

Year 7 Science

Year 7 science is designed to build on the basic ideas introduced at key stage 2 while keeping in mind that different students, from different schools will have experienced science in different ways.

It is based on the KS3 national curriculum but also uses departmental expertise and our knowledge of the GCSE curriculum.

Every unit is based around a career where science can make a real difference and is designed to give students a sound knowledge of the core principles in terms of content and practical skills while also generating an awe and fascination about science.

There are 15 units throughout KS3 (6 in years 7 and 8 and 3 in year 9) each of which will last roughly one half term. They have been written to be taught in a specific order to form a spiral curriculum with interleaving throughout

Every unit includes a "required practical" with a specific focus to develop students' practical skills while other non-specific ideas such as variables, accuracy, precision and anomalies are taught throughout the curriculum. Throughout the year, students will gain credits towards a "Practical Skills Award" by successfully demonstrating skills in the "required practicals"

Every unit also has a SAIL-based task, a literacy homework and "GOAL" (Go Off And Learn) tasks.

Each lesson begins with a Brain in Gear retrieval task and a Key Learning Question. There will be teacher input of some kind followed by tasks which use prior learning to develop greater knowledge understanding. Once understanding is established then students develop their ability to apply this to unfamiliar situations.

At the end of each unit, students complete a unit test made up of past exam questions. This is then marked and graded and used to identify strengths and areas in need of attention. Note that many topics overlap and so unit assessments may contain elements from different units which also acts as retrieval practice.

| Year 7 Curriculum | Autumn Term 1 | Autumn Term 2 | Spring Term 1 | Spring Term 2 | Summer Term 1 | Summer Term 2 |
|-------------------|--|--|---|---|---|--|
| Topic(s) | 7-1 Vet Classification Food chains Habitats and populations Adaptation Microscopes Cells Specialised cells | 7-2 Oceanographer The structure of the Earth States of matter Particle theory Dissolving Pressure in liquids The rock cycle | 7-3 Engineer Fuels and energy resources Energy transfers Fuel costs Heat and insulation Current and potential difference in series circuits | 7-4 Dietician The digestive system Enzymes and digestion Fermentation Food groups and a healthy diet | 7-5 Nurse Bacteria and viruses Tissues, organs and organ systems Human reproduction The menstrual cycle Disease Body defences Recreational drugs Testing for glucose and protein | 7-6 Racing Driver Combustion Simple machines Speed Distance-time graphs Newtons' first law - balanced and unbalanced forces Current and potential difference in parallel circuits |

Assessment

“GOAL” (Go Off And Learn) mini-tests within each topic
SAIL task is an extended task with shared success criteria
Formal end of unit tests
End of Year exams covering all the units covered during the year

Independent Work

Regular homework covering a variety of skills:

- GOALs (“Go Off And Learn”) for factual recall
- Application
- Practice questions to gain experience of recall, application and unfamiliar contexts
- Write ups of experimental work, especially work related to the Required Practicals
- SAIL extended homework tasks