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Dear Parents/Guardians

Year 11 Physics Revision Programme and Guidance

We will be starting our full revision programme with the boys at the beginning of March once we have completed the final two sections of the syllabus; Forces and Electromagnetism.

Attached are the details of the revision programme which your son will be provided with. We thought it might be useful for you to see the details of the programme and be aware of the advice that your son is being provided with so that you are able to support and encourage him to use his revision time at home most effectively.

In preparation for the 'in school revision sessions' we are advising the boys do some preliminary revision at home. This will take the form of a mixture of revision notes and exam questions, including the AQA practice papers supplied by the board in preparation for the summer exams. The boys are asked to bring in their notes either literally or virtually (as a photograph or email) so that their teacher can give feedback in order to help improve the quality of the revision being carried out and make the best use of their revision time. Those boys that do this preparatory work will find that they get the most out of the sessions in school. Boys could revise using the BBC Bitesize website, their textbooks or revision guides.

We will also be running open 'Top-up sessions' on a Monday lunchtime at 11:55 – 12:25pm in the Physics Lab from **Monday 12 March** until the start of study leave. These sessions will be roughly themed on the previous week's in school topic, are open to all, and are designed primarily for the boys to bring their own questions and queries. The boys will make the best use of the time if they come with specific questions (i.e. past paper questions they have attempted or are unsure how to complete) or specific topics (i.e. I understand how to plot an I-V curve, but how do I explain the shape?).

In the summer, the boys will take two papers in Physics, the details of the topics in each paper are given alongside the revision programme for your information. We will aim to organise a 'drop-in' session prior to each exam paper for some last minute 'calming of nerves' and queries.

We thank you for your support and encouragement at home as we enter the final stretch before the GCSE exams in the summer.

Yours sincerely

Mrs Lucinda Kimberley
Lead Teacher KS4 Physics

Year 11 Physics Revision Programme 2018

Week	Paper	Lessons Topics to be covered	Homework
15/1	2	Forces	• **Revision notes** required practical 6 (Hooke's Law) and 7 (F=ma)
22/1	2	Forces Topic Test	• **Revision notes** for Forces topic
29/1	2	Electromagnetism	• **Revision notes** for Particle Model of matter including required practical 1 (shc) and 5 (density) • Electromagnetism HW
5/2	2	Electromagnetism	• **Revision notes** for Atomic structure • Electromagnetism HW
12/2		**Half Term**	• **Revision notes** Electricity topic including required practical 3 (factors affecting resistance) and 4 (IV characteristics) • **Revision notes** Energy topic including required practical 2 (thermal insulation)
19/2	2	Electromagnetism	• **Revision notes** Waves topic including required practical 8 (waves) and 9 (reflection and refraction) • Electromagnetism HW
26/2	2	Electromagnetism & Test	• **Revision notes** for Electromagnetism
5/3	1	Particle Model of Matter - States of matter - Specific heat capacity and specific latent heat - Gases and Boyle's law	• **Revision notes** space topic • **OCR MCQ questions**
12/3	1	Atomic structure - Model of the atom & discovery by Rutherford - Types of nuclear radiation, activity and half life - Uses of radiation, nuclear fission and fusion	• **AQA Set 1 Practice Paper 1** complete
19/3	1	Electricity - Circuits, IV characteristics, factors that affect resistance - Power, National Grid and Safety	• **OCR questions set 1** • **AQA Paper 1 topic questions.**
26/3	1	Energy - Types, transfers, calculations (Work done, power, Ep, Ek Ee - heat transfer, insulation, efficiency - Energy resources – renewable / non-renewable	• **OCR questions set 2**
2/4		**Easter** - Make sure all revision resources are prepared - Complete the practice paper and try to mark them with the MS – be harsh, if you can persuade someone else to check you have written what you think you have written that would help.	• **AQA Set 1 Practice Paper2** complete and then mark using MS • **AQA Paper 2 topic questions.**
16/4	1	Practical skills for the exam - The required practical activities - Techniques to tackle different question types	• **AQA Set 2 Practice Paper 1** as MOCK at home.
23/4	2	**MOCK (AQA Set 2 Practice Paper 2)** Waves - Definitions, diagrams and lenses	• **AQA Set 2 Practice Paper 1** Mark and correct
30/4	2	Waves - EM spectrum, sound, seismic waves Space	• **AQA Set 2 Practice Paper 2** complete (anything not managed in class time), mark & correct.
7/5	2	Forces - Graphs, equations - Momentum and moments	• Complete any outstanding questions from class booklets

Other resources: **AQA 2017 Paper 1 & 2 topic questions** and **AQA 2017 Paper 2 topic questions** – Q:\Physics\Year 11\AQA Revision past paper questions

Paper 1 Topics	Paper 2 Topics
Energy Electricity Particle Model of Matter Atomic Structure	Forces Waves Electromagnetism Space Physics Questions in paper 2 may draw on an understanding of energy changes and transfers due to heating, mechanical and electrical work and the concept of energy conservation from the Energy and Electricity topics covered in paper 1.

Required Practical Activities:

1. An investigation to determine the specific heat capacity of one or more materials involving linking the decrease of one energy store (or work done) to the increase in temperature and thermal energy stored.
2. Investigate the effectiveness of different materials as thermal insulators and the factors that may affect the thermal insulation properties of a material.
3. Use circuit diagrams to investigate the factors affecting the resistance of electrical circuits including the length of a wire at constant temperature and combinations of resistors in series and parallel.
4. Use circuit diagrams to investigate the I-V characteristics of a variety of circuit elements including a filament lamp, a diode and a resistor at constant temperature.
5. Use appropriate apparatus to make and record the measurements needed to determine the densities of regular and irregular solid objects and liquids.
6. Investigate the relationship between force and extension for a spring.
7. Investigate the effect of varying the force on the acceleration of an object of constant mass and the effect of varying the mass of an object on the acceleration produced by a constant force.
8. Make observations to identify the suitability of apparatus to measure the frequency, wavelength and speed of waves in a ripple tank and waves in a solid and take appropriate measurements.
9. Investigate the reflection of light by different types of surface and the refraction of light by different substances.
10. Investigate how the amount of infrared radiation absorbed or radiated by a surface depends on the nature of that surface.

What can you do to help yourself before study leave?

Prepare good, detailed revision notes when requested (if not before). Look at the topics coming up that week and make sure you have a look at your notes to remind you what is involved. Complete past papers as they are set (or before) and keep up to date so that we can give you timely feedback to help you improve. Use the following resources to help you:

- your revision checklist,
- the AQA Specification http://filestore.aqa.org.uk/resources/physics/specifications/AQA-8463-SP-2016.PDF
- text book and or revision guide
- GCSE Bitesize https://www.bbc.co.uk/education/subjects/zpm6fg8
- s-cool https://www.s-cool.co.uk/gcse/physics
- Isaac Physics https://isaacphysics.org/ - this site is particularly good for calculation practice.

Try to do papers in 3 stages: 1, on your own; 2, using your text book / internet (write in a different colour); 3 using the mark scheme to help you correct and improve your answer.

What can you do to help yourself during study leave?

Go over the past paper questions and practice exams that you have done during the revision programme – the AQA Practise Papers 1 and 2 (Set 1 and 2) are going to be the most helpful in helping you to identify what each paper will be like – revise any tricky topics on those papers.

- Make sure that you revise the correct topics for Paper 1 and Paper 2
- Continue to use the resources above
- If you want to do any further practice papers then the legacy AQA GCSE Physics papers could be undertaken but bear in mind that the topics from paper 1 and paper 2 could be found on all papers and there won't be questions which assess your maths or practical skills in quite the same way – http://www.aqa.org.uk/subjects/science/gcse/physics-4403/past-papers-and-mark-schemes