**A Level Physics Study Period Guide – Autumn Term 2022**

**This guide is designed to help students with their independent revision for Year 12 Physics in their study periods this term.**

**Which topics will you be studying?**

|  |  |
| --- | --- |
| **Electricity** | **Mechanics** |
| * **Basics of electricity** * **Current–voltage characteristics** * **Resistivity** * **Circuits** * **Potential divider** * **Electromotive force and internal resistance** * **CORE PRACTICAL Determination of resistivity of a wire using a micrometer, ammeter and voltmeter.** * **CORE PRACTICAL Investigation of the EMF and internal resistance of electric cells and batteries by measuring the variation of the terminal p.d. of the cell with current in it.** | * **Scalars and vectors** * **Moments** * **Motion along a straight line** * **Projectile motion** * **Newton’s laws of motion** * **Momentum** * **Work, energy and power** * **Conservation of energy** * **CORE PRACTICAL Determination of g by a Free-fall method.** |

**Which exam board?**

In Physics, we follow the **AQA** exam board. For a detailed look at the specification click the below link:-

<https://filestore.aqa.org.uk/resources/physics/specifications/AQA-7407-7408-SP-2015.PDF>

**What useful revision activities should I be doing?**

* Construct a summary sheet (A3) for each topic - some content you may wish to include:-
  + Do not include the formulae from the sheet. Although you may wish to write them down in words to remind yourself of the relationship,
  + Definitions and relationships not included in the formula sheet,
  + Pictures of the various diagrams, and graphs you might use, such as Force diagrams for mechanics topic, etc.
  + Worked solutions of problems you have found difficult,
  + Concept maps linking your ideas together.
* Make sure you read through your class notes from previous lesson/s before your attending your next lesson
* Use some of the links below to access and solve as many exam type questions as you can to build up your problem solving skills.

**Useful Resources:**

Practice questions and going over previous papers and mark schemes is one of the key and best revision techniques for Physics. [AQA past papers](http://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408/assessment-resources)

Written by Bob Eagle, the [Physics A Level Playlist](http://www.youtube.com/playlist?list=PL5D99A319E129A5B7) is an excellent set of video tutorials.

[s-cool.co.uk](https://www.s-cool.co.uk/a-level/physics) has plenty of A and AS level Physics revision resources including not only notes but also practice questions and guides.

[physicsandmathstutor.com](http://www.physicsandmathstutor.com/physics-revision/) contains a huge amount of detailed revision notes for AQA as well topic based exam questions.

[physicsnet.co.uk](http://physicsnet.co.uk/a-level-physics-as-a2/) - A great resource with revision notes applicable to AS and A2 Level courses.

[alevelphysicsonline.com](https://www.alevelphysicsonline.com/video-index) - Provides plenty of revision aides including revision checklists, videos and past papers.

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| **Gravitational and Electric Field Theory** | **Thermal Physics and Magnetic Fields** |
| * **Concept of a field** * **Newton’s law of gravitation** * **Gravitational field strength** * **Gravitational potential** * **Orbits of planets and satellites** * **Coulomb's law** * **Electric field strength and electric potential** * **Capacitance** * **Parallel plate capacitor** * **Energy stored by a capacitor** * **Capacitor charge and discharge** * **CORE PRACTICAL: Investigation of the charge and discharge of capacitors.** | * **Thermal energy transfer** * **Ideal gases** * **Molecular kinetic theory model** * **Magnetic flux density** * **Moving charges in a magnetic field** * **CORE PRACTICAL: Investigation of Boyle's law (constant temperature) and Charles’s law (constant pressure) for a gas.** * **CORE PRACTICAL: Investigate how the force on a wire varies with flux density, current and length of wire using a top pan balance.** |

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