

Science: Key Stage 3 (Y7 – Y9 Christmas term)

Subject:

Science forms part of the Core Curriculum and allows students to understand the world around them and their role in that world. They will learn to understand the role of Science plays in our society, developing new medicines, testing new chemicals for industry, playing with new technologies, exploring the universe and learning about all the living things how they are related. The learning of Science also develops the skills of planning and conducting investigations, gathering information teamwork and evaluating evidence/data. It teaches students to act responsibly when using scientific equipment and applying scientific knowledge to find solutions to problems. Within the curriculum there is an increasing emphasis of mathematical and literacy skills.

Purpose and aims:

1. To develop rounded individuals who are able to critically question the way the world around them works from a Scientific viewpoint.
2. To foster a love of Science through innovative and interactive lessons - including practical work.
3. To build on the 'Big Ideas/concepts' from Key Stage 2 in the main subject areas of Biology, Chemistry and Physics.
4. To evaluate progress of to ensure students are well prepared in both depth and breadth of knowledge for starting GCSE study in Key Stage 4 and beyond.

Team members:

Teaching Team:

Mr C Williams (Head of Science) - Biology and vocational specialist.
 Mrs K Tatham (Second in Science) - Chemistry specialist.
 Mrs H Kaushal (Lead Teacher) - Biology Specialist and BTEC Lead Verifier.
 Mr P Ellison - Physics specialist and DofE Co-ordinator.
 Mr A Riaz - Chemistry and Physics specialist.
 Mrs E Cameron - Biology and Sports Science specialist.
 Miss N Sohail - Chemistry and Biology specialist.
 Miss A Davies - Biology and Chemistry specialist.
 Mr R Blaize - Assistant Head Teacher - Computer Science specialist.

Support Team:

Mrs M Bibi - Curriculum Area Teaching Assistant.
 Mrs J Redfern - Biology specialist technician.
 Mrs V Nolan - Chemistry specialist technician.
 Mr J Yates - Physics specialist technician.

Facilities:

We have seven laboratories spread across the two buildings that form the Main Block and Trent Building. These are serviced by three specialist technicians who also support extra curricula activities.

Curriculum Summary: (KS3)

Students follow a topical based curriculum following some of the 'Big Ideas' based loosely around the Collins Schemes of work. This allows them to build confidence in their understanding. There are six topics in each specialist subject area. Each topic area has an end of topic assessment which informs teachers of their progress and is used to support intervention and where students need to improve.

In Year 7 students aim to complete topics 1-3 and a few of topic 3.

In Year 8 students aim to complete topics 3-5.

In Year 9 student complete their Key Stage 3 education by Christmas with topic 6's.

The Key stage 3 topics are as follows:

Biology 1 - The building blocks of life. (This includes reproduction and links to PSHE)
Biology 2 - Diet, digestion and breathing.
Biology 3 - Getting energy for your body.
Biology 4 - Plants and the ecosystem.
Biology 5 - Variation for survival.
Biology 6 - Our health and the effects of drugs.

Chemistry 1 - Mixing, dissolving and separating.
Chemistry 2 - Elements, compounds and mixtures.
Chemistry 3 - Explaining physical changes.
Chemistry 4 - Explaining chemical changes.
Chemistry 5 - Obtaining useful materials.
Chemistry 6 - Using our Earth sustainably.

Physics 1 - Forces and their effects.
Physics 2 - Energy transfers and sound.
Physics 3 - Exploring contact and non-contact forces.
Physics 4 - Magnetism and electricity.
Physics 5 - Motion on Earth and in space.
Physics 6 - Waves and energy transfer.

All students will then sit an End of Key Stage Examination. This is used to place students in sets in the Spring Term. They will then start their GCSE education, to better inform them of their curriculum choice between Combined Science and Triple Science.

Links to useful sites:

<http://www.bbc.co.uk/education/subjects/zng4d2p>
<http://www.educationquizzes.com/ks3/science/>
<https://collins.co.uk/page/Collins+KS3+Revision/Collins+KS3+Revision+Resources>
https://www.cgpbooks.co.uk/interactive_ks3_science

Extra-curricular activities available in the CA:

The Science team run a Science club, which students can have a go at some different practical experiments than they would normally see in lessons. This is aimed at building students confidence in practical work.

Key trips the Science department try to run each year for all year groups are:

- Natural History Museum - London.
- Leicester Space Centre.
- Manchester Museum of Science and Industry.
- Birmingham Big Bang Fair.