

Definitions and Concepts for WJEC (Wales) Physics GCSE

Topic 2.4: Further Motion Concepts

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

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

Changes of Momentum: When a force acts on a moving object, or on an object that has the ability to move, a change of momentum will occur. The force is equal to the rate of change of momentum.

Conservation of Momentum: The total momentum of a system before an event is always equal to the total momentum of the system after the event.

Crumple Zone: A vehicle safety feature that compresses during a collision. It increases the time over which the momentum change occurs, and so reduces the force experienced by the occupants.

Gear: A simple mechanism that can transmit the rotational effect of a force.

Lever: A simple mechanism that can transmit the rotational effect of a force.

Moment: The turning effect of a force, equal to the product of the magnitude of the force and the perpendicular distance from the pivot to the line of action of the force.

Momentum: The product of an object's mass and velocity.

Principle of Moments: For an object in equilibrium, the sum of the clockwise moments about any point on the object must equal the anticlockwise moments about that same point.

Resultant Moment: The single moment that has the same effect as the sum of all the other clockwise and anticlockwise moments acting on an object.

Uniform Acceleration: Motion that has a constant rate of change of velocity - the object's acceleration does not vary. The equations of uniform motion can only be applied for uniform acceleration.

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