

SCIENCE

KS3

Curriculum Overview

Our year sevens are taught by Science subject specialists. We build on the foundations of Science that they have been taught according to the key stage two national curriculum by their primary school. Due to the variation in primary school Science experience across the Isle of Wight, we spend year 7 learning skills and content that underpin a successful Science education.

All of our year 7s are provided with a wide exposure to practical tasks, including microscopes, bunsen burners and van der graaf generators! Our year 7 curriculum is designed to allow for the development of investigation and experimentation skills. We want our year 7s to remain curious and excited about the world around them. We also reinforce the scientific knowledge behind SMSC topics such as reproduction, life, digestion and nutrition.

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.

YR7



Curriculum Topics

The units covered in year 7 Science are:

1. Introduction to Science
2. Life, Cells and reproduction
3. Forces and Space
4. Matter
5. Energy and Electricity
6. Colourful Chemistry
7. Biological Change

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.

Pupils should understand that science is about working objectively, modifying explanations to take account of new evidence and ideas and subjecting results to peer review. Pupils should decide on the appropriate type of scientific enquiry to undertake to answer their own questions and develop a deeper understanding of factors to be taken into account when collecting, recording and processing data. They should evaluate their results and identify further questions arising from them.

When and how assessment of learning will happen

Assessment in year seven 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/@learnsциencewithb> - learn science with B YouTube channel for key stage three science