



17th September 2018

Dear Parents/Carers

Year 11 Science

Why is Science Important?

Science has changed our lives, with almost everything that makes our daily lives easier due to the wonders of modern science. There are a vast range of career opportunities in scientific fields from Professional Sports Coaching to Nuclear Power Reactor Operator and many more opportunities in-between. Currently the UK has a shortage of qualified and skilled scientists and science is seen as a vital area to help progress the country's economy.

This website will give you an idea of these opportunities available through science:

<https://www.sciencebuddies.org/science-engineering-careers>

GCSE Science Course Structure 2018/2019

All sets will achieve the equivalent of 2 GCSEs in Combined Science. They will sit two exams each in Biology, Chemistry and Physics, each of which will be 1 hour 10 minutes in length. It is important that all pupils are aware of the content that is covered in each paper. A summary is shown below.

<ul style="list-style-type: none">• Topic B1: Cell level systems• Topic B2: Scaling up• Topic B3: Organism level systems• Topic CS7: Practical skills (PAGs B1-B5)	Paper 1 (Biology) J250/01 1 hour 10 minutes 60 mark written paper	16.7% of total GCSE
<ul style="list-style-type: none">• Topic B4: Community level systems• Topic B5: Interaction between systems• Topic B6: Global challenges• Topic CS7: Practical skills (PAGs B1-B5) With assumed knowledge of B1–B3	Paper 2 (Biology) J250/02 1 hour 10 minutes 60 mark written paper	16.7% of total GCSE
<ul style="list-style-type: none">• Topic C1: Particles• Topic C2: Elements, compounds and mixtures• Topic C3: Chemical reactions• Topic CS7: Practical skills (PAGs C1-C5)	Paper 3 (Chemistry) J250/03 1 hour 10 minutes 60 mark written paper	16.7% of total GCSE
<ul style="list-style-type: none">• Topic C4: Predicting and identifying reactions and products• Topic C5: Monitoring and controlling chemical reactions• Topic C6: Global challenges• Topic CS7: Practical skills (PAGs C1-C5) With assumed knowledge of C1–C3	Paper 4 (Chemistry) J250/04 1 hour 10 minutes 60 mark written paper	16.7% of total GCSE
<ul style="list-style-type: none">• Topic P1: Matter• Topic P2: Forces• Topic P3: Electricity and magnetism• Topic CS7: Practical skills (PAGs P1-P6)	Paper 5 (Physics) J250/05 1 hour 10 minutes 60 mark written paper	16.7% of total GCSE
<ul style="list-style-type: none">• Topic P4: Waves and radioactivity• Topic P5: Energy• Topic P6: Global challenges• Topic CS7: Practical skills (PAGs P1-P6) With assumed knowledge of P1–P3.	Paper 6 (Physics) J250/06 1 hour 10 minutes 60 mark written paper	16.7% of total GCSE



Our Expectations

2019 will be the second year in which pupils sit the revised GCSE Science exams. This new and challenging curriculum requires them to be familiar with a larger amount of knowledge and number of skills than ever before. It is therefore vital that science learning does not stop at the end of the school day. In order to achieve their potential, all pupils will need to ensure they are independently studying, and this must begin long before the examinations. We would strongly recommend that all pupils aim to spend at least 1 hour each week actively revisiting content, in addition to the completion of specific home learning tasks.

Home Learning in Science

All pupils have access to the online platform 'Kerboodle', which can be accessed via any device with an internet connection. This fantastic resource can help to increase the attainment of pupils within Science by allowing them to practise their recall of key facts. Successful students last year completed out of hours learning from the start of their year 11 year.

We emphasise to pupils that revision tasks are most useful when they are actively engaged in them. Rather than simply attempting the task once, pupils should use resources to help them answer questions, make notes on questions they get wrong and repeat. We suggest that all pupils use a notebook to record their progress and make notes. This will be a great revision resource highlighting areas for improvement.

Resources to aid revision

Online:

Kerboodle is an online version of the textbooks that we use in class. All pupils have access to this and can log on via this web page.

https://www.kerboodle.com/users/login?user_return_to=%2Fapp

BBC Bitesize is a fantastic website and now has an app that can be used to break down topics. Lots of videos are available to help understand tricky scientific concepts.

<http://www.bbc.co.uk/education/subjects/zrkw2hv>

Many other websites and apps are available to help with Science revision, however be careful to ensure that these are for the new combined science specification (OCR Gateway Science - Combined Science A (9-1) - J250)

Revision guides and workbooks

Revision guides can be purchased online. We highly recommend that all pupils purchase a revision guide and use it regularly to help retain and build on content covered in lessons. The links below show where these can be purchased from.

https://www.cgpbooks.co.uk/Parent/books_gcse_science_combined_revision.book_SRHR45 (Target grades 9 - 1)

https://www.cgpbooks.co.uk/Parent/books_gcse_science_combined_revision.book_SRF45 (Target grades 5 - 1)

https://www.cgpbooks.co.uk/Parent/books_gcse_science_combined_practiceworkbooks.book_SRHQ41 - Exam practice workbook for higher tiers

https://www.cgpbooks.co.uk/Parent/books_gcse_science_combined_practiceworkbooks.book_SRFQ41 - Exam practice workbook for foundation tiers

Other resources

• Checklists: These have been emailed out to all students in year 11 for the first half only of the course. The second half will be later this year. This will help them to be aware of their progress and to focus on their weakest areas when studying.



- Equation practice: One change to the new GCSE exams is that all pupils must memorise 22 physics equations. These have been sent to all pupils via their Brakenhale email and time should be spent at home memorising them.

YouTube channels

https://www.youtube.com/channel/UCZ2eovkGrGXwXQJMfHGGijg/videos?disable_polymer=1

https://www.youtube.com/channel/UCqbOeHaAUXw9II7sBVG3_bw/videos?disable_polymer=1

[1](https://www.youtube.com/channel/UCqbOeHaAUXw9II7sBVG3_bw/videos?disable_polymer=1)

https://www.youtube.com/user/myGCSEscience/videos?disable_polymer=1

https://www.youtube.com/channel/UCZ6ku49rC2Mej4meDIUtocg/videos?disable_polymer=1

How Parents/Carers Can Help

- Make sure that your son/daughter is aware how important science as a qualification is and help guide them to see the opportunities science can lead to in further education and possible careers.
- Set a regular time for your son/daughter to complete home learning and carry out independent study time in science.
- As a family, watch scientific documentaries to help broaden and extend their scientific knowledge, understanding and enthusiasm for the subject.

If you have any questions regarding Science GCSE, please do not hesitate to contact me.

Yours faithfully

Mr J Radcliffe
Head of Science