

Science Y7

Aims:

- To introduce students to the Laboratory.
- To familiarise students with Laboratory apparatus.
- To develop students' investigative skills.
- To motivate students and stimulate their interest in Science.
- To increase knowledge and understanding of the human body and the world around us.

Topics Covered:

Year 7 Science begins an introduction to safety in the Laboratory and general practical skills. Students are then taught twelve topics which are split into four blocks:

Block One (Sept – November):

Cells
Acids & alkalis
Energy

Block Two (December – February):

Body Systems
Particles & elements
Electricity & magnetism

Block Three (March – May):

Reproduction
Separating mixtures
Forces

Block Four (June – July):

Plants
Earth & climate
Sound

Within these topics students get many opportunities to develop their practical and investigative skills and to find out about the work of other Scientists.

Teaching Groups:

All students are taught in mixed ability form groups up until Christmas after which point some setting will happen with students who need more stretching being placed in an "A" group and students who need more time to consolidate their learning being placed in a "B" group. We will also have a very small class for students who need support in accessing the curriculum.

Assessment:

Formal tests are taken by all students at the start of the year (to assess KS2 understanding) and at the end of blocks 1 - 3, allowing teachers to assess student progress. The test at the end of Block 3 will be a more formal test carried out in the exam hall under test conditions to give students experience of formal exams. The results of these test will be used to determine students' current attainment as well as in setting students for the following year.

How Parents and Carers can help:

- Buy their children a workbook for KS3 Science to work on at home
www.cgpbooks.co.uk/secondary-books/ks3/science/shs34-new-ks3-science-complete-study-practice
- Support students in completing homework on time and talking to them about what they have been doing in Science. Much of this is online (using Doddle)
- Encourage students to watch documentaries about space, nature etc. (e.g. Planet Earth, Blue Planet series)
- If possible, visits places like Magna, Heeley City Farm and Eureka.

Science Y8

Aims:

- To motivate students and stimulate their interest in Science.
- To continue developing students' practical and investigative skills.
- To develop students computing and mathematical skills.

Topics Covered:

Students are taught twelve topics which are split into four blocks:

Block One (September – November):

Bioenergetics (part 1 – Photosynthesis & digestion)

Metals & non-metals

Forces 1

Block Two (November – January):

Bioenergetics (part 2 – digestion, diet & respiration)

Periodic table & earth materials

Energy

Block Three (January – June):

Variation & evolution

The Earth in space

Electricity & magnetism

Block Four (June – July):

Ecosystems

Chemical energy

Forces 2

Teaching Groups:

Students are placed into sets at the start of Year 8 and are therefore taught in classes of similar ability students in order that they may receive teaching that most closely matches their ability and needs. Occasionally changes to these sets will occur during the year.

Assessment:

Formal tests are taken by all students at the end of Blocks 1 - 3, allowing teachers to assess student progress. The test at the end of Block 3 will be a more formal test carried out in the exam hall under test conditions to give students experience of formal exams. The results of these test will be used to determine students' current attainment as well as in setting students for the following year.

How Parents and Carers can help:

- Buy their children a workbook for KS3 Science to work on at home

www.cgpbooks.co.uk/secondary-books/ks3/science/shs34-new-ks3-science-complete-study-practice

- Support students in completing their homework on time, helping them to prepare for their end of block tests and discussing the cross-curricular projects with them.
- Encourage students to watch documentaries and read articles in newspapers or magazines about space, nature and the world around us.

Science Y9

Aims:

- To begin their GCSE Science course.
- To develop students' mathematical skills
- To continue motivating students and stimulating their interest in Science.
- To continue developing students' practical and investigative skills.
- To consider careers in STEM (Science, Technology, Engineering & Mathematics) subjects.

Topics Covered:

In Year 9 all students begin their GCSE course in Science (following the AQA GCSE course).

For information on the course go to: www.aqa.org.uk/subjects/science/gcse

Students are taught Biology, Chemistry and Physics separately and will cover the following topics:

Biology:

- Cells
- Organisation
- Some groups will cover Infection & Ecology

Chemistry:

- Atomic Structure & the periodic table
- Bonding and properties of matter
- Quantitative chemistry
- Some groups will cover Chemical change

Physics:

- Energy 1
- Particles & atoms
- Waves
- Some groups will also cover Forces & Energy 2

There will also be a fortnight devoted to considering careers relating to Science & Engineering involving the opportunity to interview people working in STEM careers.

Courses:

In Year 9 all students will be taught the same content, with an expectation that they will be completing the Triple Science GCSE in Y10 & Y11.

Teaching Groups:

Students are placed into sets at the start of Year 9 and are therefore taught in classes of similar ability in order that they may receive teaching that most closely matches their ability and needs. They are all taught by specialist Science teachers who will separately deliver the Biology, Chemistry and Physics content. Lower groups will be taught by 1 or 2 teachers. Occasionally changes to these sets will occur during the year.

Assessment:

There will be formal tests taken at by all students at two times in the year, this allows the teachers to assess the GCSE level each student is working at and also alter the sets if necessary.

They will also be expected to complete Assessed Homeworks (just as our Y10-11 students are completing at Upper School), these give students practise of exam questions and exam technique which is crucial as they prepare for their GCSE exams.

How Parents and Carers can help:

- Buy your child a **revision guide** when these are being sold by the school.
- Support students in completing homework on time, helping them as they start their GCSE course and talking to them about what they have been learning in Science.
- Encourage students to watch documentaries and read articles in newspapers or magazines about space, nature and the world around them.