PREP 6 · LESSONS 11–12

Power, mains and the National Grid

P = V I and P = I² R · energy transferred · mains electricity, safety and the Grid

SCORE / 10

Name _____ Class _____ Due _____

Do Now REMEMBER

From earlier lessons · 1 mark each

1 Describe how the resistance of a thermistor varies with temperature. [1]

2 Describe how the resistance of an LDR varies with light intensity. [1]

3 Finding the I–V characteristic of a component: name the independent and dependent variables. [1]

Key ideas LESSONS 11–12

Show your working

4 A kettle is connected to the 230 V mains. The current is 8.0 A. Use P = V I

Calculate the power of the kettle. [2]

5 The current in a 15 Ω resistor is 2.0 A. Use P = I² R

Calculate the power transferred in the resistor. [2]

6 The frequency of the UK mains supply is | 50 Hz | 60 Hz | 230 Hz | [1]

7 State the function of the earth wire. [1]

8 Explain why step-up transformers are used before electricity is transmitted. [1]

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