Academic Enrichment Sessions - Lucy Cavendish College

Physics - Session 3

Hi Year 12 Physics Students :-)
Welcome to our next Physics session.

The same as previous sessions, I will expect you to have your calculator, Equation/Formula booklet and pen and paper with you as you will be doing practice questions.

I will be continuing to focus on topics which have quite a large overlap with GCSE content, but the same as last session, you are expected to apply your knowledge to much more complex problems.

See you all on Monday 6th February.

Emma Austin

Topics covered:

- Electrical Circuits
- Internal resistance and EMF
- Potential dividers
- Waves - Refraction & TIR

More resources:
As in the previous sessions, I recommend you continue to use www.isaacphysics.org for practising calculations and www.physicsandmathstutor.com for exam question practice.

However it's all about finding resources which suit you.
So another free online resource to try out is Khan academy
It's free to create an account and there is lots of A-level Physics content available, with short explanatory videos and you can test yourself with multiple choice questions.

If you enjoy watching short videos, then a great series covering a massive range of science related topics are the **Crash Course** videos. (But be prepared - they speak really quickly!)
If you want to give these a try, you could start with this one on Circuit Analysis

If you do Astrophysics later on in your course, I highly recommend you check out the Crash Course Astronomy videos - or if you simply want to broaden your knowledge - the Crash Course History of Science are a fascinating series of videos to dip into.

Using Simulations:
As you are unlikely to have the equipment at home to make and test the various relationships we learn about in A-level physics, the next best thing is to use some of the great online simulations available.

The Phet site has a plethora of simulations which help you visualise physics concepts.

Try the DC circuit lab to create circuits. Why not find an electrical circuits based exam question and create the circuit described in the question, then see if you can calculate missing values and check your answers by using the circuit?