Pinner High School: A-level Physics

Bridging work

Compulsory work

You need to purchase and complete the 'Head Start to A-Level Physics' book

- Publisher: Coordination Group Publications Ltd (CGP) (8th June 2021)
- ISBN-10: 1782942815
- ISBN-13: 978-1782942818.
- Currently available on Amazon for £5.99

All of the questions should be fully answered with clear and structured workings. This needs to be self-marked with corrections as necessary.

How will this help me in Y12?

The step up to A level Physics is a significant one, and your success in this subject will largely depend on your ability to build upon your knowledge from GCSE and revise throughout this year. The CGP book will help you with this transition, as well as introducing you to some key concepts that you will meet next year. It also gives you a chance to develop the layout of your workings and answers.

How will I be assessed?

You will complete an introduction assessment based on the content and skills within this book in one of the first Physics lesson of the year.

Advised work

You should try to be up-to-date on current scientific research and have a broad knowledge base in Physics to be successful at A-level or beyond. You may want to keep a Log Book to summarise key learning/thoughts so that you can refer back to this knowledge at a later date.

Magazines, newspapers and journals

- New Scientist
- Any scientific articles in newspapers (eg the Guardian on Wednesday)
- Physics World
- Scientific American

Websites

A really interesting series of lectures on Physics:

http://www.cornell.edu/video/playlist/richard-feynman-messenger-lectures

www.iop.org

www.sixtysymbols.com

www.physicsworld.com

http://home.web.cern.ch/topics/large-hadron-collider

https://isaacphysics.org/gcse - work through the Preparation for A-Level section

Books

Read one of the following books and write a one page summary of what you have learned:

- Just Six Numbers (Martin Rees)
- A Brief History of Time (Stephen Hawking)
- A Short History of Nearly Everything (Bill Bryson)
- Surely you are joking, Mr Feynman (Richard Feynman)
- Why don't penguins' feet freeze? – NewScientist
- The Grand Design – Stephen Hawkin and Leonard Mlodinow
- Newton – Peter Ackroyd
- The Quantum Universe: Everything that can happen does happen – Brian Cox and Jeff Forshaw

Optional work

Choose 3 of the following scientists:

Part A: Complete a biography for each. (do not just Wikipedia - but definitely use it as a starting point if you would like to)

Include the following information

Introduction:

- Where are they from? When did they live?
- What did they study? Where did they study?
- What are they famous for?
- How is what they found out relevant to modern physics studies?
- What is the most interesting thing about them as a person/scientist?

Part B: Comparative paragraph.

One of the most important skills you will need to develop is critical thinking and justification for science. Write a short essay to explain which of the three scientists you think has made the biggest contribution to modern physics.

You should include:

- What each person contributed to modern physics (one sentence each)
- Who you think has made the biggest contribution
- 3 reasons why you think this was the biggest contribution
- How their contributions links to the other scientists