

Subject	Year	Term
Physics	12	2
Topic		
Topic 3 Electricity		
Content (Intent)		
Prior Learning (Topic) 11P2 Electricity		
<p>Current as rate of flow of charge: $I = \frac{\Delta Q}{\Delta t}$</p> <p>P.d. as work done per unit charge: $V = \frac{W}{Q}$. Define resistance, $R = \frac{V}{I}$,</p> <p>Ohm's law. $V \propto I$ for conductor at constant Temperature</p>		
<p>Series and parallel circuits Kirchhoff's laws.</p> <p>$R = R_1 + R_2 + R_3$ (series resistors) $\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$ (parallel resistors).</p> <p>I-V characteristics of: ohmic conductors, filament bulbs, thermistors and diodes</p> <p>Electrical power, $P = \frac{\Delta W}{\Delta t} = IV$ $P = I^2R$ and $P = \frac{V^2}{R}$.</p> <p>Potential divider</p> <p>Demonstration of variation of resistance of thermistor with change of temperature and LDR with change of light level.</p> <p>$V_1 = \frac{VR_1}{(R_1 + R_2)}$. e.m.f as work done per unit charge: $V = \frac{W}{Q}$. e.m.f. and internal resistance. $I = nqvA$.</p> <p><i>CORE PRACTICAL 3: Determine the e.m.f. and internal resistance of an electrical cell</i></p>		
How will knowledge and skills be taught? (Implementation)	How will your understanding be assessed & recorded (Impact)	
<p>Experiments to investigate series and parallel circuits.</p> <p>Plot I-V graphs for a range of components.</p> <p>Demonstration of a potential divider circuit.</p> <p>Demonstrate the effect on the terminal potential difference of a cell of altering the load across the cell.</p>	<p>Homework Booklet 3 marked and written feedback given</p> <p>Test 3 marked, graded and feedback given</p>	
How can parents help at home?		
Check that the homework booklet 3 is completed		
Helpful further reading/discussion		
Reading	Vocabulary Lists	Careers Links
Advanced Physics for you chapter 16,17	<i>See front of homework booklet</i>	