

How to calculate energy transferred?

Dr Dransfield: How do you calculate energy transferred?

Energy can be transferred from one energy store to another.

Now, the power rating on my microwave tells me how quickly it can transfer energy.

Now, this microwave has a power rating of 1000 Watts, which means it can transfer 1000 Joules of energy each second.

So, if I cook my porridge for one minute... in it goes...

I can calculate how much energy is transferred, but I must remember to convert the minutes into seconds.

The equation for this relationship is $P = \frac{E}{T}$, where P is Power in Watts, E is Energy transferred in Joules, and T is Time in seconds.

Now, we want to find energy transferred.

So first, we multiply both sides of this equation by T to get $E = P \times T$.

This 1000 watt microwave transfers 1000 joules of energy per second.

So, let's put down 1000 as the P value.

We run it for 60 seconds, so 60 for the time.

Then we just have to calculate 1000 times 60, which tells us that 60,000 joules of energy have been transferred.

Remember, calculations with power in Watts must have Energy transferred in Joules, and the Time is in seconds.

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