

Power and Efficiency

Q1.(2019)

For how long can you use a 2 kW electrical heater with 1 kWh of energy?

- A 0.0005 hours
- B 0.5 hours
- C 2 hours
- D 2000 hours

Your answer

[1]

Q2.(2020)

How can the efficiency of an energy transfer be increased?

- A Decrease the total energy input.
- B Decrease the wasted energy.
- C Increase the total energy input.
- D Increase the wasted energy.

Your answer

[1]

Q3.(2020)

A 1500 W heater is used for 1.5 hours.

What is the energy transferred in kWh?

Use the equation: energy transferred = power $\times$ time

- A 2.25 kWh
- B 135 kWh
- C 2250 kWh
- D 135 000 kWh

Your answer

[1]

Q4.(2021)

An 800 W microwave oven is used for 30 minutes.

What is the energy transferred in kWh?

Use the equation: energy transferred = power $\times$ time

- A 0.4 kWh
- B 24 kWh
- C 240 kWh
- D 400 kWh

Your answer

[1]

Q5.a(2022)

A student uses a smart meter to check their energy use at home.



The student thinks they can save energy by unplugging their satellite receiver from the mains supply for 8 hours at night.

	Power of satellite receiver (W)
Receiver switched on	25
Receiver switched off	15
Receiver unplugged	0

- (i) Calculate the amount of energy saved by unplugging the receiver compared to switching the receiver off for 8 hours at night. Use the Data Sheet.

Give your answer in kWh.

Energy saved = kWh [4]

Q5.b(2022)

The government wants all homes to have a smart meter by 2024.

Describe how smart meters may change the way energy resources are used.
Use your answer to (c)(i).

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..... [2]