

Curriculum map - Science

Year 7 and 8

Each term has a biology, chemistry and physics topic and these are taught in different order depending on the member of teaching staff. Staff start with their specialism subject in order to facilitate forming relationships with their classes. This also ensures the practical lessons have smaller groups as there is more equipment, therefore facilitating more effective learning during these activities.

There are assessments for each topic, some are practical assessments and some are with a written test:

The **Practical Assessments** are not watching their practical skills but are based on one of the practical skills they have covered following a practical activity completed in class. These are designed to cover all key skills: method writing, risk assessments, drawing a table, drawing a graph, variables, conclusion and evaluation and do so on an individual basis until the summer term of year 8 where one investigation puts all of these skills together.

The **Written Assessments** are a test style with multiple choice and short answer questions (only 1 and occasionally 2 mark questions). There are no tiers on the topic tests. In addition to this there is an end of year test for year 8 which has a higher and foundation tier and covers material from many of the topics over both years to promote long term retention.

	Topic	Ideas Covered	Why is it Important?	Why Now?	Impact	Assessment
8 Autumn Biology 1	Diet and Health	The digestive system and effect of diet The effect of drugs on the body	It allows students to understand that their diet and drugs can have an impact on their health	It is an introductory KS3 topic that will be taught again at KS4 and so provides a solid foundation to build upon	Students will be able to describe and explain digestion and how an unhealthy diet and use of drugs can affect the body	Written assessment
8 Autumn Chemistry 1	Reactions	Atoms and the periodic table Chemical symbols and formula	The different types of chemical reactions and building on how to write chemical reactions.	This reinforces equation writing, which was begun in Y7. This then builds on that with more application of different types of chemical reactions	Students will be able to write chemical equations to progressively harder chemical reactions and can describe an increasing number of different types of reaction	Practical Assessment

	Topic	Ideas Covered	Why is it Important?	Why Now?	Impact	Assessment
8 Autumn Physics 1	Electricity	What is electrical current and how does it behave What is magnetism and its effects	So much of everyday life revolves around electricity it is essential that its nature is understood	An introduction to electricity which is a hard concept for students to explain. Starting in year 8 this means a better understanding in Year 10	Students will be able to describe what electricity is and how it behaves in different circuits. They will also be able to describe the force of magnetism.	Written assessment
8 Spring Biology 2	Interdependence	The interdependent nature of the natural world	Describing the impact of humans on their environmental surroundings links to real problems in the environmental sector	This topic will be covered again at KS4 and allows the developing understanding of key concepts	Students will be able to construct and interpret food chains and food webs and explain the impact of fossil fuels and using chemicals (e.g. fertilisers) on the environment	Written assessment
8 Spring Chemistry 2	Earth and atmosphere	Atmosphere and types of rock	This is a big cross curricular link to geography and shows students the interconnecting of the subjects. This teaches them about what their world is actually made up of	This topic is focussed on the outside world and this brings a different link for the students to chemistry. This also forms a basis for the atmosphere which is further studied in year 9	Students will be able to describe and explain the rock cycle. They will be able to describe the atmosphere and how carbon is moved from one place to another	Written Assessment
8 Spring - Physics 2	Forces	Concept of forces and their behaviour	This introduces students to the concept of forces which affect them in their daily lives	This is a fundamental concept to the GCSE and a lot of the more detailed concepts in physics. It is built upon in KS4 so this is building a solid foundation	Students will be able to describe different types of forces and understand the relationship between force and stretch	Practical Assessment

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8 Summer - Biology 3	Photosynthesis and Respiration	Concept of photosynthesis and factors affecting it Concept of respiration and how it is linked to exercise	This is a key concept in GCSE biology - life is dependent on the energy stored in glucose and subsequent release of energy in respiration	It is a fundamental concept in biology however students struggle with the larger key words and equations, so it is taught later in the year	Students will be able to identify chemical reactants and products of these reactions, and factors that affect them	Practical assessment
8 Summer - Chemistry 3	Energy Changes	The concept of endothermic and exothermic reactions	These reactions have many practical applications in real life situations and so the theory behind the reactions helps to understand the world around them	This topic is covered in more detail at GCSE so this gives a solid foundation for further learning	Students will be able to recognise the differences between an exothermic and endothermic reaction	Written assessment
8 Summer - Intro to GCSE	Practical skills	How to conduct a full investigation from variable identification, method writing, analysis, evaluation and maths skills	Students learn these problem solving ideas which, although have practical applications in the lab are skills that can be applied to everyday life	This is an introduction in order to support the Required Practicals that are conducted throughout the GCSE course.	Students are able to identify the different sections of an investigation and have the skills to carry them out	No assessment
8 Summer - Physics 3	Moments	Concepts of levers and simple machines	Explains the design of simple mechanical and biological machines and links to moments in year 11 triple science physics	Links to moments work in year 11 triple science physics	Students will understand concepts of simple machines	Written assessment