2. What is voltage?

Steps	Worked example	Practice 1	Practice 2
Read the question carefully.	Worked example: A charge of 1500 C transfers 750 J of electrical energy into heat and light in a lamp. Calculate the emf of the power supply.	What is the pd of a supply of 10 C of charge on a lamp emitting 100 J of heat and light.	How much energy is emitted by a lamp with a pd of 12 V across it and 10 kC of charge moving through it?
Write what you know: highlight/ record the information from the questions including what you want to find out.	Q = 1500 C, W = 750 J, V = ?		
Convert any data to appropriate values (for example g to kg, or cm to m)	Not required		
Write down the equation that links the variables together	V = W/Q		
Rearrange the equation to make the unknown the subject	Not required		
Substitute your data into the equation, including the units	V = 750 J / 1500 C		
Calculate the answer, leaving a unit and an appropriate number of sig figs (same as data). Check that the answer makes sense and underline.	V =0.5 V Reasonable value for a lamp.		

Steps	Practice 3	Practice 4	Practice 5: **write your own**
Read the question carefully.	An industrial machine uses 15 kV to transfer 0.5 MJ of energy. What was the charge transferred?	An electric heater has a 3 A current. How much energy is emitted in one minute if plugged into the mains.	
Write what you know: highlight/ record the information from the questions including what you want to find out.			
Convert any data to appropriate values (for example g to kg, or cm to m)			
Write down the equation that links the variables together			
Rearrange the equation to make the unknown the subject			
Substitute your data into the equation, including the units			
Calculate the answer, leaving a unit and an appropriate number of sig figs (same as data). Check that the answer makes sense and underline.			