

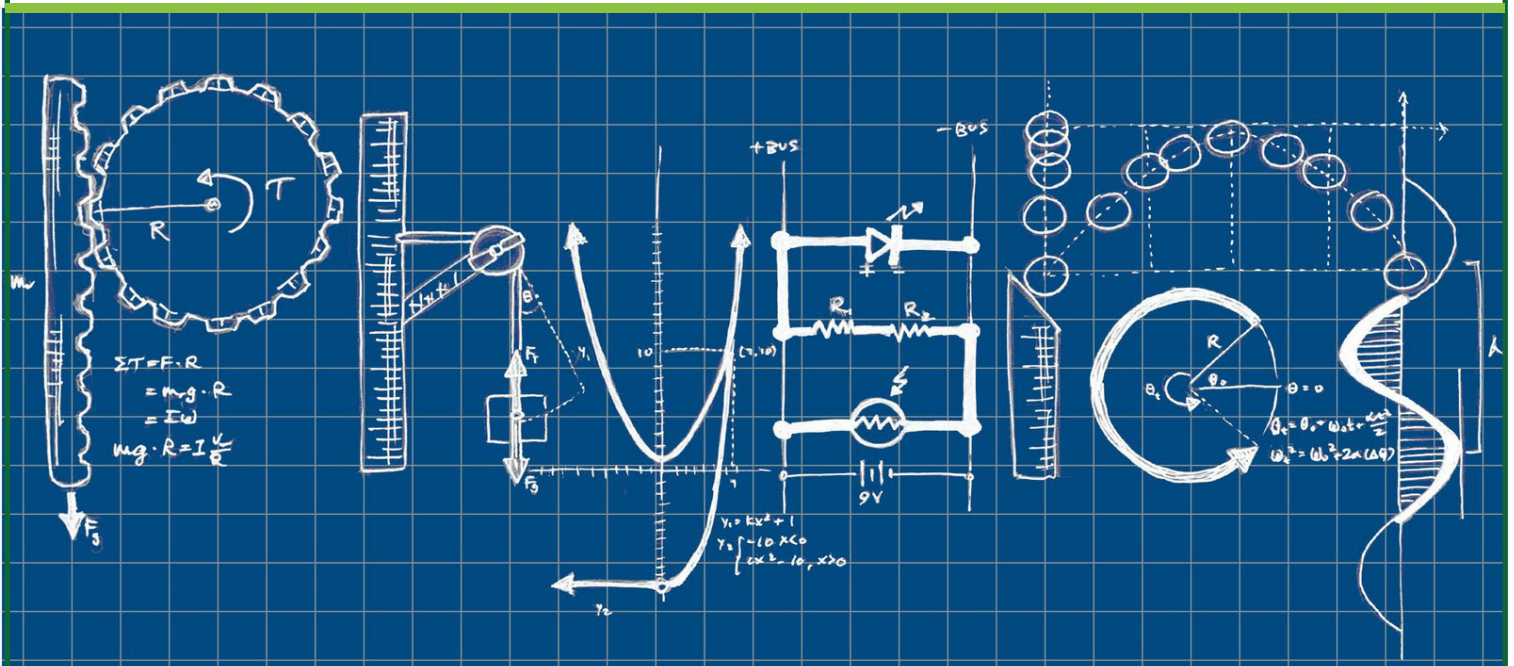


Bentley Wood

High School for Girls

Physics Bridging work

Year 10 into 11 for 2022/23

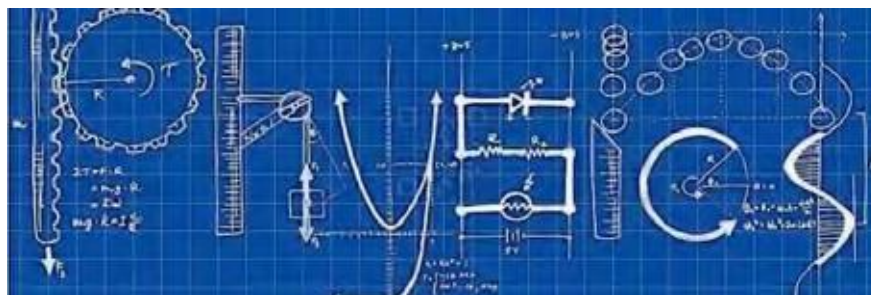
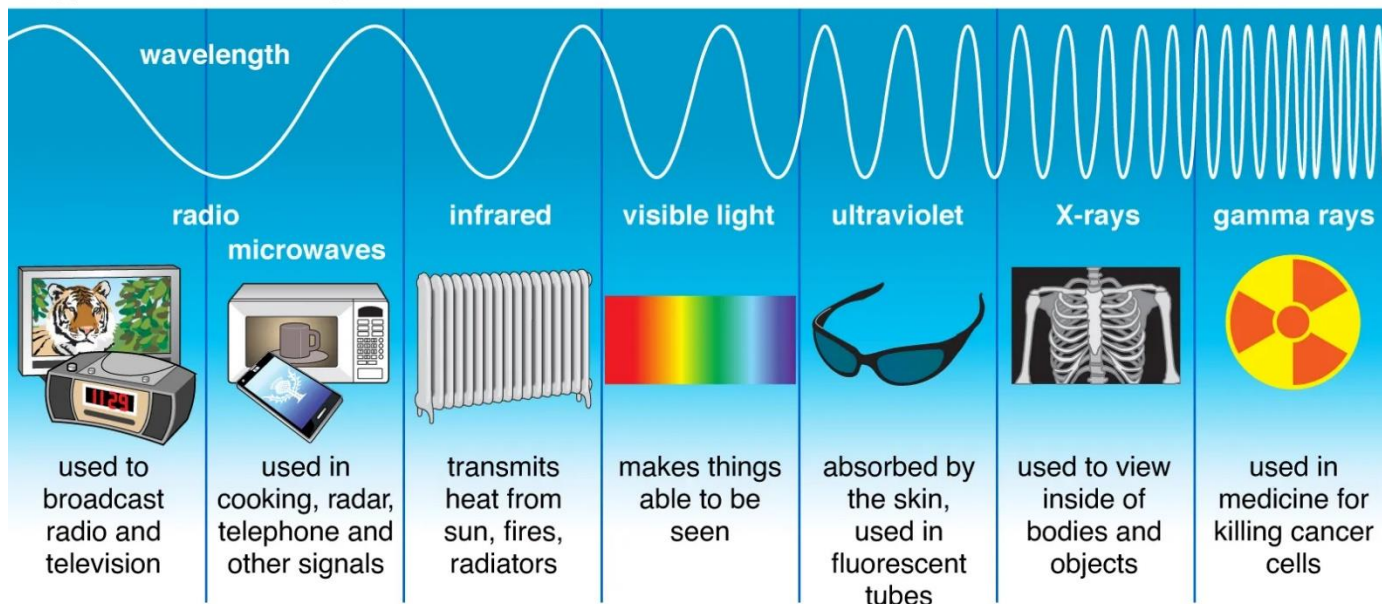


Name: _____

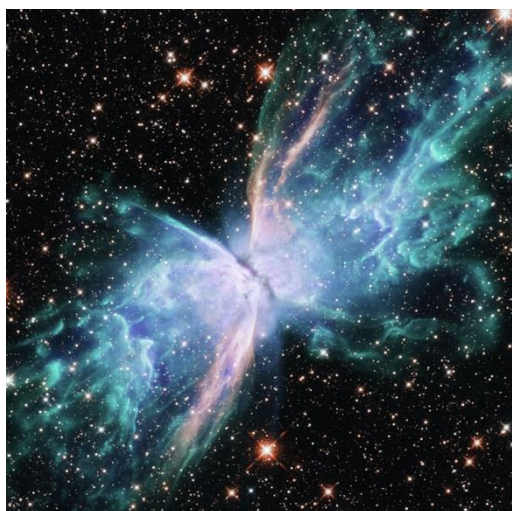
Tutor Group: _____

Teacher: _____

Types of Electromagnetic Radiation



BRIDGING WORK 10 to 11



WELCOME TO YEAR 11 PHYSICS

The purpose of this booklet is to give you essential information and resources for the GCSE Physics course. This booklet will also help you to understand and develop the skills you will need.

Please remember the following items for **EVERY** lesson – **ESSENTIAL**:

- Pens (highlighters are useful too) and paper
- A file with your (well organised) notes in
- Calculator, ruler and pencils

We hope you enjoy learning Physics BUT sometimes even the best of students can have problems:

- **Problems with work**
- **Problems understanding concepts**
- **Problems getting your head round all the theories in physics**
- **Problems with completing homework**
- **Problems in their personal lives**

If any of this applies to you, don't feel there's nowhere to turn – **THERE IS!**

ALL the staff in the Physics Department will be happy to talk through your concerns or can advise you – so don't panic or think about giving up, **HELP IS AT HAND**.





Come and find us, or e-mail – no problem is ever so big that we can't help, honest!

I Lambert	ilambert@bentleywood.harrow.sch.uk
A Binnion	Abinnion@bentleywood.harrow.sch.uk



Expectations

As a part of its quality approach to teaching, the Physics Department follows a common policy on the setting and marking of work. This code of practice is followed by both staff and students and is aimed to help you achieve success in Physics.

What we expect of YOU

-  It is expected that your attendance will be 100% . If you do miss a lesson for medical or academic reasons it is YOUR responsibility to catch up on the work that you have missed.
-  You are expected to complete homework for each double lesson. This will be set on teams in the CAP format.
-  You are expected to manage and organise your work effectively, and to be responsible for keeping your notes, and book up to date.
-  You are expected to listen respectfully to your peers in discussions and group work

What you can expect of US

-  Assessed work will be marked and handed back within TWO weeks of the handing in date.
-  We will always be willing to discuss your progress and support your learning.

Useful websites

The following Internet resources are useful and will help with your GCSE Physics course:

Exam board website:

- 🔗 <https://www.aqa.org.uk/subjects/science/gcse/physics-8463/changes-for-2022> TRIPLE
- 🔗 <https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464> COMBINED

Revision and consolidation of knowledge:

- 🔗 <https://getrevising.co.uk/>
- 🔗 <https://senecalearning.com/en-GB/>
- 🔗 <https://www.savemyexams.co.uk/gcse/physics/>
- 🔗 <https://studywise.co.uk/gcse-revision/physics/>
- 🔗 https://digestiblenotes.com/physics/gcse_physics.php
- 🔗 <https://www.revisely.co.uk/gcse/>
- 🔗 <https://snaprevise.co.uk/>
- 🔗 <https://www.physicsandmathstutor.com/>
- 🔗 <https://www.bbc.co.uk/bitesize/levels/z98jmp3>
- 🔗 <https://www.thenational.academy/>
- 🔗 <https://quizlet.com/en-gb>
- 🔗 Equation 21
- 🔗 My GCSE Science. Username: school e-mail address. Password: bw <https://www.my-gcsescience.com/>
- 🔗 Kerboodle. Username: school e-mail address. Password: (click forgot login to reset). Institution code: Pro9 <https://www.kerboodle.com/users/login>

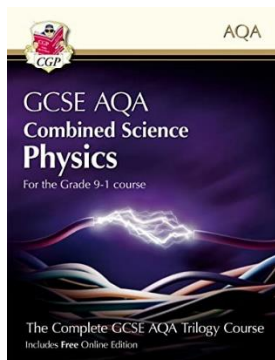
You are encouraged to keep an eye on the news as many reports and articles will be relevant to the materials you are studying in class.

Textbooks

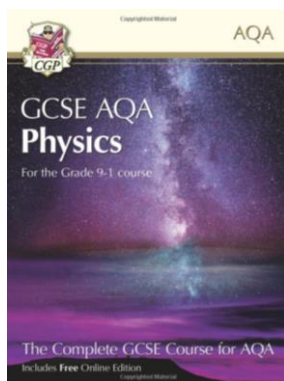
You should have been given one of the below text books. You are expected to bring this to each lesson. You should make use of this textbook whilst revising. Please note to receive your deposit back at the end of year 11 this book needs to be returned in good condition.

Required text book

Grade 9-1 GCSE Combined Science for AQA Physics Student Book with Online Edition by CGP Books



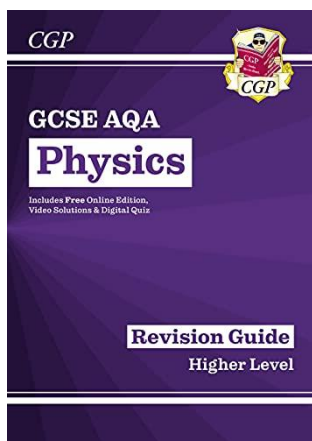
Grade 9-1 GCSE Combined Science for AQA Physics Student Book with Online Edition by CGP Books



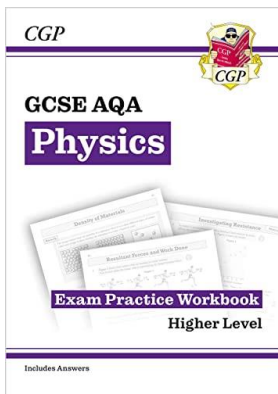
Highly recommended revision books

The below books are not essential but may help you with your revision. A good website to use is <https://www.wob.com/en-gb> which tends to be cheaper than amazon. Ebay is also a good place to look for books.

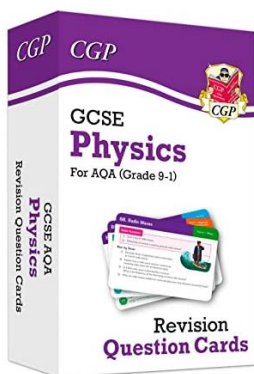
Grade 9-1 GCSE Physics: AQA Revision Guide with Online Edition - Higher by CGP Books



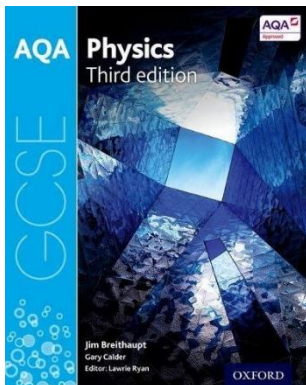
New Grade 9-1 GCSE Physics: AQA Exam Practice Workbook (with answers) - Higher by CGP Books



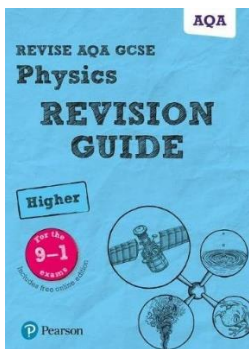
9-1 GCSE Physics AQA Revision Question Cards by CGP Books



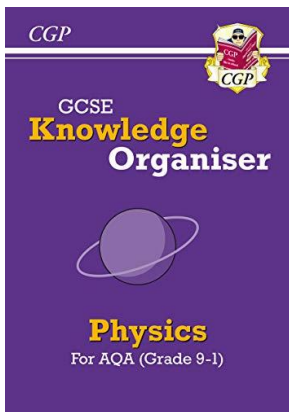
AQA GCSE Physics Student Book by Lawrie Ryan



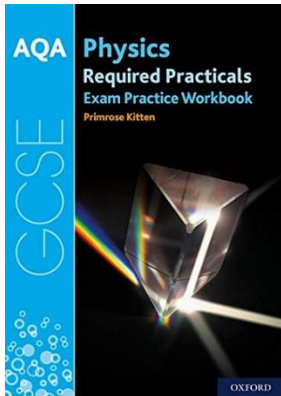
Revise AQA GCSE (9-1) Physics Higher Revision Guide by Mike O'Neill



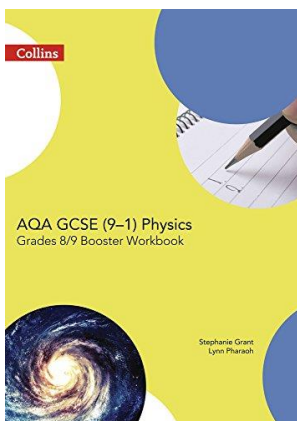
New GCSE Knowledge Organiser: AQA Physics (Grade 9-1) by CGP Books



AQA GCSE Physics Required Practicals Exam Practice Workbook by Primrose Kitten



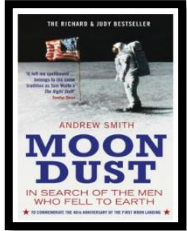
AQA GCSE (9-1) Physics Achieve Grade 8-9 Workbook by Lynn Pharaoh



Reading Recommendations

Kick back this summer with a good read. The books below are all popular science books and great for extending your understanding of Physics

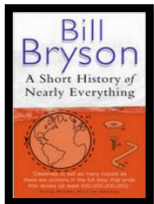
1. Moondust: In Search of the Men Who Fell to Earth



ISBN – 1408802384 - One of the greatest scientific achievements of all time was putting mankind on the surface of the moon. Only 12 men made the trip to the surface, at the time of writing the book only 9 are still with us. The book does an excellent job of using the personal accounts of the 9 remaining astronauts and many others involved in the space program at looking at the whole space-race era, with hopefully a new era of space flight about to begin as we push on to put mankind on Mars in the next couple of decades.

<https://www.waterstones.com/books/search/term/moondust++in+search+of+the+men+who+fell+to+earth>

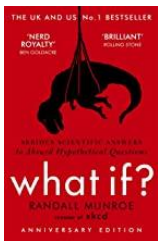
2. A Short History of Nearly Everything



ISBN – 0552997048 - A modern classic. Popular science writing at its best. A Short History of Nearly Everything Bill Bryson's quest to find out everything that has happened from the Big Bang to the rise of civilization - how we got from there, being nothing at all, to here, being us. Hopefully by reading it you will gain an awe-inspiring feeling of how everything in the universe is connected by some fundamental laws.

<https://www.waterstones.com/books/search/term/a+short+history+of+nearly+everything>

3. What if

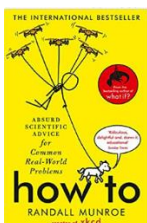


From the creator of the wildly popular xkcd.com, hilarious and informative answers to important questions you probably never thought to ask.

In pursuit of answers, Munroe runs computer simulations, pores over stacks of declassified military research memos, solves differential equations and consults nuclear reactor operators. His responses are masterpieces of clarity and hilarity, complemented by comics. They often predict the complete annihilation of humankind, or at least a really big explosion.

https://www.amazon.co.uk/What-If-Scientific-Hypothetical-Questions/dp/1848549563/ref=sr_1_3?crid=LWX8WCQHUD5Z&keywords=what+if+question+science+book&qid=1655204783&s=books&sprefix=what+if+question+science+book%2Cstripbooks%2C50&sr=1-3

4. How to



For any task you might want to do, there's a right way, a wrong way, and a way so monumentally bad that no one would ever try it. How To is a guide to the third kind of approach. It's full of highly impractical advice for everything from landing a plane to digging a hole

https://www.amazon.co.uk/How-SUNDAY-BESTSELLER-Randall-Munroe/dp/1473680344/ref=sr_1_9?crid=1WNJG4LVKGXSH&keywords=how+to+question+science+book&qid=1655204943&s=books&sprefix=how+to+question+science+book%2Cstripbooks%2C43&sr=1-9

Movie / Video Clip Recommendations

Hopefully you'll get the opportunity to soak up some of the Sun's rays over the summer – synthesising some important Vitamin-D – but if you do get a few rainy days where you're stuck indoors here are some ideas for films to watch or clips to find online.

Science Fictions Films

1. **Moon (2009)**
2. **Gravity (2013)**
3. **Interstellar (2014)**
4. **The Imitation Game (2015)**
5. **The Prestige (2006)**

Online Clips / Series

1. **Minute Physics** – Variety of Physics questions explained simply (in felt tip) in a couple of minutes. Addictive viewing that will have you watching clip after clip – a particular favourite of mine is “Why is the Sky Dark at Night?”

<https://www.youtube.com/user/minutephysics>

2. **Wonders of the Universe / Wonders of the Solar System** – Both available of Netflix as of 17/4/16 – Brian Cox explains the Cosmos using some excellent analogies and wonderful imagery.
3. **Shock and Awe, The Story of Electricity** – A 3 part BBC documentary that is essential viewing if you want to see how our lives have been transformed by the ideas of a few great scientists a little over 100 years ago. The link below takes you to a stream of all three parts joined together but it is best watched in hourly instalments. Don't forget to boo when you see Edison. (alternatively watch any Horizon documentary – loads of choice on Netflix and the I-Player)

<https://www.youtube.com/watch?v=Gtp51eZkwol>

4. **NASA TV** – Online coverage of launches, missions, testing and the ISS. Plenty of clips and links to explore to find out more about applications of Physics in Space technology.

<http://www.nasa.gov/multimedia/nasatv/>

Summer tasks

Task 1. Research project

One topic in year 11 is waves which is such an interesting topic with so much to learn. To prepare for this you must **choose one research project below and create a presentation about it**. This presentation could be in the form of a powerpoint, a poster or a written essay but you **must include the success criteria outlined below**. You will be presenting this to your class in September and you will be **assessed by your teacher**. This assessed mark will go on your first report, so you want it to be excellent.

1. Radiowaves
2. Microwaves
3. Infrared
4. X-rays
5. Sound waves (including ultrasound)
6. Seismic waves (including p and s waves)

Success criteria

- Able to present for 3 minutes about your chosen topic (reading straight from a PowerPoint or poster does not count as presenting)
- Included relevant and correct physics information (properties, uses and dangers as a minimum)
- Used correct scientific vocabulary
- Included a famous scientist involved and at least one career linking to you wave type

Task 2. Recap

From the year 10 exams we have found that there are gaps in your knowledge relation to: Forces and electricity. Please carry out revision on these topics. You will also be given a short test in September to check that you have revised these topics thoroughly.

Remember you don't have to complete this all in one go, spend an hour each week on it!