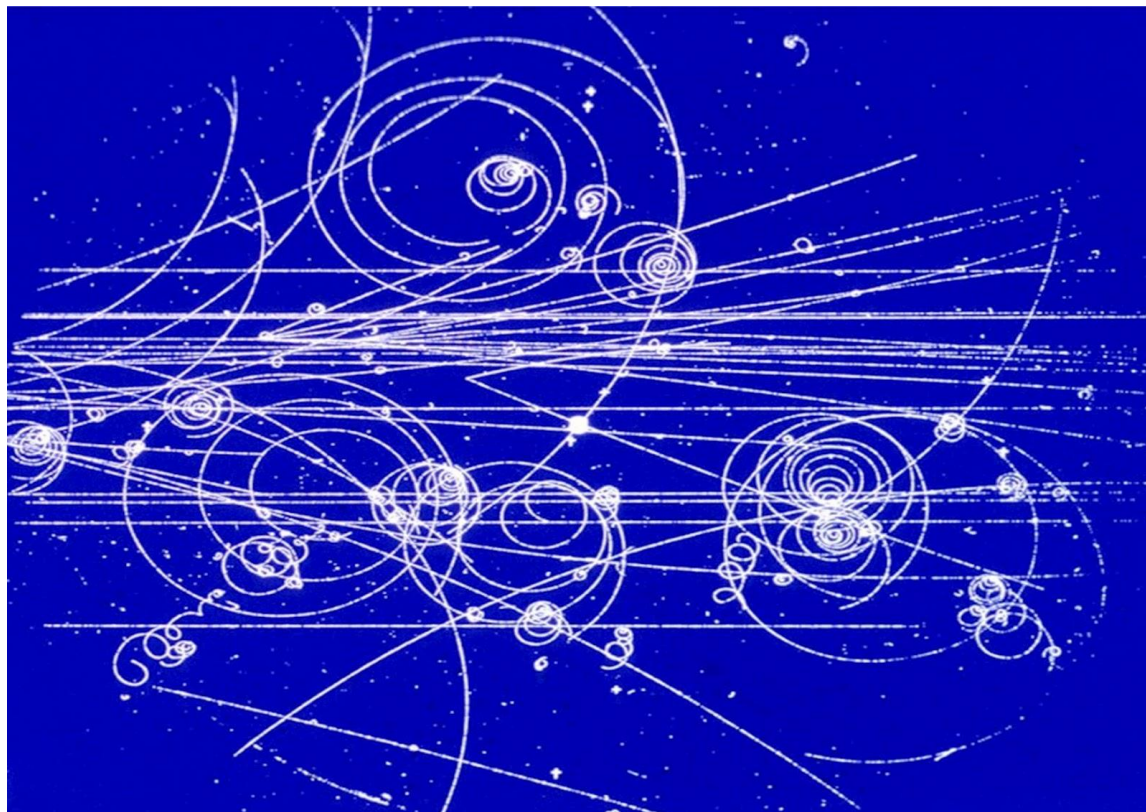




**Year 11 - 12 Physics**  
**2022**

## Welcome to Physics

This pack contains information regarding the course structure, equipment needed, reading and website lists and transition work to prepare you to start your Year 12 course in September.



## Course Structure

You will be doing the OCR A Course.

Year 1	Year 2
Module 1: Development of Practical Skills in Physics	
Module 2: Foundation of Physics	Module 5: Newtonian Physics
Module 3: Forces and Motion	Module 6: Particle and Medical Physics
Module 4: Electrons, Waves and Photons	

## Examination

Three exams are taken at the end of the two years.

Modelling Physics	100 marks	2hr 15mins
Exploring Physics	100 marks	2hr 15mins
Unified Physics	70 marks	1hr 30mins

## **What do I need to do in Physics A level?**

You will be developing skills in this course to enable you to be:

Team workers/managers

Effective participators

Independent enquirers

Self-managers

Reflective learners

Problems Solvers

Data analysts

To get the most out of this course you will need to:

Listen carefully to your teachers

Embrace the scientific method

Do all homework Be on time with assessment – meet deadlines

Reflect on feedback given

Immediately respond to feedback

Read up to date articles/watch news related items on Physics

Seek out voluntary participation in extension and support course run by Oxford University

and Imperial College

Read ahead/flip your learning for upcoming topics

Write up your practical work

# Transition Tasks

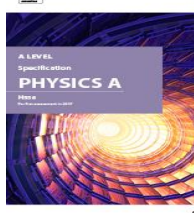
## Compulsory Transition Task

1. Download a copy of the specification  
<https://www.ocr.org.uk/qualifications/as-and-a-level/physics-a-h156-h556-from-2015/>
2. Pick a topic that interest you
3. Make a 5-minute presentation in PowerPoint ready to present to your peers (get in touch if you have an issue with this and we can sort something out)

## Optional Transition Tasks

Here are some more academic tasks you can undertake to prepare you:

1. Why not try to complete the AS transition booklet (see attached). Lots of tasks in here and a mark scheme at the end.
2. **Headstart to Physics** is a useful book that helps bridge the gap between GCSE and A-Level



[https://www.amazon.co.uk/Head-Start-level-Physics-Level-ebook/dp/B00VE2NII4/ref=sr\\_1\\_7?dchild=1&keywords=a+level+physics&qid=1588596781&sr=8-7](https://www.amazon.co.uk/Head-Start-level-Physics-Level-ebook/dp/B00VE2NII4/ref=sr_1_7?dchild=1&keywords=a+level+physics&qid=1588596781&sr=8-7)

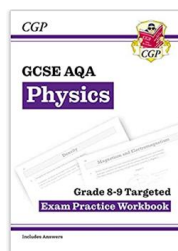
This book helps you practice the maths skills you'll need at A level - don't worry it's easier than you might think!

3. Have you completed the Grade 8-9 GCSE books? These challenging questions are a good entry point.



[https://www.amazon.co.uk/Physics-Grade-Booster-Workbook-Science/dp/0008194351/ref=sr\\_1\\_3?dchild=1&keywords=gscse+garde+8-9+booster+phsyics&qid=1588596726&sr=8-3-spell](https://www.amazon.co.uk/Physics-Grade-Booster-Workbook-Science/dp/0008194351/ref=sr_1_3?dchild=1&keywords=gscse+garde+8-9+booster+phsyics&qid=1588596726&sr=8-3-spell)

And



[https://www.amazon.co.uk/Physics-Targeted-Practice-Workbook-Revision/dp/1782948856/ref=sr\\_1\\_2?dchild=1&keywords=gscse+garde+8-9+booster+phsyics&qid=1588596749&sr=8-2-spell](https://www.amazon.co.uk/Physics-Targeted-Practice-Workbook-Revision/dp/1782948856/ref=sr_1_2?dchild=1&keywords=gscse+garde+8-9+booster+phsyics&qid=1588596749&sr=8-2-spell)

## Useful Videos

### Hour Long Documentaries

What is space?

[https://www.youtube.com/watch?v=fsOIZpDoq\\_E&list=PL93Y4RKvxDuyhosLMamxF\\_w2K82rgFZ9X](https://www.youtube.com/watch?v=fsOIZpDoq_E&list=PL93Y4RKvxDuyhosLMamxF_w2K82rgFZ9X)

A Quantum Leap into Quantum Physics

[https://www.youtube.com/watch?v=tqvovVHI04g&list=PL93Y4RKvxDuyhosLMamxF\\_w2K82rgFZ9X](https://www.youtube.com/watch?v=tqvovVHI04g&list=PL93Y4RKvxDuyhosLMamxF_w2K82rgFZ9X)

To the Moon and back. The most important journey ever taken took 8 days...

<https://www.bbc.co.uk/iplayer/episode/m0006p5f/8-days-to-the-moon-and-back>

### Brian Cox Documentary Series (the Physics equivalent of David Attenborough)

An amazing documentary series covering **the planets**

<https://www.bbc.co.uk/iplayer/episode/p06qj389/the-planets-series-1-5-into-the-darkness-ice-worlds>

Below are amazing Brian Cox BBC TV series that unfortunately are no longer available on iPlayer. You should be able to get them with a free trial of Britbox.

Wonders of the Solar System

Wonders of the Universe

Wonders of Life

Human Universe

Forces of Nature

### Jim Alkalili

In this three-part series Alkali looks at the scientific revolution caused by the discovery of the atom

[https://www.amazon.co.uk/The-Key-to-the-Cosmos/dp/B07HLN837R/ref=sr\\_1\\_2?dchild=1&keywords=physics&qid=1588363466&s=instant-video&sr=1-2](https://www.amazon.co.uk/The-Key-to-the-Cosmos/dp/B07HLN837R/ref=sr_1_2?dchild=1&keywords=physics&qid=1588363466&s=instant-video&sr=1-2)

## **Films**

A Theory of Everything - All about Stephen Hawking

The Martian - Brian Cox called it the "the best advert for a career in engineering I've ever seen."

Interstellar – The physicist Kip Thorne worked as consultant on this movie

2001: A Space Odyssey – the greatest science fiction movie of all time?

## **Podcast**

The Infinite Monkey Cage comes highly recommended.

<https://www.bbc.co.uk/programmes/b00snr0w/episodes/downloads>

## **Short Videos**

Ms Patterson's favourite scientist is Nikola Tesla. Who's yours? This link is to lots of 5-minute videos of scientists and tv personalities discussing their favourites.

<https://www.bbc.co.uk/iplayer/episode/p05r3r66/people-of-science-with-professor-brian-cox-series-1-6-professor-julia-higgins-discusses-michael-faraday>

## Reading

