

Dear All,

Welcome to the start of preparing for the A-level physics course! The main aim will be to practice the GCSE material that is relevant for the A-level course and to introduce a problem solving process that will enable you to tackle the more challenging problems that you will ultimately encounter on an A-level course. For those who are up for the challenge try to include some of the A level work!

As well as consolidating your knowledge and understanding in these areas you should also focus on the skills that are common to all areas of physics:

- Problem solving
- Use of algebra
- Converting units and use of prefixes and standard form

In A level physics there is a common focus on knowing:

- Equations
- Symbols
- Standard Units

The best way to consolidate your knowledge is to use Isaac Physics. Create an account and work through the GCSE exercises, concentrating on areas you are less confident with. Then move onto some of the Level 1 and Level 2 questions.

<https://isaacphysics.org>

Help:

- When using Isaac physics you may want to start by looking at Hint 1 and Hint 2. Hint 2 shows some videos that demonstrate the process of drawing a clear diagram and how to calculate the magnitude and direction of a displacement
- As modelled in the videos, so your own working on paper! The habit of writing out the process will help you understand, remember and correctly answer these types of questions.
- Significant figures are important! The significant figures you give your final answer to must match the significant figures that are given to the data used to calculate your answer. E.g. In one distance is 3.0km and the other is 7.2km your final answer should be to 2sf as both values used in your calculation are given to 2sf. If you have a different number of sf in the data you use, go with the fewest number of sf. E.g. If one distance given is 10.5km and the other is 6.5km, you would give your answer to 2sf, not 3sf. The reason for this will be explained in more detail at a future date, but the short answer is that your final answer can't claim to be more precise than the data used to calculate it!
- Preserve with the problem, but ask for help if you are stuck by emailing me.

Best wishes

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