YEAR 11 CURRICULUM INFORMATION – Chemistry		
	Spring 1	Spring 2
What will students be learning?	**The Earth's atmosphere** Students will learn about the Earth's atmosphere. Students need to be able to describe the volcanic activity theory of the origin of the atmosphere, but they should be able to interpret evidence concerning other theories, and be able to evaluate them. To describe the history of the atmosphere students will need to have a sense of the timescales involved. Along with an understanding of the origins of the atmosphere, students should also understand how it has evolved over time. This includes both how the general composition of the atmosphere has changed and how the atmosphere is currently being affect by human activity. Students should be able to describe the human activities that are thought to cause global warming, and be able to explain some of the effects this has on the climate of the Earth. Students should also be able to explain the effect of other pollutants on the Earth, including carbon monoxide, sulfur dioxide, nitrogen oxides, and particulates.	**Polymers** Students will learn about different types of manufactured polymers, including addition polymers and condensation polymers. Students should be able to identify an addition polymer from polymer and monomer diagrams – drawing the monomer from the polymer and the polymer from the monomer. Students will be introduced explicitly to poly(ethene) but it is important that they can identify and draw other addition polymers and associated monomers. Higher-tier students should also be able to describe the basic principles of condensation polymerisation. Students will also study natural polymers, including polysaccharides, proteins, and DNA. Students should be able to identify the types of monomers that form these polymers and be able to describe the basic structure of DNA. Higher-tier students should understand in greater detail how amino acids react together to form proteins. With all polymers, students should understand the difference between the monomer and the repeating unit of the polymer.
How will students be assessed?	C13 (The Earth's atmosphere) Milestone	C11 (Polymers) Milestone
Literacy – What keywords will be taught?	Air, Oxygen, Carbon dioxide, Nitrogen, Sulfur dioxide, Volcanoes, Particulates, Ammonia, Acid rain, Photosynthesis, Global dimming, Combustion, Greenhouse effect, Global warming, Carbon monoxide, Nitrogen oxide	Polymers, monomers, properties, unsaturated, hydrocarbon, addition, covalent bond, reactive, double bond, repeated, condensation, small molecule, functional group, polyester, polysaccharide, synthetic, sugar, monosaccharide, starch, cellulose, glucose, proteins, amino acids, polypeptide, DNA, double helix, strands, nucleotide
What employability skills are being developed?	Skills such as investigative and analytical which can lead to careers as: Atmospheric Scientists, Meteorologists, National Weather Service, Climate change, Environmentalist, Climatologist, Renewable Energy	Skills such as investigative and analytical which can lead to careers as: Materials scientist, Biologist, Research Scientist, Agriculturalist

	Geoscientist, Environmental Lawyer, Climatologist, Renewable Energy Scientist, Geoscientist, Clean Car Engineer	
Wider Curriculum Links?	Geography (Earth composition) Biology (Photosynthesis) Geography (Pollution)	Design and Technology (Materials) Biology (DNA)
What useful websites are there for this topic?	 Free science lessons  Primrose Kitten  Seneca  BBC Bitesize	 Free science lessons  Primrose Kitten  Seneca  BBC Bitesize
What wider reading could be done for this topic?	Textbooks: AQA Chemistry for GCSE Combined Science: Trilogy (Oxford) Textbooks: AQA Chemistry for GCSE Separate Science (Oxford)	Textbooks: AQA Chemistry for GCSE Combined Science: Trilogy (Oxford) Textbooks: AQA Chemistry for GCSE Separate Science (Oxford)
What else can students be doing independently to develop their understanding of this topic?	Exam questions Numeracy practice Timescales	Exam questions Numeracy practice