

Prior Learning		At KS3 and in unit 1 of the GCSE physics course, students have learned about electrical energy, electrical current, and electricity in the home.		
Lesson Number	AQA Spec	Title	Content	Assessment
1	4.2.3.1 4.2.3.2	Electricity in the home	<ul style="list-style-type: none"> <li>Know that the domestic supply in the UK is a.c. at 50 Hz and about 230 V.</li> <li>Describe the main features of live, neutral and earth wires.</li> </ul>	
2	4.2.1.1 4.2.1.2 4.2.1.3	Electric current	<ul style="list-style-type: none"> <li>Know circuit symbols.</li> <li>Know that current is a rate of flow of electric charge.</li> <li>Use series circuits to test components and measure current. (Build series circuit)</li> <li>Explain how an electric current passes round a circuit.</li> </ul>	
3	4.2.2	Investigating circuits	<ul style="list-style-type: none"> <li>Know that current (<math>I</math>) depends on resistance (<math>R</math>) and potential difference (<math>V</math>)</li> <li>Carry out calculations on a single component in a series circuits. GRAPH</li> </ul>	Quiz (not recorded)
4	4.2	Maths skills: Using formulae and understanding graphs	<ul style="list-style-type: none"> <li>Recognise how algebraic equations define the relationships between variables.</li> <li>Solve simple algebraic equations by substituting numerical values.</li> <li>Describe relationships expressed in graphical form</li> </ul>	Add resources (gradient)

5	4.2.1.4	Circuit components	<ul style="list-style-type: none"> <li>Set up a circuit to investigate resistance.</li> <li>Investigate the changing resistance of a filament lamp.</li> <li>Compare the properties of a resistor and filament lamp. Graph/gradient.</li> </ul>	
6	4.2.2	Series and parallel circuits	<ul style="list-style-type: none"> <li>Recognise series and parallel circuits.</li> <li>Describe the changes in the current and potential difference in series and parallel circuits.</li> </ul>	
7	4.2.1.3	<b>Required practical: Prac 3</b> Investigate factors affecting resistance	<ul style="list-style-type: none"> <li>Use circuit diagrams to set up and check appropriate circuits to investigate the factors affecting the resistance of electrical circuits, including the length of a wire at constant temperature and combinations of resistors in series and parallel.</li> </ul>	<b>Assessment 1:</b> Written assessment 15 Marks  Feedback: Teacher
8	4.2.1.4	Control circuits	<ul style="list-style-type: none"> <li>Use a thermistor and light-dependent resistor (LDR).</li> <li>Investigate the properties of thermistors, LDRs and diodes.</li> </ul>	
9	4.2.1.4	Required practical: Prac 4 Investigate the I–V characteristics of circuit elements	<ul style="list-style-type: none"> <li>Investigate, using circuit diagrams to construct circuits, the I–V characteristics of a filament lamp, a diode and a resistor at constant temperature.</li> </ul>	

10	4.2.4.2	Power and Electrical energy transfers	<ul style="list-style-type: none"> <li>Describe the energy transfers in different domestic appliances.</li> <li><b>Recall</b> that power is a rate of energy transfer.</li> <li>Describe power as a rate of energy transfer.</li> <li>Calculate the energy transferred.</li> </ul>	
11	4.2.4.1 4.1.1.1 4.1.1.2 4.1.1.3	Calculating power	<ul style="list-style-type: none"> <li>Calculate power.</li> <li>Consider power ratings and changes in stored energy.</li> <li>Know that energy companies use kWh.</li> <li>Calculate the cost of using appliances.</li> </ul>	<b>Assessment 2:</b> Multiple choice Quiz <b>25</b> Marks  Feedback: Auto/Self-assessed
12	4.2.4.3	Transmitting electricity	<ul style="list-style-type: none"> <li>Describe how electricity is transmitted using the National Grid.</li> <li>Explain why electrical power is transmitted at high potential differences.</li> <li>Understand the role of transformers.</li> </ul>	
13	4.2.1	Key concept: What's the difference between potential difference and current?	<ul style="list-style-type: none"> <li>Understand and be able to apply the concepts of current and potential difference.</li> <li>Use these concepts to explain various situations.</li> </ul>	
<b>End of Unit test Assessment: Teacher</b>				
<b>Where we will use these ideas again</b>	P7 <ul style="list-style-type: none"> <li>Key concept: Electricity and Magnetism</li> <li>Electric motors</li> </ul>			