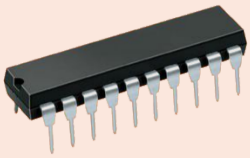
NAME _____ CLASS _____

# WHAT DO WE USE ELECTRICITY FOR?

Electrical energy is used to do four main jobs: **processing** (computers and control), **lighting**, **moving** (motors) and **heating**.

Many appliances do more than one job. A washing machine moves the drum, heats the water and uses a processor to run its programmes.

**PROCESSING (P)**



**LIGHTING (L)**



**MOVING (M)**



**HEATING (H)**



**1** Write the letter(s) **P**, **L**, **M** and/or **H** for each appliance. Some need more than one. 8 marks

| APPLIANCE | JOB(S) | APPLIANCE | JOB(S) |
|---|---|---|---|
| Laptop | | Toaster | |
| Kettle | | Electric car | |
| Washing machine | | Games console | |
| LED ceiling light | | Hairdryer | |

# READING THE METER

Your home has a **meter** that records how much electrical energy you use. It counts in **kilowatt-hours (kWh)**, often called **units**.

To find how many units were used, take the first reading away from the second reading.




**2** Monday's reading was **06312**. The next Monday it was **06398**. How many units were used that week? 2 marks

**3** If one unit costs 25p, how much did that week's electricity cost? 2 marks

**4** **CHALLENGE** Energy used (kWh) = power (kW) × time (hours). A **3 kW** kettle is used for **3 minutes** (0.05 hours). A **0.1 kW** TV is on for **2 hours**. Which uses more energy? 3 marks

# ELECTRICITY, SAFETY AND SOCIETY

**NEVER TOUCH OR OPEN A CONSUMER UNIT!** It contains live parts at mains voltage. Only a qualified electrician may work on it.

**5** Read about Sam's kitchen. Find **four** hazards and explain how to make each one safe. 8 marks

Sam plugs the kettle, toaster, microwave and air fryer into one extension lead. The kettle cable has a split in it, with copper showing. A wet dishcloth is drying on top of a socket. When his toast gets stuck, Sam tries to free it with a metal knife while the toaster is still switched on.

| HAZARD | HOW TO MAKE IT SAFE |
|---|---|
| | |
| | |
| | |
| | |

**Fuel poverty** is when a household has to spend so much of its income on energy that it struggles to keep the home warm. In Scotland, a household is in fuel poverty if it needs to spend more than **10%** of its income (after housing costs) on fuel and cannot then afford a decent standard of living.

Fuel poverty can affect health, especially for older people, young children and people who are ill. Better insulation, efficient heating and lower energy prices all help.

**6** Explain why living in a cold, damp home could be harmful. 2 marks

**7** Describe **three** ways a family could reduce the electricity they use. 3 marks