

Prior Learning	<p>C7 – Hydrocarbons – combustion reactions produce carbon dioxide. C4 – Chemical changes – Carbon dioxide is produced when metal oxides are reduced with carbon as part of the metal extraction process. B4 – Bioenergetics – oxygen is produced as a product of photosynthesis and carbon dioxide is produced when living organisms are respiring. B7 – carbon dioxide is a key carbon based materials in the carbon cycle and the amount in the atmosphere can contribute to global warming</p>			
Lesson Number	AQA Spec	Title	Content	Assessment/ Homework
1	4.9.1.1	Proportions of gases in the atmosphere	<ul style="list-style-type: none"> Review the composition of the atmosphere. Measure the percentage of oxygen in the atmosphere. Consider why it stays the same. 	
2	4.9.1.2	The Earth's early atmosphere	<ul style="list-style-type: none"> Explore the origins of the Earth's atmosphere. Consider the evidence that ideas about the early atmosphere are based on. Consider the strength of the evidence these ideas are based on. 	
3	4.9.1.3	How oxygen increased	<ul style="list-style-type: none"> Explore the processes that changed the oxygen concentration in the atmosphere. Consider the role of algae. Consider why oxygen levels in the atmosphere didn't rise when oxygen was first produced. 	

4	4.9.1.4	How carbon dioxide decreased	<ul style="list-style-type: none">• Explore the processes that changed the amount of carbon dioxide in the atmosphere.• Find out what ice cores tell us about the atmosphere.• Explore how carbon dioxide levels have changed over time.	
5	4.9.2.1	Key: concept: Greenhouse gases	<ul style="list-style-type: none">• Review the greenhouse effect.• Explain how greenhouse gases trap heat.• Consider the consequences of adding greenhouse gases to the atmosphere.	Assessment: 15 Mark Question
6	4.9.2.2 4.9.2.3	How is human activity affecting our atmosphere?	<ul style="list-style-type: none">• Consider the factors that affect the quality of scientific reports.• Consider the reliability of computer models.• Find out what peer review involves.• Explore the consequences of climate change.• Consider the risks to human health.• Judge the seriousness of these consequences.	
7	4.9.2.4		<ul style="list-style-type: none">• Find out what a carbon footprint is.• Consider factors that contribute to our carbon footprints.• Explore ways of reducing our carbon footprints.• Review the uncertainties about carbon emissions.• Consider factors which limit our ability to reduce our carbon footprints.• Decide which factors are most important.	

8	4.9.3.1 4.9.3.2	How can we reduce our carbon footprint?	<ul style="list-style-type: none"> • Explore the products formed when fuels burn. • Distinguish between complete and incomplete combustion. • Write equations for complete and incomplete combustion. • Review the hazards associated with air pollutants. • Investigate correlations between pollutant emissions and deaths from asthma. • Consider whether these support the hypothesis that air pollution makes asthma worse. 	
9	Maths skills: Use ratios, fractions and percentages	What pollutants are in our atmosphere and what effect do they have?	<ul style="list-style-type: none"> • Consider ways of comparing the amounts of gases in the atmosphere. • Review what balanced symbol equations show. • Compare the yields in chemical reactions. 	
<p>Endpoint:</p> <ul style="list-style-type: none"> • Use experimental data in different formats to describe what the composition of the atmosphere and how it has changed over time and as a result of human activity • Understand how key components of the Earth's atmosphere are made and what processes result in their quantities changing 				<p>End of unit test based on exam questions</p> <p>Feedback: teacher assessed and target setting on end of chapter review sheet</p>
Where we will use these ideas again	C10 – Life cycle assessments – comparing methods of production in terms of the amount of pollution they generate			