

## Physics Chapter 1: Energy

Energy Stores	
Potential energy	Energy stored by an object that represents the ability to perform work.
Elastic potential energy	Energy stored by an object that has been stretched or squashed and will return to its normal shape when released. $E_e = \frac{1}{2}ke^2$
Gravitational potential energy	Energy stored by an object that has been raised vertically off the ground. $E_p = mgh$
Kinetic energy	Energy an object has due to the fact it is moving. $E_k = \frac{1}{2}mv^2$
Conservation of energy	A law that says the total amount of energy in a closed system must stay the same.

Work done	
Work	The amount of energy transferred when a force moves an object. $W = Fd$
Power	The rate at which energy is transferred. $P = E/t$
Electrical energy transferred	Volts x Current
Work done =	Energy transferred into $E_p$ or $E_k$

Efficiency	
Dissipate	When energy is lost to the surroundings as heat during an energy transfer.
Energy efficiency	The ratio of useful energy out compared to the amount of energy put in to an energy transfer.
We depict efficiency and energy flow in a	Sankey diagram

Energy Resources	
Renewable resources	Resources that will never run out and are replenished as soon as they are used.
Non renewable resources	Resources that are used up quicker than they are made

Specific Heat Capacity	
Specific heat capacity	A measure of the amount of energy it takes to raise 1kg of a substance by 1 degree C.