

## Year 10 Overview of Scheme of Work for Science GCSE Chemistry

Please note that there may be some slight variation on topics taught in which weeks dependent on each class taught

Week	Topic titles	Key Assessments
1	<b>C1.1</b> Atoms and elements <ul style="list-style-type: none"> <li>• Know what elements are and what they are made up of.</li> <li>• Describe how elements are classified in the periodic table.</li> </ul>	The fundamentals of Chemistry
2	<b>C1.2</b> Inside atoms <ul style="list-style-type: none"> <li>• Describe what atoms are made up of.</li> <li>• Describe how electrons are arranged in atoms.</li> <li>• Link electron arrangements to periodic table groups.</li> </ul>	The fundamentals of Chemistry
3	<b>C1.3</b> Inside compounds <ul style="list-style-type: none"> <li>• Explain the differences between a compound and an element.</li> <li>• Explain ionic and covalent bonding.</li> </ul>	The fundamentals of Chemistry
4	<b>C1.4</b> Chemical reactions <ul style="list-style-type: none"> <li>• Understand what happens in chemical reactions.</li> <li>• Write word equations to summarise reactions.</li> <li>• Interpret and write chemical formulae.</li> </ul>	The fundamentals of Chemistry
5	<b>C1.5</b> Chemical equations <ul style="list-style-type: none"> <li>• Appreciate that mass is conserved in chemical reactions.</li> <li>• Interpret symbol equations.</li> <li>• Write balanced symbol equations.</li> </ul>	The fundamentals of Chemistry
6	<b>Controlled assessment</b> - Planning	<i>GCSE Controlled assessment</i>
7	<b>Controlled assessment</b> - Reporting on the planning research <b>Assessment</b>	<i>GCSE Controlled assessment</i>
8	<b>Controlled assessment</b> - Practical work	<i>GCSE Controlled assessment</i>
9	<b>Controlled assessment</b> - Processing primary data	<i>GCSE Controlled assessment</i>
10	<b>Controlled assessment</b> - Analysing results <b>Assessment</b>	<i>GCSE Controlled assessment</i>
11	<b>C1.6</b> Limestone <ul style="list-style-type: none"> <li>• Explain how the properties of limestone make it a good building material.</li> <li>• Evaluate the environmental, social, and economic effects of exploiting limestone.</li> </ul>	Rocks & Metals assessment
12	<b>C1.7</b> The lime cycle <ul style="list-style-type: none"> <li>• Describe how to make calcium oxide, calcium hydroxide, and limewater, and</li> </ul>	Rocks & Metals assessment

	<p>explain why they are useful.</p> <ul style="list-style-type: none"> <li>• Describe and explain the lime cycle.</li> <li>• Evaluate the environmental, social, and economic effects of building with limestone.</li> </ul>	
13	<p><b>C1.8</b> Products from limestone</p> <ul style="list-style-type: none"> <li>• Describe how cement, mortar, and concrete are made from limestone, and their use as building materials.</li> <li>• Describe and explain the pattern in the decomposition reactions of metal carbonates.</li> </ul>	Rocks & Metals assessment
14	<p><b>C1.9</b> Magnificent metals</p> <ul style="list-style-type: none"> <li>• Describe typical transition metal properties.</li> <li>• Describe and explain how to extract gold and iron from the Earth's crust.</li> </ul>	Rocks & Metals assessment
15	<p><b>C1.10</b> Stunning steel</p> <ul style="list-style-type: none"> <li>• Consider and evaluate the social, economic, and environmental impacts of exploiting metal ores, and of using metals.</li> <li>• Describe how atom arrangements in iron and steels are linked to their properties and uses.</li> <li>• Explain the meaning of the word alloy.</li> </ul>	Rocks & Metals assessment
16	<p><b>C1.11</b> Copper</p> <ul style="list-style-type: none"> <li>• Evaluate the benefits, drawbacks, and risks of using metals as structural materials</li> <li>• Explain how the properties of copper make it suitable for its uses.</li> <li>• Describe how copper is extracted from its ores and from waste.</li> </ul>	Rocks & Metals assessment
17	<p><b>C1.12</b> Titanium and aluminium</p> <ul style="list-style-type: none"> <li>• Give reasons for the uses of aluminium, titanium, and their alloys.</li> <li>• Explain why the metals are expensive to extract.</li> <li>• Explain the benefits of recycling metals.</li> </ul>	Rocks & Metals assessment
18	<p><b>C1.13</b> Making crude oil useful</p> <ul style="list-style-type: none"> <li>• Consider and evaluate the social, economic, and environmental impacts of the uses of fuels.</li> <li>• Describe what crude oil is and its properties.</li> <li>• Explain how oil companies get useful fractions from crude oil.</li> </ul>	Crude oil & fuels assessment
19	<p><b>C1.14</b> Looking into oil</p>	Crude oil & fuels assessment

	<ul style="list-style-type: none"> <li>• Use molecular and displayed formulae to represent alkanes.</li> <li>• Know the formulae of the first four alkanes.</li> </ul>	
20	<b>C1.15</b> Burning dilemmas <ul style="list-style-type: none"> <li>• Identify hydrocarbon combustion products.</li> <li>• Explain their impacts on the environment and ways of preventing this.</li> </ul>	Crude oil & fuels assessment
21	<b>C1.16</b> Global warming <ul style="list-style-type: none"> <li>• Describe and explain the impacts of the greenhouse gas carbon dioxide.</li> </ul>	Crude oil & fuels assessment
22	<b>C1.17</b> Biofuels <ul style="list-style-type: none"> <li>• Evaluate the benefits, drawbacks, and risks of using plant oils to produce fuels.</li> </ul>	Crude oil & fuels assessment
23	<b>C1.18</b> Cracking crude oil <ul style="list-style-type: none"> <li>• Explain how cracking makes useful products.</li> <li>• Identify the products of cracking reactions.</li> <li>• Identify an economic benefit of cracking reactions.</li> </ul>	Substances from crude oil assessment
24	<b>C1.19</b> Polymers <ul style="list-style-type: none"> <li>• Describe how polymers are made from monomers.</li> <li>• Evaluate the social impacts of using polymers.</li> </ul>	Substances from crude oil assessment
25	<b>C1.20</b> Designer polymers <ul style="list-style-type: none"> <li>• Explain how the properties of polymers depend on how they are made.</li> <li>• Explain how the properties of polymers determine their uses.</li> </ul>	Substances from crude oil assessment
26	<b>C1</b> • Explain how the properties of polymers determine their uses.. <b>21</b> More designer polymers	Substances from crude oil assessment
27	<b>C1.22</b> Polymer problems <ul style="list-style-type: none"> <li>• Explain that many polymers are non-biodegradable.</li> <li>• Describe and explain some problems with disposing of polymers.</li> </ul>	Substances from crude oil assessment
28	<b>C1.23</b> Making ethanol <ul style="list-style-type: none"> <li>• Evaluate the advantages and disadvantages of making ethanol from renewable and non-renewable sources.</li> </ul>	Plant oils assessment
29	<b>C1.24</b> Using plant oils <ul style="list-style-type: none"> <li>• Evaluate the impacts of using vegetable oils in foods.</li> </ul>	Plant oils assessment
30	<b>C1.25</b> Oils from fruit and seeds <ul style="list-style-type: none"> <li>• Evaluate the effects of using vegetable oils in foods and the impacts on diet and health.</li> </ul>	Plant oils assessment

	<ul style="list-style-type: none"> <li>• Describe how plant oils are extracted from fruits, seeds, and nuts.</li> </ul>	
31	<b>C1.26 Emulsions</b> <ul style="list-style-type: none"> <li>• Explain how the properties of emulsions make them suitable for their uses.</li> <li>• Explain how emulsifiers work.</li> </ul>	Plant oils assessment
32	<b>C1.27 Making margarine</b> <ul style="list-style-type: none"> <li>• Explain the differences between saturated fats and unsaturated fats.</li> <li>• Describe how to make margarine from vegetable oil.</li> </ul>	Plant oils assessment
33	<b>C1.28 Inside the Earth</b> <ul style="list-style-type: none"> <li>• Describe the structure of the Earth.</li> <li>• Describe Wegener's theory of crustal movement (continental drift) and explain why other scientists did not at first accept it.</li> </ul>	Earth & its atmosphere assessment
34	<b>C1.29 Moving continents</b> <ul style="list-style-type: none"> <li>• Describe the theory of continental drift.</li> <li>• Explain how moving tectonic plates cause volcanoes and earthquakes and make mountains.</li> <li>• Explain why scientists cannot accurately predict when earthquakes and volcanic eruptions will happen.</li> </ul>	Earth & its atmosphere assessment
35	<b>C1.30 Gases in the air</b> <ul style="list-style-type: none"> <li>• Describe the composition of the Earth's atmosphere.</li> <li>• Know how to separate gases from the air.</li> </ul>	Earth & its atmosphere assessment
36	<b>C1.31 Forming the atmosphere</b> <ul style="list-style-type: none"> <li>• Explain and evaluate theories of the changes that have occurred and are occurring in the Earth's atmosphere.</li> <li>• Describe one theory that explains the origin of the atmosphere.</li> </ul>	Earth & its atmosphere assessment
37	<b>C1.32 The carbon cycle</b> <ul style="list-style-type: none"> <li>• Explain and evaluate the effects of human activities on the atmosphere.</li> </ul>	Earth & its atmosphere assessment
38	GCSE Revision	
39	GCSE Revision	