

## **Academic Enrichment Sessions - Lucy Cavendish College**

### **Physics - Session 1**

Hi Year 12 Physics Students :-)

To get you ready for the first A-level Physics session, I've provided a short summary of the topics I plan to cover and have included links to some videos and notes which you might find useful for reference (either before or after the session).

During the session, I will expect you to have your calculator, Equation/Formula booklet and pen and paper with you as you will be doing practice questions.

The areas I'll be covering are all fundamental skills which it is vital you are 100% confident with, as they underpin everything else we learn during the A-level course. So even if you think you are familiar with them, I will provide some challenging examples to allow you to test your knowledge.

See you all on Monday 21st

Emma Austin

#### **Topics covered:**

- Units and prefixes (including SI units)
- Uncertainties (absolute and %, combining uncertainties)
- Graphical analysis (gradients, graphical uncertainties)
- Estimating
- Resolving and combining vectors

#### **Resources:**

If you haven't found them already - the internet is full of some amazing, well-made, helpful resources to support you in your A-level Physics studies. Here are links to a range of different resources. It is worth having a look at each of these,, as it is often down to personal preference which you find the most useful.

If you have a preferred website that you use and I haven't included it, please do let me know and I can share it next session with the group.

#### **Test Yourself:**

[www.isaacphysics.org](http://www.isaacphysics.org)

This free website offers a vast range of problem solving resources to help you improve your knowledge and application of all the main Physics concepts

Create an account if you haven't already done so.

Click on Learn - A-level Resources - Question Finder

You can then choose Physics and Skills to find questions relating to all these topics

**Physicsandmathstutor.com** is a brilliant one-stop shop for past papers, exam questions and also revision notes and definition practice.

[AQA - Measurements and their Errors](#)

[Edexcel - Working as Physicist](#)

[OCR - Foundations of Physics](#)

**A-level Physics Online** by Lewis Matheson offers free resources for all the Year 12 content. (He covers Y13 content too, but you would need to pay for a subscription to access this.)

Units & prefixes (A Level Physics Online)

<https://www.alevelphysicsonline.com/units>

**Science Shorts** is a free resource which has a good range of videos covering both Y12 and Y13 content, plus some summary mindmaps.

Uncertainty explained (Science Shorts)

<https://www.youtube.com/watch?v=ul3e-HXAeZA>

**Cowen Physics** is another free resource which includes short videos on all the Y12 and Y13 topics for the three main exam boards.

Resolving and combining Vectors (Cowen Physics)

[https://www.youtube.com/watch?v=szgQQ5l1SNw&list=PLBb\\_6jpE41oLLluVmP401s1WX9i6vaMKV&index=5](https://www.youtube.com/watch?v=szgQQ5l1SNw&list=PLBb_6jpE41oLLluVmP401s1WX9i6vaMKV&index=5)

[https://www.youtube.com/watch?v=\\_Avje8IzC5c&list=PLBb\\_6jpE41oLLluVmP401s1WX9i6vaMKV&index=4](https://www.youtube.com/watch?v=_Avje8IzC5c&list=PLBb_6jpE41oLLluVmP401s1WX9i6vaMKV&index=4)