

SCIENCE

KS3

YR8



Curriculum Overview

Our year eights are taught by Science subject specialists. We build on the foundations of Science and working scientifically that they have been taught in year eight. The main focus in year eight is to enthuse and develop our students so that they are able to 'talk like a scientist and think like a scientist', developing their passion for Science and a deep understanding of the world around them.

All of our year 8s are provided with a wide exposure to practical tasks, including dissection, circuit building, microbiology and population sampling. Our year 8 curriculum is designed to allow for the development of investigation and experimentation skills. We want our year 8s to remain curious and excited about the world around them. We also reinforce the scientific knowledge behind SMSC topics such as digestion, nutrition and stewardship of our world.

Our key stage three curriculum supports the national curriculum, this states that a high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Curriculum Topics

The units covered in year eight Science are:

1. Bodyfuels
2. Heating and magnetism
3. The Earth
4. Microbes and the environment
5. ACME
6. Sound and Light

Principal Focus

The principal focus of science teaching in key stage 3 is to develop a deeper understanding of a range of scientific ideas in the subject disciplines of biology, chemistry and physics. Pupils should begin to see the connections between these subject areas and become aware of some of the big ideas underpinning scientific knowledge and understanding. Examples of these big ideas are the links between structure and function in living organisms, the particulate model as the key to understanding the properties and interactions of matter in all its forms, and the resources and means of transfer of energy as key determinants of all of these interactions.

They should be encouraged to relate scientific explanations to phenomena in the world around them and start to use modelling and abstract ideas to develop and evaluate explanations.

When and how assessment of learning will happen

Assessment in year eight follows a unit of teaching. This is approximately once a half term. This assessment will be approximately 30 minutes long and take place under standard exam conditions.

Formative assessment of progress and understanding will happen every lesson, the format of which could be questioning, mini-whiteboards or other strategies.

Once a half-term a specially designed piece of classwork shall be set, this work shall be teacher marked, a target given and DIRT time provided to each student. This replaces book marking in Science.

Well planned and designed Revision lessons allow for scaffolding of the skills learnt in the topic. This test will then be teacher marked and designated DIRT lessons to identify strengths and targets will follow.



Home Learning Expectations

Seneca revision tasks are set before the end of unit tests. These are metacognitive and adapt to the progress of the participant. This allows revisiting and retesting of ideas that were found to be difficult.

The homework should normally take about 30 minutes and might contain:

1. Consolidation of work covered in class
2. Completing comprehension exercises
3. Completing homework questions
4. Research and/or presentation of a given topic
5. Thorough learning for tests



Useful Information

Class information and revision can be found on each class's individual Google Classroom, this is along with announcements and interesting information/opportunities found by the class teacher.

Websites and resources we would recommend are:

- <https://senecalearning.com/en-GB/> - metacognitive revision resource, this adapts to the input of each student and allows for retesting of content found difficult.
- <https://www.bbc.co.uk/bitesize/subjects/zng4d2p> - BBC bitesize has resources tailored to the UK national curriculum and has quizzes and videos to aid retrieval.
- <https://open.spotify.com/show/3dmgSWIjXJhbPFO0OdFMj> - Spotify podcast playlist for revision
- <https://www.podbean.com/podcast-detail/dkkyh-15b479/Revise---KS3-Science-Revision-Podcast> - Podbean podcast playlist for revision
- <https://www.youtube.com/playlist?list=PLyf3QQ9ddzgngBzZiwWcEBuRoKUYaXS6N> - revision monkey YouTube channel for key stage three science
- <https://www.youtube.com/@learnsciencewithb> - learn science with B YouTube channel for key stage three science