Foxford Learning Plan

Year 9

Autumn 2

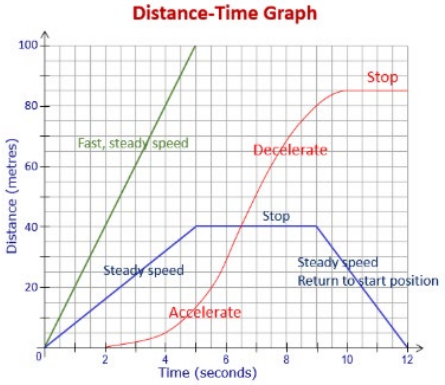
Forces & Motion

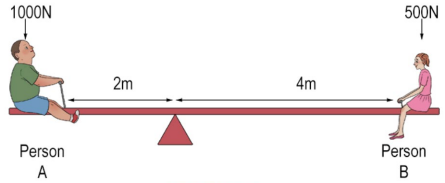
Key Vocabulary	
Force	A push or pull acting on an object.
Speed	The distance travelled per time period
Relative motion	How an object moved compared with another object.
Resultant force	The overall force acting on an object.
Balanced forces	Forces that cancel out, giving zero resultant force.
Friction	A force that opposes movement between surfaces.
Weight	The force of gravity acting on an object.
Moment	The turning effect of a force around a pivot.
Extension	The increase in an object's length when stretched.
Pressure	The force acting per unit area.
Atmospheric pressure	Pressure caused by air particles colliding with surfaces.
Upthrust	The upward force exerted by a fluid on an object.

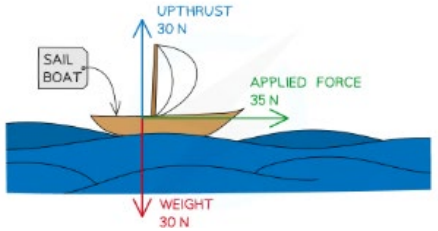
Over this course I will be able to

Key Skills

- Calculate speed (distance ÷ time), moments (force × distance) and pressure (force ÷ area), using correct units.
- Plot distance–time graphs, calculate speed from gradients and explain relative motion using examples.
- Draw labelled force diagrams, calculate resultant forces and predict the effects of balanced and unbalanced forces.
- Investigate how force and distance from a pivot affect moments, and how loads change the extension of springs.
- Investigate pressure and upthrust, record repeat measurements, plot graphs and use evidence to explain floating and sinking.







I will understand

- How speed, distance and time describe journeys, and how motion depends on the observer.
- How balanced and unbalanced forces affect an object's movement.
- How forces produce turning effects, stretch springs and cause deformation.
- Why pressure depends on force and area, decreases with altitude and increases with water depth.
- How weight and upthrust determine whether an object floats or sinks.