SIXTH FORM CENTRE
UNIVERSITY COLLEGE BIRMINGHAM

A-Level Physics
Summer Transition Work
2025-2026

Preparing for week 1:

Work to do (and why and when)

A level Physics builds on what you already learnt at GCSE. While some of the ideas are the same (just mathematically more rigorous) you won't necessarily remember what you did last year (or the year before). But to get the best results you need to be comfortable with a 7+ understanding of that part of your GCSE, meaning that it is essential for you to review your GCSE content before the start of the course.
Before you start your first year you want to review the content of all your relevant GCSEs, but specifically Maths and Physics. It's a good idea to read through the Exam notes or Revision Guides you had and then to be sure that you really understand the material, do some past exam questions (or textbook questions if you have a textbook). (I also recommend the Science Shorts channel on YouTube.)

Complete the tasks below and bring your notes and topic map to your first lesson. You will need to prepare for your first two topics which will be **Electricity** and **Mechanics**. *It is essential that you come to your first lesson having reviewed the basics on these concepts so that you can access the lesson content.* (I have indicated some suggested times for this work, to help you ensure that you have completed everything before the start of the course.)

Task 1 (course overview) [Start on 21/8/25]: General task:

- Find the Physics A-level specification on the AQA website (the new specification 7407), look specifically at sections 3.2 and 3.5. Produce a topic map of sections 3.2 and 3.5, look at your GCSE notes and revision guide, to review the appropriate sections and traffic light your topic map (red, amber green).
- **WHY:** this key revision will allow you to access the subjects that we will cover at A-level. GCSE knowledge is expected knowledge for the course (if you need lesson time to review GCSE content that's time you don't have to cover the A/A* material).

Organisation:

- Buy a folder to keep track of your loose paper notes. You may want to buy a lever arched file with file dividers to store your work for all subjects or two skinny ringbinders (to bring to our lessons). **You will want a CASIO fx-991 CW or CG50 calculator.** If you meet the bursary criteria you will be issued with an **fx-991 CW**.
- **WHY:** You will constantly need to supplement your notes, hand in pieces of work and then return them to the right place in your notes. While you will have an exercise book for lesson notes, you will also have Past Papers, A-level Specification and other printed material which you don't want to keep loose in an exercise book. **A book alone will not work.**

Task 3 (Extended online learning) [start 23/8/25]:

Start the Open University "what are waves" course which needs to be completed over the next four weeks.

This will give you a certificate of completion and you will be able to mention your completed MOOC in your university application in the future.

Task 4 (Online practice) [start 25/8/25]:

Create an account on Isaac Physics https://isaacphysics.org and (once you are logged in) use this link to join our A level Physics group https://isaacphysics.org/account?authToken=NAXTAJ You have two tasks to complete on Isaac Physics.

WHY: Online work is a part of your A level learning. Isaac Physics will help you master your use of equations while also supporting you with the correct use of significant figures.

Task 5 (Learning Refresh/Pre Learn) [start 25/8/25]:

Do two Higher Tier GCSE Past Papers for each of your A levels. I recommend doing Past Papers from different Exam Boards (one should be from AQA). Once you have done the Past Papers you also want to **Mark them**, **Correct** any mistakes you made and then **do the questions you got wrong again**, 3 days later.

WHY: A levels are designed with the view that you are starting with a 7+ level in your GCSE, the best way to be sure that you are at this level at the start of the course is to test your learning. You want to see the **Markscheme** to see what it is examiners insist on and you want to **Correct your Mistakes** because that is how you get better.

Key topic Focus:

You will want to give further and additional weight to the key topics and also review the basics for Particle Physics. I have suggested some Youtube content (I recommend Science Shorts) and the relevant PhysicsAndMathsTutor sections for you to review (completing Questions by topic).

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Physics and Maths Tutor topics 4.1, 4.2, 5, 7.1, 7.2, 9.1, 9.2

Task (Finding yourself in Physics) [Extended task, start on 1/9/25]:

1. I would like you to consider how your subjects work together and how you fit in with them.

   a. Prepare a 1 side A4 page describing an event/discovery/invention/etc. which links your three A-level topics. E.g. History of the atom bomb; science of flight, Science and Maths of voting Machines, the definition of the kilogram …
   b. Prepare a 1 page PPt slide on a Physicist* who is like you. You can define "like you" based on whichever you think is an important characteristic (gender, nationality, ethnicity … up to you). [*: Note that Mathematicians and Computer Scientists can be considered Physicists for this exercise]
   c. Find a book on Physics or Maths, possibly linking to your career goal. You will want to be able to give a five minute overview of the book in tutorial and be able to write a paragraph about it for your personal statement by the start of the second half term. Suggested books:

(Pro tip – get this from your local library for free)