



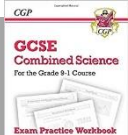
Step 1 What do I need to know?

- Be able to define the key terms: current, potential difference, charge and resistance.
- Describe how ammeters and voltmeters are wired to measure current and potential difference.
- Recall and apply the equation that links charge, current and time.
- Recall and apply the equation that links current, potential difference and resistance.

Step 2 How do I find out about it?

Revision Guide Page		Web Links
		 https://www.bbc.com/education/guides/zgvq4qt/revision/2  https://www.youtube.com/watch?v=cjCPnQ4es_U
Higher	Pg. 179 - 180	
Foundation	Pg. 180 -181	

Step 3 What can I do to help me learn it?

	Complete the relevant questions in your CGP Science Workbook	Higher	Pages 186 - 187
		Foundation	Pages 161 - 162

TASK 1- Define the terms: current, potential difference, charge and resistance.

TASK 2- Draw a simple series circuit with a filament lamp, which you could use to measure the current and the potential difference.

TASK 3- What is the equation that links charge, current and time? Calculate the following:

- Calculate the charge in a circuit when the current is 0.2A and it is on for 2 minutes.
- Calculate the time that a circuit is on for if the current is 2A and the charge is 5C.
- The current flowing through a circuit is 1.83mA and it is running for 3 and a half minutes, calculate the charge.

TASK 4- What is the equation that links potential difference, current and resistance? Calculate the following:

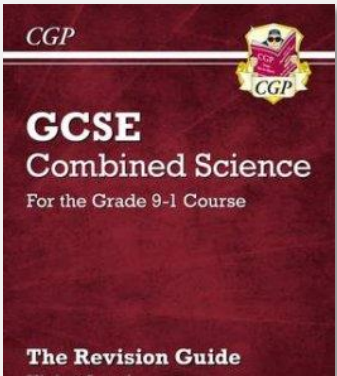


- Calculate the resistance in a circuit if the current is 1.5A and the potential difference is 9V.
- Calculate the current in a series circuit when the resistance is 3ohms and the potential difference is 6V.
- Calculate the potential difference when the current in a circuit is 0.93mA and the resistance is 6ohms.



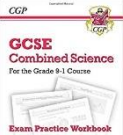
Step 1 What do I need to know?

- Describe what the difference is between series and parallel circuits.
- Explain how current acts in a series and a parallel circuit.
- Explain how potential difference acts in a series and parallel circuit.
- Interpret circuit diagrams to determine unknown current and potential difference values.

Step 2 How do I find out about it?

Revision Guide Page		Web Links
		 https://www.bbc.com/education/guides/zgvq4qt/revision/6 https://www.bbc.com/education/guides/zgvq4qt/revision/7
Higher	Pg. 183 - 184	 https://www.youtube.com/watch?v=Az7VRuTA8dQ
Foundation	Pg. 185 - 186	

Step 3 What can I do to help me learn it?

	Complete the relevant questions in your CGP Science Workbook	Higher	Pages 191 - 192
		Foundation	Pages 166 - 167

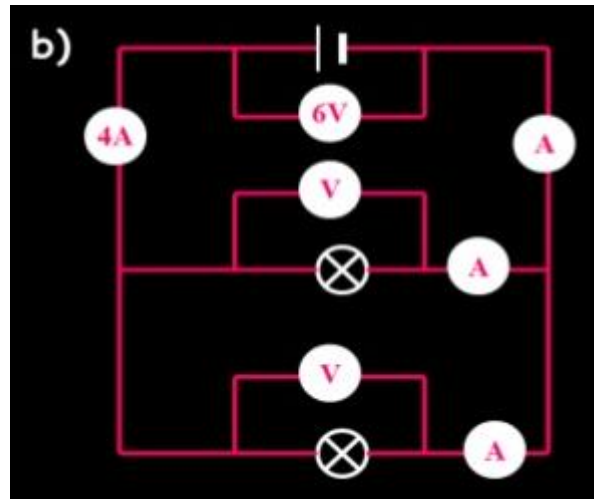
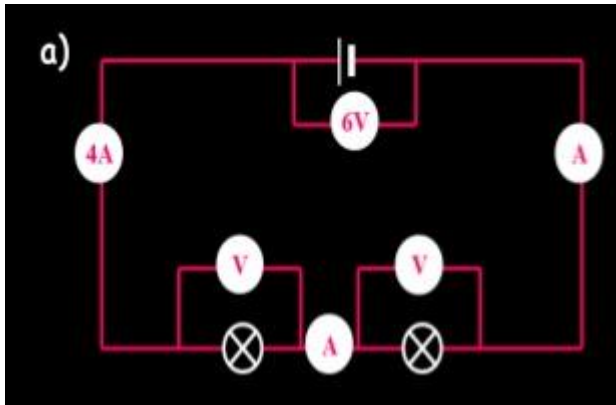
TASK 1- Describe the difference between a series and parallel circuit.

TASK 2- Construct a series circuit with two filament lamps, a battery, an ammeter and a voltmeter. Construct a parallel circuit with two filament lamps, a battery, an ammeter and a voltmeter.

TASK 3- Describe what happens to current and potential difference in a series circuit? Can you explain why this happens?

TASK 4- Describe what happens to current and potential difference in a parallel circuit? Can you explain why this happens?

TASK 5- Determine what the missing current and potential difference values:





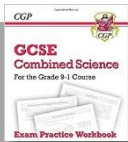
Step 1 What do I need to know?

- Explain what Ohm's law is.
- Recall and apply the equation to calculate resistance.
- Describe how to investigate the effect of the length of a wire on resistance.
- Use a graph to calculate resistance.

Step 2 How do I find out about it?

Revision Guide Page		Web Links
		 https://www.bbc.com/education/guides/zgvq4qt/revision/4
 https://www.youtube.com/watch?v=cx9xLwa7Gco		
Higher	Pg. 180	
Foundation	Pg. 181 - 182	

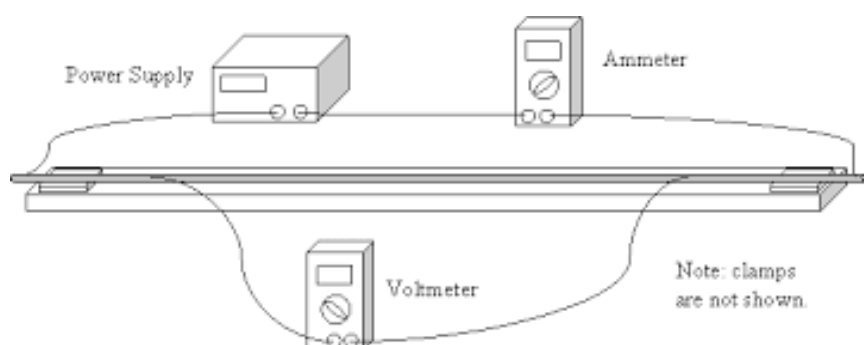
Step 3 What can I do to help me learn it?

	Complete the relevant questions in your CGP Science Workbook	Higher	Pages 187
		Foundation	Pages 162 - 163

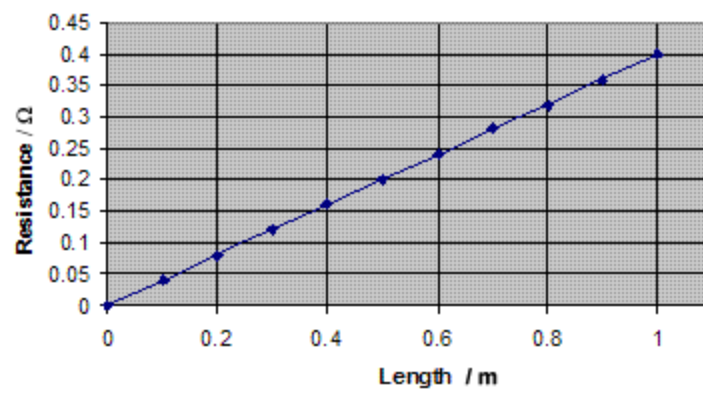
TASK 1- Recall the equation to calculate resistance.

TASK 2- Calculate the resistance of a wire if the potential difference is 6V and the current is 2.5A.

TASK 3- Construct a step-by-step method you could use to be able to investigate the effect of changing the length of a wire on the resistance using the equipment shown below:



TASK 4- Use the graph below to calculate the resistance of the wire at 0.7m:





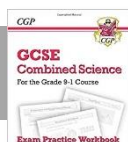
Step 1 What do I need to know?

- Explain how the length of a wire affects resistance
- Describe how to investigate resistance of a wire

Step 2 How do I find out about it?

Revision Guide Page		Web Links
		 https://www.bbc.com/education/guides/zgvq4qt/video  Resistance of a wire required practical
Higher	Pg. 180	
Foundation	Pg. 181	
Triple (physics)	Pg. 25	

Step 3 What can I do to help me learn it?



Complete the relevant questions in your CGP Science Workbook

Higher

Pages 187

Foundation

Pages 172

TASK 1- Draw a labelled diagram of the circuit needed to investigate resistance of a wire.

TASK 2- Explain how you would use that circuit/components to investigate how the length of the wire affects resistance. Include the equation you would need to use.



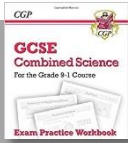
Step 1 What do I need to know?

- Explain how having resistors in series/parallel affects the total resistance in a circuit
- Calculate resistance in a series circuit

Step 2 How do I find out about it?

Revision Guide Page		Web Links
		 https://www.bbc.com/education/guides/zgvq4qt/revision  <u>Resistors</u> in series and parallel circuits – required practical
Higher	Pg. 185	
Foundation	Pg. 182	
Triple (physics)	Pg. 30	

Step 3 What can I do to help me learn it?

	Complete the relevant questions in your CGP Science Workbook	Higher	Pages 191-193
		Foundation	Pages 166-167

TASK 1- Draw a labelled diagram of a series and a parallel circuits each with two resistors. Annotate the diagrams to show what happens to the resistance in both circuits. .

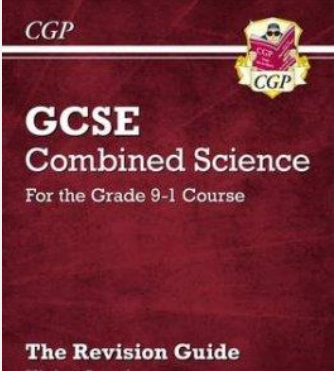


TASK 2- Sketch the graphs on 185 and label them to explain why the series circuit is a straight line and the parallel circuit has a negative correlation.



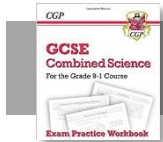
Step 1 What do I need to know?

- Describe how electricity is distributed through a mains supply

Step 2 How do I find out about it?

Revision Guide Page		Web Links
		 https://www.bbc.com/education/guides/zw8n2nb/revision  The National Grid
Higher	Pg. 189	
Foundation	Pg. 191	
Triple (physics)	Pg. 34	

Step 3 What can I do to help me learn it?



Complete the relevant questions in your CGP Science Workbook

Higher

Pages 187

Foundation

Pages 172

TASK 1- Draw a labelled diagram of a the National Grid – label the power station, step up transformer, cables, step down transformer. Explain what each part does.

TASK 2- explain why electricity is transmitted at high voltages and low currents.