

SCIENCE

Teacher in charge – Mrs S. Pearson

Aims

The curriculum for pupils in Key Stage 3 introduces science content and emphasises ‘How Science Works’ skills. The course called ‘Exploring Science’ incorporates all the different aspects of ‘How Science Works’, including evaluating different opinions about scientific phenomena and weighing up evidence along with the usual investigations but delivered in a dynamic and interesting way. In Year 7 pupils are introduced to the skills and concepts they will need and will begin the process of developing their knowledge over the key stage to allow them to be well equipped for their GCSEs in Years 10 and 11. All pupils have access to the Year 7 Exploring Science online textbook.

Course Description

Term 1	<u>Investigating Science</u>	A general introduction to the subject which lays down the vocabulary and investigative skills which pupils will use in Science.
	<u>Who am I?</u>	Pupils look at what makes all living things different and how we can classify them. They are introduced to life processes, organs, organ systems and organ transplants. Microscopic work looking at both plant and animals cells is carried out with pupils learning how to make their own slides. They will learn about how muscles and bones help their bodies function, the importance of the blood and heart and the effect of drugs on the body both medical and recreational.
Terms 2 and 3	<u>Scientific techniques</u> <u>Energy and electricity</u>	<p>Pupils will learn how to separate mixtures using evaporation, distillation and chromatography using this knowledge to make water safe to drink. They will learn that scientists make hypotheses and theories to help explain their observations. They will use models to explain how a substance will respond depending on whether it is a solid, liquid or a gas. They will be able to describe how particles move and diffuse through liquids and gases.</p> <p>Pupils use electrical components to discover how electricity can be used to power equipment. They will use models to identify and explain the differences in series and parallel electrical circuits. They will be able to describe the energy changes and stores in simple machines, compare different fuels, and to make fair comparisons between types of fuel.</p>

**Terms
4, 5 and 6**

Chemical reactions
Forces and sound
Reproduction and Ecosystems

Pupils will learn about the chemistry of the home, specifically acids and alkalis. They will be able to identify hazards and learn to do risk assessments for dealing with hazardous materials. Pupils will be able to sort scientific data and distinguish between metals and non metals and know how the elements are organised and form compounds.

Pupils will learn how forces affect our everyday life. They will learn the benefits and the problems associated with friction and pressure. They will learn how sounds are made, describe how sounds can be used and compare sound waves. They will explain how sounds are detected by animals and show data collected in both line and scatter graphs.

Pupils will study how they themselves grow including the study of conception, pregnancy, birth, adolescence, puberty and the menstrual cycle. (Please note that this is taught in accordance with the Governing Body's Sex Education Policy.) Pupils will then learn about variation within ecosystems, how organisms are adapted to their environment and the effects of the environment on organisms and vice versa.

Homework

There is one science homework task each week. This will seek to consolidate understanding of key ideas or applying their knowledge in new areas. Homework will be set via an online app called Educake.

Assessment

As well as regular informal assessment during lessons there will be a short formal tests after each unit studied. The analysis of the results allows continuous assessment of a pupil's progress to be maintained. Pupils will also sit an exam at the end of Year 7 that assesses their understanding of the topics taught and gives an indication of progress and informs target setting in Year 8.