

WJEC England GCSE Physics

3.3 - Moments, Levers and Gears

Flashcards

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What is an alternative name for the turning effect of a force?



What is an alternative name for the turning effect of a force?

A moment.



State the equation used to calculate the moment of a force. Give appropriate units.



State the equation used to calculate the moment of a force. Give appropriate units.

Moment of force = Force x Distance

Moment (Nm), Force (N), Distance (m)



What distance measurement is used when calculating a moment?



What distance measurement is used when calculating a moment?

The perpendicular distance from the pivot to the line of action of the force.



If an object is in equilibrium, what can be said about the moments acting on the object?



If an object is in equilibrium, what can be said about the moments acting on the object?

The clockwise moments are equal to the anticlockwise moments.



What three parts make up a lever system?



What three parts make up a lever system?

1. Load
2. Effort
3. Pivot



How can a lever be used as a force multiplier?



How can a lever be used as a force multiplier?

If the distance between the effort and pivot is greater than the distance between the pivot and load, the force applied on the load is greater than the effort force. This is since the moment on both the effort and load must be the same.



Give an example of when a lever may be used to multiply a force.



Give an example of when a lever may be used to multiply a force.

A wrench, which has a long handle so that the force applied by the user is multiplied.



What determines the moment of a gear wheel?



What determines the moment of a gear wheel?

The size of the wheel.



Describe the moment and speed of a larger gear being driven by a smaller gear.



Describe the moment and speed of a larger gear being driven by a smaller gear.

The larger wheel will rotate more slowly but will also produce a larger moment.

