	<u>Equations</u>	<u>Prior Knowledge:</u>	
	$Force = Spring\ constant \times Extension$ $Elastic\ Energy = \frac{1}{2} \times Spring\ constant \times Extension^2$	<ul style="list-style-type: none"> • Main forces acting on objects • Describing motion • Energy Stores 	
<u>Speed and Velocity</u> $speed = \frac{distance}{time}$ $velocity = \frac{displacement}{time}$ Both speed and velocity are measured in meters per second (m/s)	<u>Acceleration</u> $acceleration = \frac{change\ in\ velocity}{time}$ Acceleration is measured in meters per second ² (m/s ²) A positive acceleration will increase the velocity. A negative acceleration (deceleration) will decrease the velocity.	<u>Gravity</u> $Weight = mass \times gravity$ Gravity is a constant downward force and is always 10N/kg Mass is measured in kilograms (kg) Weight is measured in Newtons (N)	<u>Resultant Force</u> $Resultant\ force = Force\ 1 - Force\ 2$ Resultant force is the sum of all the forces acting on an object, it includes the direction of the object's motion 
<u>Newton's 1st Law</u> An object at rest (or constant speed) will remain at rest (or constant speed) unless acted upon by an external force 	<u>Newton's 2nd Law</u> $Force = mass \times acceleration$ 	<u>Newton's 3rd Law</u> Every action has an equal and opposite reaction 	<u>Momentum</u> $Momentum = mass \times velocity$ Momentum is an object in motion, it includes the direction of the object's motion Mass is measured in kilograms (kg) Velocity is measured in meters/second (m/s)
<u>Circular Motion</u> Circular motion (centripetal force) acts towards the centre of a moving object. Velocity acts in tangent of the circular motion from the object 	<u>Moments</u> $Work = Force \times Distance \perp$ A moment is a turning force Work is measured in Joules (J) Force is measured in Newtons (N) Distance is measured perpendicular to the force and is given the unit meters (m)		

Core Practical

Keywords and Definitions

<ul style="list-style-type: none">Ramps		Scalar Vector	A quantity with only magnitude A quantity with magnitude and direction
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