

# Electromagnets

## 1. Voltage and resistance

### CONCEPT 3

### TEST YOURSELF

### RESISTANCE

#### KNOW

- Q1 What are the units of electrical resistance?
- Q2 What is electrical resistance?
- Q3 A buzzer is an electrical device that creates sound when there is a current through it.

Circuit A has a 6V battery and a buzzer. Circuit B has a 6V battery and a buzzer with higher resistance.

In which circuit will the buzzer be louder?

#### APPLY

- Q4 A variable resistor is an electrical device whose resistance value can be changed from low to high resistance.
- How could you use variable resistor to make a *dimmer switch circuit* to make a light able to change its brightness – dim to bright.
- Q5 What would happen to a light bulb in a circuit with one battery if the wires in the circuit were changed from copper to platinum?

#### EXTEND

- Q6 What is the equation for *Ohms Law*?
- Q7 Using the equation that links current, resistance and voltage, complete the table to fill in the missing values:

	Potential difference (V)	Current (A)	Resistance ( $\Omega$ )
(a)	10	2.5	
(b)	1.5	0.5	
(c)	3.1	0.1	
(d)		0.2	200
(e)		1.5	60
(f)	1.2		600

