

Science Year 8 Curriculum Plan

	Key concept/ Key question	Overview of the unit	Assessment	Cross Curricular Skills	Suggested reading material and websites:
Chemistry 1	Periodic table	Students examine how elements are arranged in the periodic table. Experiments are performed to investigate the properties of elements and to begin to relate this to their atomic structure. The focus is on Groups 1, 7 and 0.	Assessment is based around end of topic tests – typically around 45 min. at the end of each unit. These tests contain a mixture of recall and application questions based on the current topic.	Literacy: Considering historical sources, Mendeleev and the periodic table. Accuracy of accounts. Numeracy: Interpreting bar graphs. Data analysis – melting points and boiling points Thinking Skills: Role of creativity and imagination in coming up with periodic table.	Students are following the revised KS3 national curriculum for science the contents of which can be downloaded here: https://www.gov.uk/national-curriculum All students have access to Kerboodle which contains a digital copy of the Year 8 Activate science text book. https://www.kerboodle.com/users/login
	Metals and acids	Common reactions of metals are considered and how metals are extracted from the Earth. The unit finished by considering a wider range of materials including ceramics and polymers.	In addition, students will periodically sit multi topic tests based on all material covered so far (3 per year). This is to begin to prepare students for the linear		



Physics 1	Electricity	Students investigate current and voltage in circuits and begin to explore the relationship between them. The interplay between magnetism and electricity is then introduced.	exam based terminal assessment they will encounter at GCSE. Working grades will be reported as a running average showing how students have been performing in all	Literacy: Complex terminology (voltage, current, energy etc., need to be precise in use. Numeracy: Rearranging equations to alter the subject (Ohms law) Thinking Skills: Use of models to	Oxford KS3 Science A ctivate Question - Progress - Succeed Question - Succeed Question - Progress -
	Energy resources	Electricity generation is considered in the context of renewable and non-renewable energy sources. The costs of energy to the consumer are then considered.	assessments thus far.	represent and understand complex phenomena such as electric current and magnetism. Limitations of models	A number of KS3 revision guides and student workbooks are available such as those from CPG and these can be helpful in supporting student learning.
Biology 1	Health and lifestyle	This unit considers the impact of health and unhealthy lifestyles on the body. It focuses on diet and the digestive system, the impact of exercise and finally the role of lifestyle choices.		Literacy: Looking at media stories, recognising bias how data can be used selectively to make a point. Numeracy: Data interpretation, impact on life expectancy Thinking Skills: Considering science in wider social context – lifestyle choices regarding diet and drug use.	https://www.cgpbooks.co.uk/ Useful websites to support learning. BBC KS3 science http://www.bbc.co.uk/education/subjects/zng4d2p



Chemistry 2	Separation techniques	A range of experiments are used to investigate different separation techniques including chromatography, distillation and filtration.	Literacy: Vocabulary and spelling of key words Numeracy: Measuring temperature, positive and negative numbers. Weight g to Kg conversion. Constructing tables and line graphs.
	The Earth	Work on the rock cycle from KS2 is consolidated. The impact of human activity on the Earth's climate is then considered.	Thinking Skills: Climate change – considering the strength of evidence to form a conclusion.
Physics 2	Energy transfer	Energy stores and transferred are outlined. The idea that some energy transfers are useful and some lead to energy being wasted leads to the concept of efficiency.	Literacy: Being able to select correct equations to use when given problems in text format Numeracy: Power calculations. Concept of calculating efficiency. Conversion joules to watts to kw hours. Work done equations
	Motion and pressure	Y7 work on forces is revisited in the context of speed and pressure. The unit then looks at turning forces linking back to ideas about work and power.	Thinking Skills: Using conceptual models to understand energy. Linking concepts – energy to work done to efficiency.



Biology 2	Ecosystem processes	Key biochemical processes of photosynthesis and respiration	Literacy: Understanding scientific terminology.
		are developed. The role of various organisms at different	Numeracy:
		levels in the food chain.	Calculating rates of chemical reactions (photosynthesis).
	Adaptation and inheritance	The genetic basis of inheritance is covered and used to explain ideas about variation and natural selection.	Thinking Skills: Ethical issues underlying inheritance and genetic testing. Nature versus nature debate. Idea that science does not know all the answers and can't always say what is the 'right' thing to do.