

## Scheme of Work 2025/26

### Environmental Science A Level Yr 13

Week	Specification reference	Content	Comments	Practical sessions and Maths Skills	Resources and Homework
8 <sup>th</sup> Sept	3.3 Energy resources	3.3.1 The importance of energy supplies in the development of society 3.3.2 The impact of the features of energy resources on their use	Students should understand that each energy resource has its own features which make it applicable to particular uses. Technologies in current use often developed to match them to the available energy resources. New energy technologies may need additional technologies to be fully usable, eg storage.		Induction test
15 <sup>th</sup> Sept		3.3.3 The sustainability of current energy resource exploitation 3.3.4 Strategies to secure future energy supplies 3.3.4.1 Evaluation of improved extraction / harnessing / processing technologies related to a range of energy technologies Non-renewable energy resources Fossil fuels	Students should analyse and evaluate key issues and quantitative data to evaluate the potential future contribution of each energy resource.  Students should understand how specific technologies increase the usability of each energy resource		Flipped learning, properties and environmental impacts of non-renewable energy resources
22 <sup>nd</sup> Sept		Fossil fuels New technology			
29 <sup>th</sup> Sept		Nuclear energy Renewable energy			Flipped learning, properties and environmental impacts of renewable energy resources

<b>6<sup>th</sup> Oct</b>		Solar energy HEP Wind power			
<b>13<sup>th</sup> Oct</b>		Wave power Biofuels Geothermal energy Tidal energy Energy fluctuations			
<b>20<sup>th</sup> Oct</b>		3.3.4.2 New energy conservation technologies Transport systems Buildings Industry			
Autumn Half term					
<b>3<sup>rd</sup> Nov</b>	3.4 Pollution	3.4.1 The properties of pollutants 3.4.2 How environmental features affect the severity of pollution Temperature inversion	Students should consider how the properties of pollutants affect behaviour in the environment, their harmful impacts and the strategies that can be used to minimise problems.  Students should use examples to explain how environmental features affect the behaviour of pollutants and the severity of pollution caused  Students should understand the effect of point and diffuse sources on the dispersal and concentration of pollutants		
<b>10<sup>th</sup> Nov</b>		3.4.3 Strategies to control pollutants based on their properties and features of the environment Critical group monitoring Atmospheric pollution			Assessment on Energy Resources Flipped learning, properties and environmental impacts of atmospheric and hydrosphere pollutants

<b>17<sup>th</sup> Nov</b>		Photochemical smog Carbon monoxide Water pollution Thermal pollution Oil pollution Pesticide pollution			
<b>24<sup>th</sup> Nov</b>		Inorganic nutrient pollution Organic nutrient pollution Sewage Acid mine drainage Heavy metal pollution			Flipped learning, properties and environmental impacts of solid and energy pollutants
<b>1<sup>st</sup> Dec</b>		Lead Mercury Solid waste Specialist solid waste			
<b>8<sup>th</sup> Dec</b>		Noise pollution Aircraft noise Railway noise Traffic noise Industrial noise Domestic noise			
<b>15<sup>th</sup> Dec</b>		Radiation Uses Scientific principles Effects Controls			
Christmas Holidays					
<b>5<sup>th</sup> Jan</b>	3.5 Biological resources	Radioactive waste management New technology 3.5.1 Agriculture	Students should understand that agriculture involves the control of food webs to divert photosynthetic energy into human food. This involves the control of abiotic and biotic factors to maximise production.		
<b>12<sup>th</sup> Jan</b>		Agroecosystems Species selection Technological factors Biotic factors Pest control			
<b>19<sup>th</sup> Jan</b>		Selective breeding Cloning			

		GM			
<b>26<sup>th</sup> Jan</b>		Bioenergetics Intensive and extensive farming Energy ratios Hydrological cycle Social, economic and political influences			
<b>2<sup>nd</sup> Feb</b>		Agriculture sustainability			
<b>9<sup>th</sup> Feb</b>					Contingency mocks
Spring Half term					
<b>23<sup>rd</sup> Feb</b>		3.5.2 Aquatic food production systems Marine productivity Fishing	Students should understand that fishing is the last large-scale human hunting activity. While aquatic species are renewable resources, humans can easily exploit populations above the Maximum Sustainable Yield.  Aquaculture allows humans to control productivity of aquatic species but has not yet increased food supplies in the way that agriculture has on land.		
<b>2<sup>nd</sup> Mar</b>		MSY Reducing impact Aquaculture			
<b>9<sup>th</sup> Mar</b>		3.5.3 Forest resources Resources Life support systems Productivity	Trees are a renewable resource but their slow growth rate and the need for land for other purposes has caused a significant reduction in global forest area.		

<b>16<sup>th</sup> Mar</b>	3.6 Sustainability	3.6.1 Dynamic equilibria Introduction	Students should understand the role of dynamic equilibria in natural and human systems and how this understanding may be used to develop sustainable human societies.		
<b>23<sup>rd</sup> Mar</b>		Positive feedback mechanisms 3.6.3 Material cycles 3.6.2 Energy	<p>The use of mineral resources should be re-considered to evaluate how an understanding of natural cyclical processes may increase the sustainability of human systems.</p> <p>Students should understand that future energy will be affected by changing availability, the development of new technologies, economic factors and environmental concerns. Natural systems are driven by energy in very different ways from anthropogenic systems. The principles of natural systems being driven by renewable, low energy-density processes at low temperatures should be contrasted with human systems to consider how copying natural systems could help the development of a sustainable society</p>		
Easter Holidays					
<b>13<sup>th</sup> April</b>		3.6.4 The circular economy	The circular economy should be evaluated as a possible development strategy that		

			<p>engages in a benign way with natural systems. These should be considered in terms of the development of sustainable lifestyles using circular economy principles.</p> <p>Students should reconsider the sustainability of natural processes studied throughout the course, especially those emphasised in sections Dynamic equilibria, Energy and Material cycles, to evaluate the ways human society may become sustainable.</p>		
<b>20<sup>th</sup> April</b>					
<b>27<sup>th</sup> April</b>					
<b>4<sup>th</sup> May</b>					
<b>11<sup>th</sup> May</b>					
<b>18<sup>th</sup> May</b>					