

Subject	Science
Unit/Topic	Year 9 Energy and Motion

Key Vocabulary	Definition
Conservation of energy	Energy cannot be created or destroyed, just transferred from one form to another or stored.
Dissipated	Energy transferred to surroundings in less useful ways. Often referred to as 'wasted' energy.
Efficiency	Ratio of useful energy output/total energy input. Will be a decimal less than 1. Can be turned in to a percentage by multiplying the decimal by 100. The higher the efficiency, the more energy is transferred usefully.
Elastic potential energy	The energy stored in an elastic object when it is stretched or squashed.
Gravitational potential energy	The energy stored in an object due to its position in a gravitational field. The higher the object is above the surface of the planet/moon, the more gravitational potential energy it will have. Also dependent on mass.
Joules, J	The unit of energy.
Kinetic energy	The energy that moving objects have. It depends on the mass of the object and it's velocity.
Mass	The amount of matter in an object. Measured in kilograms (kg)
Power	The rate at which energy is transferred (how many joules per second are transferred) e.g. a power of 100 W tells you 100J of energy are transferred every second
Thermal conductivity	The higher the thermal conductivity of a material, the higher the rate of energy transfer by conduction across the material.
Watts, W	The unit of power.
Weight	The force acting on an object due to gravity. Measured in newtons (N).

Work done	This is the same as energy transferred. Measured in joules.
Acceleration	A measure of how quickly velocity is changing.
Air resistance	The frictional force caused by air on a moving object.
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.
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.
Equilibrium	A state in which all the forces acting on an object are balanced, so the resultant forces are zero.
Force	A push or a pull on an object caused by interacting with something.
Instantaneous velocity	The velocity of an object at a particular moment in time.
Reaction time	the time taken for a person to react after an event (e.g. seeing a hazard).
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.
Thinking distance	The distance a vehicle travels during the driver's reaction time (before the brakes have been applied).