

INA A-level Physics - Summer learning

TASK 1 - Review GCSE learning

It is important that when you begin the Physics course in September that your Physics knowledge is refreshed, ready to take on the next step in your learning. Please **review** your revision materials from your **GCSE course** as you will be building on top of this prior knowledge. A **solid foundation** allows for your knowledge to grow.

TASK 2 – Reviewing physics news

Read news stories related to physics and engineering from the following suggested news sites (or other sources):

- BBC News (science) - http://www.bbc.co.uk/news/science_and_environment
- The Guardian - <https://www.theguardian.com/science>
- New Scientist – www.newscientist.com
- Space.com
- NASA - <https://www.nasa.gov/>
- Physics World - <http://physicsworld.com/>

Choose an article that interests you, and find the **same news item** from at least **another two websites/sources** and **summarise** what you have learnt on 1 side of A4 maximum (typed or hand written).

TASK 3 - Registering with IsaacPhysics.org and completing the Summer Learning assignments

1. Go to isaacphysics.org
2. Click on log in, and sign up using your email address. Fill in details.
3. Verify email address by checking your inbox and following instructions in verification email.
4. Go to My Account and click on Teacher Connections. Input the following code: **L4FZHG**
5. You will now have your assignments set to your account.
6. To access your assignments, click on Menu and click on My Assignments.
7. Complete both sets of Summer Learning.

Questions that expect a value to be entered will want you to give an answer based on the number of significant figures that the question is asking in. For example, below is an image where the data in the question was to two significant figures, so the answer must be written as 5.0, not 5 as we need to see an answer to 2sf.

Answer Now

| | |
|---|--|
| Value | Units |
| <input type="text" value="5"/> | <input type="text" value="m"/> |
| <small>Please answer to an appropriate number of significant figures.</small> | <small>Please choose an appropriate unit of measurement.</small> |

incorrect

*Check the amount of significant figures you have given.
Please try again.*

Check my answer

Answer Now

| | |
|---|--|
| Value | Units |
| <input type="text" value="5.0"/> | <input type="text" value="m"/> |
| <small>Please answer to an appropriate number of significant figures.</small> | <small>Please choose an appropriate unit of measurement.</small> |

Correct!

Well done!

Being prepared for September

The textbook we are using and you must have is: AQA A Level Physics 2nd Edition Student book by Jim Breithaupt (not the revision guide version) ISBN: 9780198351870. Feel free to purchase it from wherever you can find it cheapest (approx. £42) so that you have it at the start of the course. Alternatively, you can purchase it from the school when you arrive in September, but you will have to wait for it to be ordered and delivered.

To begin the course, you will need to purchase a **lever arch folder** with **inserts** and **dividers** so that you are ready and organised for your learning from day one.

Your summer learning will need to be complete and present on your first day in, so that we know you are prepared to start the course with the right mindset.

All information about the specification you will be studying is available on the AQA website and the course is Physics (7408).

Recommended viewing

Find an opportunity to explore the following Youtube channels: Sixty Symbols, Khan Academy, minutephysics, veritasium, Vsauce etc.

We would appreciate further suggestions of channels that you find that we would find interesting too!

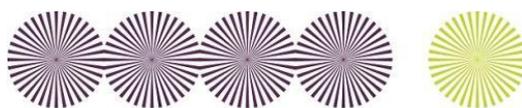
Recommended reading

During your time studying physics, it is expected that you read around the subject, enhancing your knowledge of how physics has progressed, what it has helped develop and where it is leading. This will also help you with your contextual knowledge for your exams and for when you apply to university. Here is a small list of some books we would recommend that you explore:

- Hyperspace - Michio Kaku
- A Brief History of Time - Stephen Hawking
- The Elegant Universe - Brian Greene
- The First Three Minutes - Steven Weinberg
- QED - The Strange Theory of Light and Matter - Richard Feynman
- In Search of Schrodinger's Cat - John Gribbin
- Relativity - Albert Einstein
- Why does $E=mc^2$? - Brian Cox and Jeff Forshaw

The following websites may also help when reading around the subjects:

- Hyperphysics - <http://hyperphysics.phy-astr.gsu.edu>
- PHET simulations - <https://phet.colorado.edu/en/simulations/category/physics>
- Physics Net - <http://physicsnet.co.uk/>



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Good luck!