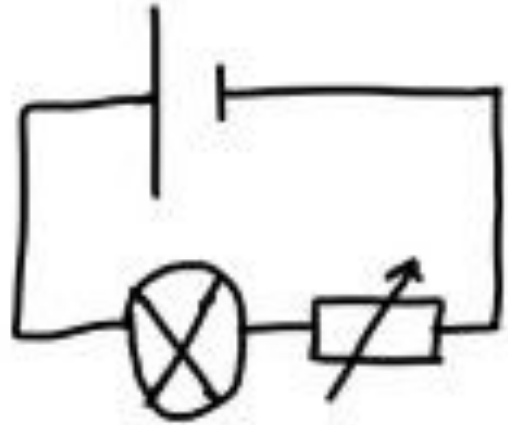# Charge and Current

Miss Walrond

Definitions

1) What is the name of the charged particle that moves in an electrical circuit?
2) Write a definition for the electrical current.
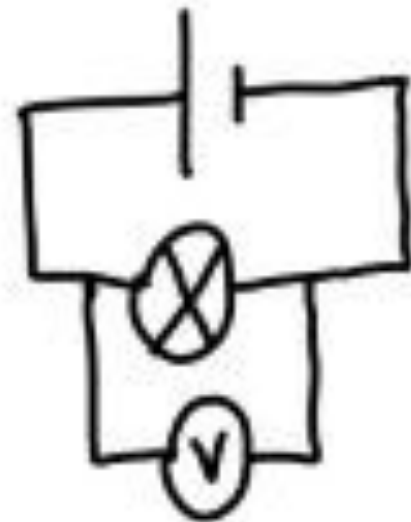3) What does the term rate mean?

Independent Task:
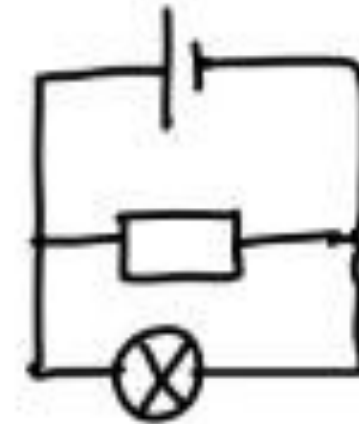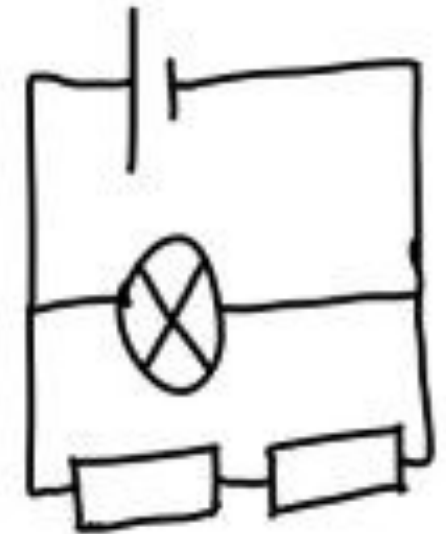## Redraw these circuits adding an ammeter to measure the current through the lamp.

1

2

3

4

Independent Task: Calculating Current
Complete these calculations

1) A charge of 10 C flows through a torch when it is switched on for 300 seconds. Calculate the current that flows through the torch.

2) 12 C of charge passes through a lamp in 6 seconds. What is the current that flows in the lamp?

3) A switch is closed for 10 minutes. If 3600 C of charge passes through the switch in this time, what is the current in the switch?

4) 6 mC of charge passes through a resistor in 10 seconds. Calculate the current that flows through the resistor?

5) 3 C of charge flow through a lamp in 3 minutes. Calculate the current that flows through the lamp in mA.

Independent Task: Using Q = It
Complete these calculations

1) A drill has a current of 12 A flowing through it and is used for 10 minutes. How much charge flows through the drill?

2) A microwave oven heats soup for 5 minutes. How much charge flows through the microwave oven if it requires 13 A of current to flow through it?

3) 10 C of charge flows through a resistor and produces a current of 5.5 A. How much time does it take for the charge to flow through the resistor?

4) A hair dryer has a current of 3 Amps flowing through it. If 3.6 kC flows, how long was it switched on for?

Answers

Review - Independent Task: Calculating Current

1) 0.03 A

2) 2 A

3) 6 A

4) 0.0006 A or 0.6 mA

5) 17 mA

Review - Independent Task: Using Q = It

1) 7200 C

2) 3900 C

3) 1.8 s (to 2 sf)

4) 1200 seconds or 20 minutes