

		Year 11 Chemistry
Unit Title	Unit 7 Organic Chemistry	Unit 8 Chemical analysis
Approximate Number of Lessons	12 lessons	12 lessons
Curriculum content	The chemistry of carbon compounds is so important that it forms a separate branch of chemistry. A great variety of carbon compounds is possible because carbon atoms can form chains and rings linked by C-C bonds. This branch of chemistry gets its name from the fact that the main sources of organic compounds are living, or once-living materials from plants and animals. These sources include fossil fuels which are a major source of feedstock for the petrochemical industry. Chemists are able to take organic molecules and modify them in many ways to make new and useful materials such as polymers, pharmaceuticals, perfumes and flavourings, dyes and detergents	Analysts have developed a range of qualitative tests to detect specific chemicals. The tests are based on reactions that produce a gas with distinctive properties, or a colour change or an insoluble solid that appears as a precipitate. Instrumental methods provide fast, sensitive and accurate means of analysing chemicals, and are particularly useful when the amount of chemical being analysed is small. Forensic scientists and drug control scientists rely on such instrumental methods in their work.
Links to prior learning	Chemical symbols and formulae. Explaining chemical changes. Obtaining useful materials.	Separating mixtures
Cultural capital opportunities	Science Museum http://www.sedgwickmuseum.org/ https://www.festival.cam.ac.uk/	http://www.sedgwickmuseum.org/ https://www.festival.cam.ac.uk/
Assessment focus	C7 End of topic assessment	C8 end of topic assessment
Name of knowledge organiser	C7 Organic chemistry knowledge organiser available from Science teachers	C8 Chemical analysis Knowledge organiser available from Science teachers.

Unit Title	Unit 9 Chemistry of the atmosphere	Unit 10 Using resources
Approximate Number of Lessons	12 lessons	12 lessons
Curriculum content	The Earth's atmosphere is dynamic and forever changing. The causes of these changes are sometimes man-made and sometimes part of many natural cycles. Scientists use very complex software to predict weather and climate change as there are many variables that can influence this. The problems caused by increased levels of air pollutants require scientists and engineers to develop solutions that help to reduce the impact of human activity.	Industries use the Earth's natural resources to manufacture useful products. In order to operate sustainably, chemists seek to minimise the use of limited resources, use of energy, waste and environmental impact in the manufacture of these products. Chemists also aim to develop ways of disposing of products at the end of their useful life in ways that ensure that materials and stored energy are utilised. Pollution, disposal of waste products and changing land use has a significant effect on the environment, and environmental chemists study how human activity has affected the Earth's natural cycles, and how damaging effects can be minimised.
Links to prior learning	Composition of the Earth.	Using our Earth sustainably. Pollution.
Cultural capital opportunities	https://climate.nasa.gov/scientific-consensus/ Resources to make https://climatekids.nasa.gov/menu/make/ https://www.woodlandtrust.org.uk/blog/2021/10/climate-change-facts-actions-for-kids/ Contains ideas for outdoor activities	Litter picking and beach cleans Recycling and model making using materials Science Museum https://www.museumoftechnology.com/ https://www.festival.cam.ac.uk/
Assessment focus	C9 End of topic assessment	C10 End of topic assessment
Name of knowledge organiser	C9 Chemistry of the atmosphere Knowledge organiser available from Science teachers	C10 Using resources Knowledge organiser available from Science teachers