



Year 12 Physics

Scientific Investigation Assessment Task 2023

TOPIC: Module 6 Electromagnetism	MARKS: / 25
SUBMISSION REQUIREMENTS: The investigation will be conducted in your one (1) hour Physics lesson in Week 8, Tuesday 28th November 2023, Period 2	WEIGHTING: 20 %
OUTCOMES TO BE ASSESSED: PH12-1 Develops and evaluates hypotheses for scientific investigation. PH12-2 Designs and evaluates investigations in order to obtain primary and secondary data and information. PH12-3 Conducts investigations to collect valid and reliable primary and secondary data and information. PH12-6 Solves scientific problems using primary and secondary data, critical thinking skills and scientific processes. PH12-13 Explains and analyses the electric and magnetic interactions due to charged particles and currents and evaluates their effect both qualitatively and quantitatively.	
DIRECTIONAL VERBS: Analyse Identify components and the relationship between them; draw out and relate implications Evaluate Make a judgement based on criteria; determine the value of Explain Relate cause and effect; make the relationships between things evident; provide why and/or how Solve to find an answer to, explanation for, or means of effectively dealing with a problem	
TASK DESCRIPTION: You will be required to conduct a scientific investigation in which students will engage in seven questions to complete and analyse different scenarios. Understanding the similarities and differences in the interactions of single changes in electric and magnetic fields provide students with a conceptual foundation. Phenomena that include the force produced on a current-carrying wire in a magnetic field, the force between current-carrying wires, Faraday's Law of Electromagnetic Induction, the principles of transformers and the workings of motors and generators can all be understood as instances of forces acting on moving charged particles in magnetic fields. Task Outline <ol style="list-style-type: none">1. Students observe or conduct mini practical's at various stations.2. Students respond to questions relating to each station.3. Students complete HSC style questions.	
ASSESSMENT CRITERIA: Students will be assessed in accordance with the allocated mark(s) for each question. The marking criteria and feedback will be provided to all students on the return of their assessment task. All marking will adhere to the struct marking criteria for each question. Students are encouraged to complete regular revision in the lead up to the assessment task, this includes completing CANVAS activities and reviewing available resources, and utilising ATOMI.	