

# AQA Physics GCSE

## 4.5.2 - Work Done and Energy Transfer

### Flashcards

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What does it mean if a force is said to do  
'work'?



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The force causes an object to be displaced through a distance.



What is the equation used to calculate work done? Give appropriate units.



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Give appropriate units.

Work done = Force x Distance

Work done (Joules), Force (Newtons),  
Distance (metres)



What distance must be used when calculating work done?



What distance must be used when calculating work done?

It must be the distance that is moved along the line of action of the force.



Under what circumstance is 1 joule of work done?





Under what circumstance is 1 joule of work done?

When a force of 1 Newton causes a displacement of 1 metre.



How many Newton-metres are equal to 1 joule of energy?

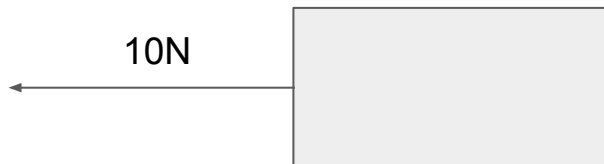


How many Newton-metres are equal to 1 joule of energy?

$$1 \text{ Nm} = 1 \text{ J}$$



How much work is done by the force acting on the below object over a distance of 5m?



How much work is done by the force acting on the below object over a distance of 5m?

$$10 \times 5 = 50 \text{ Nm}$$
$$= 50 \text{ J}$$



What occurs when work is done against frictional forces?



What occurs when work is done against frictional forces?

- A rise in temperature of the object occurs
- Kinetic energy is converted to heat



# Why does air resistance slow down a projectile?





# Why does air resistance slow down a projectile?

- The object does work against the air resistance
- Kinetic energy is converted in to heat, slowing down the object

