Stewards Academy

Science Department **ASSESSMENT FEEDBACK** Year 9 Combined Science (PHYSICS)

Attainment Band :	**P2 Electricity (AQA)**
	Knowledge and Understanding
Yellow Plus/ Yellow	Explain the concept that current is the rate of flow of charge. Rearrange and apply the equation $Q = It$. Recall that the current in a series circuit is always the same and that the total current in a parallel circuit is the sum of the currents through each branch. Explain the effect of adding more resistors to series and parallel circuits. Analyse and interpret *I–V* graphs for a fixed resistor. Describe applications of diodes, thermistors and LDRs and explain their uses. Use *I–V* graphs to determine if the characteristics of components are ohmic or non-ohmic. Explain the difference between direct and alternating potential difference. Explain the dangers of providing any connection between the live wire and earth or our bodies. Explain why electrical power is transmitted at high voltages in the National Grid. Recall and apply the equation energy transferred $E = QV$. Recall and apply the equation $P = I^2R$.
Blue	Remember that charge is measured in coulombs (C) and recall and use the equation $Q = It$. Draw and recognise series and parallel circuits. Compare the brightness of lamps connected in series and parallel. Recall and apply the equation $V = I R$ and for series circuit $R_{total} = R_1 + R_2$. Draw *I–V* graphs for a fixed resistor. Describe the behaviour of a thermistor and LDR in terms of changes to their resistance. Explain the properties of components using *I–V* graphs. Recall that domestic supply in the UK is 230 V a.c. and 50 Hz. Explain why a live wire may be dangerous even when a switch in the main circuit is open. Describe how step-up and step-down transformers change the potential difference in the National Grid. Recall and use the equation energy transferred $E = Pt$. Recall and use the equation $P = V \times I$.
Green	Recall that an electric current is a flow of electrical charge and is measured in amperes (A). Recognise and use electric circuit symbols in circuit diagrams. Recall that the current through a component depends on the resistance of the component and the potential difference across it. Set up a circuit to investigate the relationship between *V, I* and *R* for a fixed resistor. State the main properties of a diode, thermistor and light-dependent resistor (LDR). Draw *I–V* graphs for a filament lamps. Recall that cells and batteries produce low-voltage direct current. Identify live, neutral and earth wires by their colour-coded insulation. Recall that the National Grid is a system of cables and transformers linking power stations to consumers. Understand that everyday electrical appliances bring about energy transfer. Recall that power is measured in watts (W) and 1 kW = 1000 W.
White	Some elements of the above have been achieved