Physics

Firstly, well done on choosing to study Physics at Beaconsfield High School. We are very fortunate to have highly experienced physics teachers who will be delivering your A-Level course this year…

Dr Gawne (Head of Physics), Mr Buxton and Mrs Moore-Bridger

To prepare for the course, we would like you to...

1. Read the Course information here:

2. Print out the A level specification.

3. Print off the Data booklet.

4. Sign up to the Isaac Physics website (using your Beaconsfield High School email address if you have one) and join our A-level transition class using this link:

5. Once you have signed up, attempt as many of these practice questions as you can. Make sure you are logged in when you answer the questions so your answers will link to your account.

- Key skills https://isaacphysics.org/gameboards#gcse_alevel_transition_skills
- Significant Figures https://isaacphysics.org/gameboards#sig_fig_prac_mastery
- Components of vectors https://isaacphysics.org/questions/ch_b_p1?board=vector_components&stage=a_level
- Adding vectors https://isaacphysics.org/questions/ch_b_p2?board=adding_vectors&stage=a_level
- Polar bear on ice sheet https://isaacphysics.org/questions/polar_bear?board=adding_vectors&stage=a_level
- Springs https://isaacphysics.org/questions/ch_b_p7?board=springs_hookes_law&stage=a_level
- Current & voltage https://isaacphysics.org/gameboards#phys_book_gcse_ch_3_23
- Resistance https://isaacphysics.org/questions/gcse_ch3_24_q10?board=phys_book_gcse_ch_3_24&stage=a_level
- Waves / em frequencies https://isaacphysics.org/questions/electromagnetic_frequencies?board=em_spectrum&stage=a_level
- Waves / light https://isaacphysics.org/questions/searching_for_the_invisible?board=em_spectrum&stage=a_level
- Waves / sound https://isaacphysics.org/questions/noise_production?board=wave_eqn&stage=a_level

6. Buy the Head start to A-level Physics book (ISBN- 13 978-1782942818, ISBN-10 1782942815). You need to work your way through the book and mark your answers.

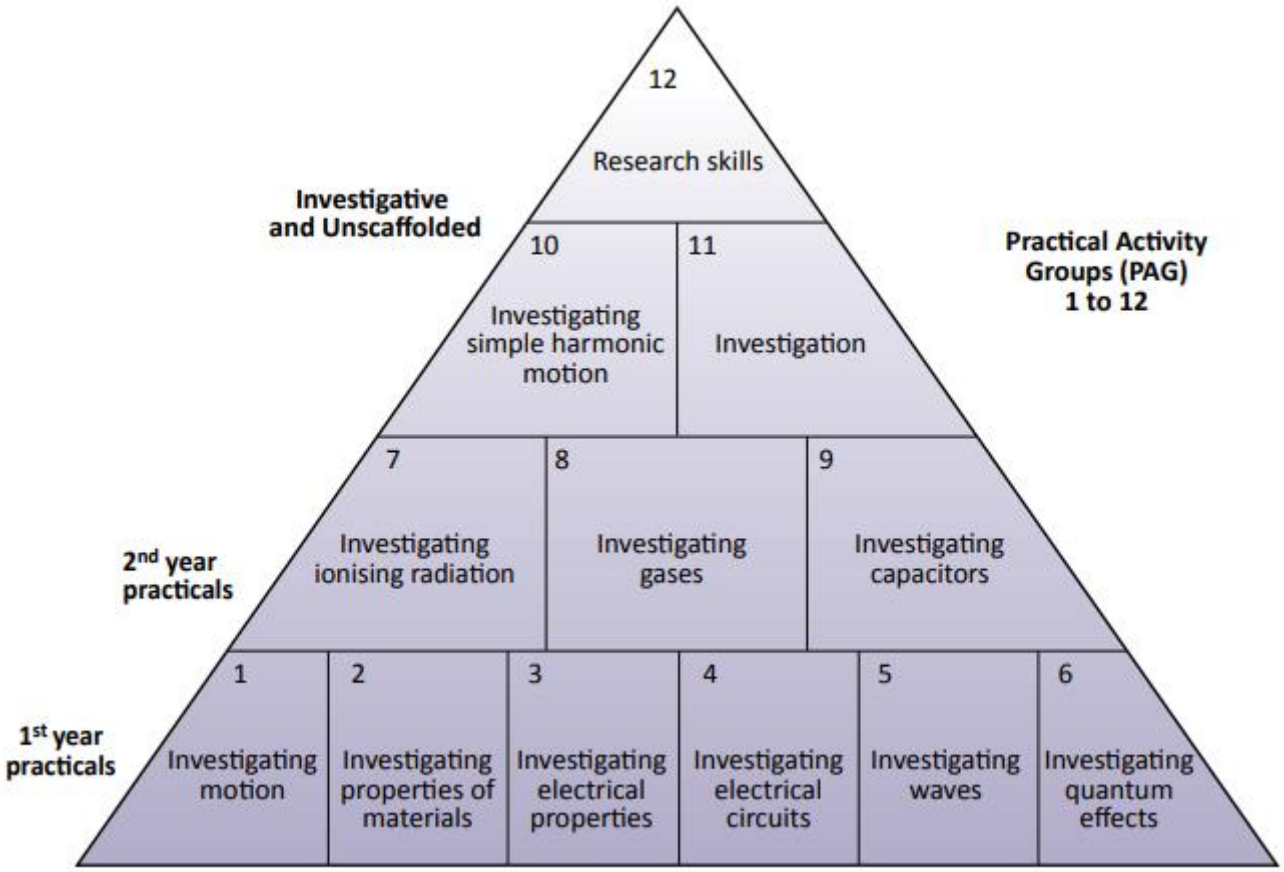
7. Buy and bring to your first lesson CGP Essential math skills for A-Level Physics ISBN- 13: 978-1782944713

8. We are using the physics textbook A Level Physics for OCR A ISBN- 13: 978- 0198352181. You do not need to purchase it as you will have access to it online, but some students like to buy their own paper copy.

The course we teacher is the OCR Physics A (H556). The course is divided into six modules:

- Module 1: Development of practical skills in physics
- Module 2: Foundations in physics
- Module 3: Forces and motion
- Module 4: Electrons, waves and photons
- Module 5: Newtonian world and astrophysics
- Module 6: Particles and medical physics

Module 1 practical skills are taught across the two years. There are 12 groups of required practicals (PAGs):



In year 12 we teach modules 2, 3 and 4 and in year 13 modules 5 and 6. Here are the details:

Module 2: Foundations in physics

- Physical quantities and units
- Making measurements and analysing data
- Nature of quantities

Module 3: Forces and motion

- Motion
- Forces in action
- Work, energy and power
- Materials
- Newton's laws of motion and momentum

Module 4: Electrons, waves and photons

- Charge and current
- Energy, power and resistance
- Electrical circuits
- Waves
- Quantum physics

Module 5: Newtonian world and astrophysics

- Thermal physics
- Circular motion
- Oscillations
- Gravitational fields
- Astrophysics and cosmology

Module 6: Particles and medical physics

- Capacitors
- Electric fields
- Electromagnetism
- Nuclear and particle physics
- Medical imaging

At the end of year 12 for your UCAS Exams you will sit two papers covering:

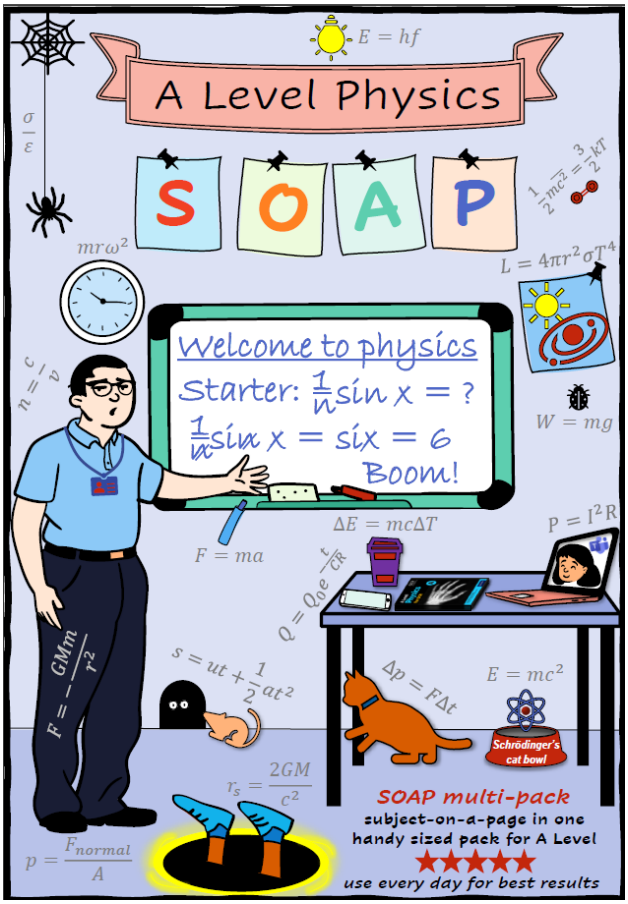
- Module 1: Development of practical skills in physics
- Module 2: Foundations in physics
- Module 3: Forces and motion
- Module 4: Electrons, waves and photons

Component	Marks	Duration	Weighting
Breadth in physics (01)	70	1 hour 30 mins	50%
Assesses content from all four modules			
Depth in physics (02)	70	1 hour 30 mins	50%
Assesses content from all four modules			

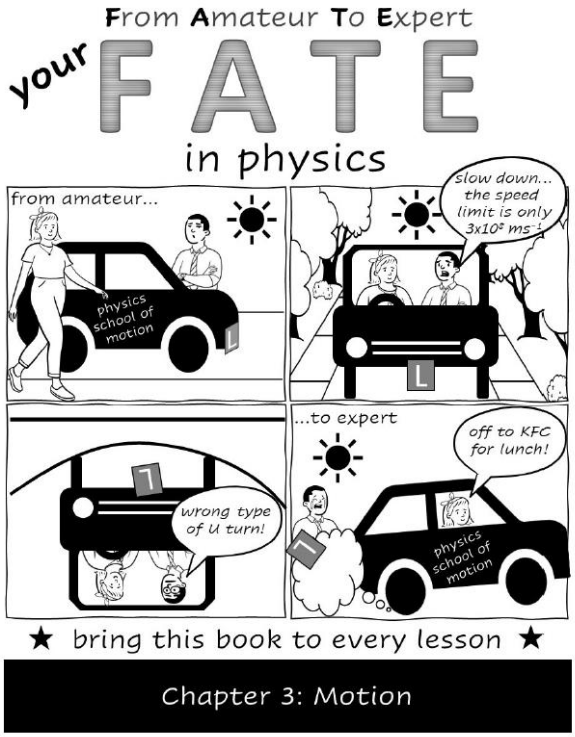
Your final assessment in year 13 will comprise:

Component	Marks	Duration	Weighting
Modelling physics (01)	100	2 hours 15 mins	37%
Assesses content from modules 1, 2, 3 and 5			
Exploring physics (02)	100	2 hours 15 mins	37%
Assesses content from modules 1, 2, 4 and 6			
Unified physics (03)	70	1 hour 30 mins	26%
Assesses content from all modules (1 to 6)			

The course notes are provided in the A Level Physics SOAP:

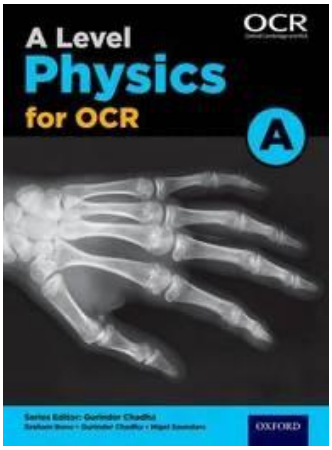


We also provide you with a unique set of learning recourses called FATE packs for each topic:



name: _____

We will be providing you with access to a digital textbook and a vast range of resources from www.kerboodle.com. The textbook is the official textbook that runs with the course, and you will have digital access to it throughout the whole A-Level course.



We use Teams for sharing slides and other materials with the class.

We also use Isaac Physics for self-study.