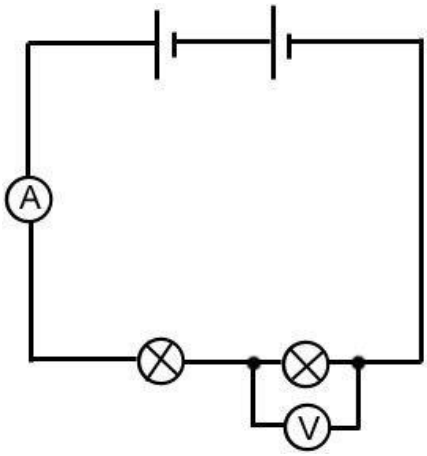
Current, Voltage and Charge

Current is measured in Amps and is measured using an ammeter
Ammeters are connected in **series** to measure the current through a component or circuit

Voltage is the push from the battery around the circuit

Voltage is measured in volts using a voltmeter. A voltmeter is connected in **parallel** to measure the voltage around the component.

Current



In a **series** circuit the current will is the **same** in all parts of the circuit

In a **parallel** circuit the current will split when it meets a junction but the amount entering and leaving will still be the **same**.

Voltage

In a **series** circuit the voltage will is **shared** between identical components.

In a **parallel** circuit the voltage is the **same** across each component in the circuit

Charge

Electricity is when electrons move around a circuit and carry energy with them. Each electron has a negative **CHARGE**. Charge is measured in **COULOMBS**

The charge that flows in a set time can be calculated using the equation.

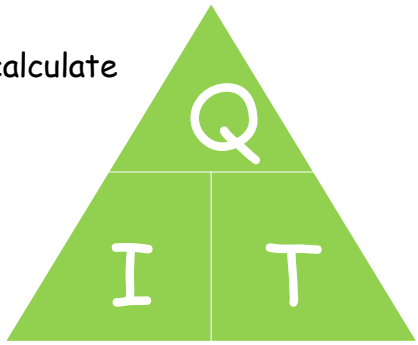
Charge = current x time

Example: A circuit is switched on for 30s with a current of 3A. How much charge flowed? 3 x 30 = 90C

We can use the equation triangle to rearrange and calculate time and current.

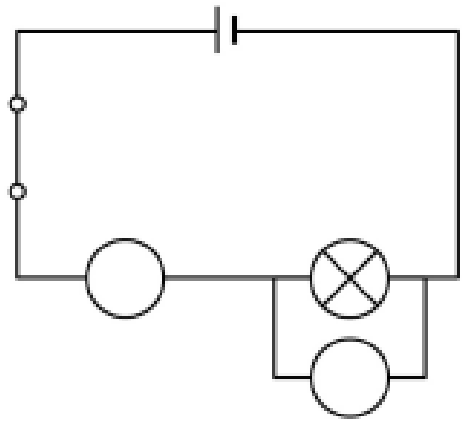
Current = Charge ÷ time

Time = Charge ÷ current



Current, voltage and Charge

Task 1: Complete the diagram to show where you would put a voltmeter and an ammeter



Task 2: Use the rules about current and voltage to complete the table.

Lamps	Total current from the battery in circuit (A)	Potential difference across one lamp (V)
One	5	12
Two in series		
Three in series		
Two in parallel		
Three in parallel		

Task 3: Fill in the missing words.

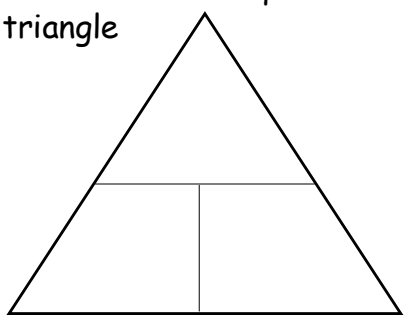
a) An _____ measures current. Current passes through it.

b) A _____ measures potential difference (voltage) across a circuit.

c) The current is the same all the way round a _____ circuit.

d) The potential difference (voltage) of the cell is shared equally between identical lamps in a _____ circuit.

Task 4: Fill in the missing letters for the equation triangle



Task 5: Complete the table

Charge (C)	Current (A)	Time (s)
	5	2
0.4	1	
20	0.5	
		250