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GCSE Physics Energy P1

Energy Changes Assignment -4

Assignment Questions

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Power:

Q1: Define power. What is one watt?

Q2: Calculate the power of a device if it transfers 14000 J of energy in 10mins.

Q3: Calculate the electrical power of a lift if it lifts 80 N of weight in 2 mins.

($g = 10 \text{ N/kg}$)

Q4: Calculate the efficiency of a machine when input power is 1000 W and useful power is 300 W.

Q5: Calculate the efficiency of a machine if it lifts 20 kg of mass to a height of 5 metres in 10 seconds and input power is 1500 W.

Q6: Calculate the useful energy transfer in 10 seconds if the efficiency of machine is 30 % and input power is 1200 W.

Q7: A 800 W of electric machine is used to lift the boxes. It raised a load of 500 N through a height of 5 metres in 30 seconds.

- a) Calculate the useful energy transferred by the machine if its operating at full input power.
- b) Calculate the percentage efficiency of the machine.

Q8: What are electrical appliances. Give examples in terms of useful and wasteful energy.