

Energy

1. Energy costs

CONCEPT 2

TEST YOURSELF

ENERGY USE IN THE HOME

KNOW

- Q1 What is **power**?
- Q2 A 2000 W kettle is switched on to heat water. How many joules of energy will it provided in
- (a) 1 second (b) 15 seconds (c) 1 minute
- Q3 Which of the following appliances will deliver more energy each second?
- Laptop – 20 W** **Toaster – 1.2 kW** **Microwave – 800 W**

APPLY

- Q4 A TV uses 72 000 joules in 10 minutes. What is its power?
- Q5 A 2 kW kettle is on for 3 minutes. How much energy does is transfer?
- Q6 A 5 W phone charger is transfers 54 000 joules of energy to the battery of the phone. How long did it take to do this?
- (a) in seconds (b) in hours

EXTEND

A **unit** of electricity is the same as a **kilowatt-hour (kWh)**

- Q7 (a) How many kWh of electricity would be used if a 1.5 kW washing machine is on for 2 hours?
(b) If it costs 5p per unit then how much would it cost?
- Q8 (a) How many kWh of electricity would be used if a 0.5 kW heater is on for 4 hours?
(b) If it costs 7p per unit then how much would it cost?
- Q9 If a fridge uses 2.4 kWh of energy in one day what is its power in kW?