

## Definitions and Concepts for Edexcel Physics GCSE

### Topic 8: Energy - Forces Doing Work

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*Definitions in **bold** are for higher tier only*

*Definitions marked by '\*\*' are for separate sciences only*

**Closed System:** A system that experiences no net change in its total energy when energy transfers occur within it.

**Dissipation of Energy:** Energy that is transferred to, and spread out in, the surroundings. It is usually in the form of heat, and is a result of a system undergoing a rise in temperature.

**Efficiency:** The ratio of useful output energy transfer to total energy input. It can never exceed 1 (or 100%), due to the conservation of energy.

**Gravitational Potential Energy:** The store of energy that all raised matter has. It is directly proportional to the mass of the object, the distance that it is raised, and the gravitational field strength at that point.

**Kinetic Energy:** The store of energy that all moving matter has. It is directly proportional to the object's mass and to the square of its velocity.

**Power:** The rate at which energy is transferred, or the rate at which work is done. It is calculated by dividing the work done by the time taken.

**Resistive Force:** When a force opposes an object's motion, the moving object will do work against the resistive force.

**Watt:** The unit of power. It is equal to one joule per second.

**Work Done:** Work is done on an object when a force causes it to move through a distance. It is equal to the product of the distance travelled and the magnitude of the force in the direction of motion.

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