

Subject	Physics
Unit/Topic	Year 11 Forces

Key Vocabulary	Definition
Acceleration	A measure of how quickly velocity is changing.
Air Resistance	The frictional force caused by air on a moving object.
Atmospheric Pressure	The pressure felt by any surface within the atmosphere, due to air molecules colliding with the surface.
Braking Distance	The braking distance is the distance a vehicle travels after the brakes are applied until it comes to a complete stop, as a result of the braking force.
Conservation of Momentum	In a closed-system the total momentum before an event is the same as the total momentum after the event.
Contact Force	A force acting between/on objects that are touching.
Displacement	The straight-line distance and direction from an object's starting position to its finishing position.
Distance-Time Graph	A graph showing how the distance travelled by an object changes over a period of time.
Drag	The frictional force caused by any fluid (a liquid or gas) on a moving object.
Elastic Deformation	An object undergoing elastic deformation will return to its original shape once any forces being applied to it are removed.
Elastic Object	An object which can be elastically deformed.
Equilibrium	A state in which all the forces acting on an object are balanced, so the resultant forces are zero.
Fluid	A liquid or gas.
Force	A push or a pull on an object caused by interacting with something.

Free Body Diagram	A diagram that shows all the forces acting on an isolated object, the direction the forces are acting and their relative magnitudes.
Friction	A force that opposes an object's motion. It acts in the opposite direction to motion.
Gear	A circular disc with teeth round its edge. It can be used to transmit the rotational effect of a force.
Inelastic Deformation	An object undergoing inelastic deformation will not return to its original shape once the forces being applied to it are removed.
Inertia	The tendency of an object to remain stationary or continue travelling at a constant velocity.
Inertial Mass	The ratio between the resultant force acting on an accelerating object and its acceleration.
Instantaneous Velocity	The velocity of an object at a particular moment in time.
Lever	A device that increases the distance between an applied force.
Limit of Proportionality	The point beyond which the force is applied to an elastic object is no longer directly proportional to the extension of the object.
Line of Action	A straight line passing through the point at which the force is acting in the same direction as the force.
Lubricant	A substance that can flow easily between objects - used to reduce friction.
Model	Used to describe or display how an object of system behaves in reality.
Moment	The turning effect of a force.
Momentum	A property of a moving object that is the product of its mass and velocity.
Newton's First Law	An object will remain at rest or travelling at a constant velocity unless it is acted on by a resultant force.
Newton's Second Law	The acceleration of an object is directly proportional to the resultant force acting on it, and inversely proportional to its mass.
Newton's Third Law	When two objects interact, they exert equal and opposite forces on each other.

Non-Contact Force	A force that can act between objects that are not touching.
Pressure	The force per unit area exerted on a surface.
Reaction Time	the time taken for a person to react after an event (e.g. seeing a hazard).
Resultant Force	A single force that can replace all forces acting on an object to give the same effect as the original forces acting altogether.
Scalar	A quantity that has magnitude but no direction.
Speed	How quickly an object is travelling.
Stopping Distance	The distance travelled by a vehicle in the time between the driver seeing a hazard and coming to a stop. It is the sum of the thinking and braking distance.
System	The object or group of objects that you are considering.
Terminal Velocity	The maximum velocity a falling object can reach without any added forces. It's the velocity at which the resistive forces (drag) acting on the object match the force due to gravity (weight).
Thinking Distance	The distance a vehicle travels during the driver's reaction time (before the brakes have been applied).
Upthrust	The resultant force acting upwards on an object submerged in a liquid, due to the pressure of the liquid being greater at the bottom of the object than the top.
Vector	A quantity which has both magnitude (size) and direction.
Velocity	The speed of an object in a given direction.
Velocity-Time Graph	A graph showing how the velocity of an object changes over a period of time.
Weight	The force acting on an object due to gravity.
Work Done	The energy transferred when a force moves an object.