

Chemistry Combined Science - Trilogy Paper 2, Higher

Chemistry Unit 6 – The Rate and Extent of Chemical Change

Major focus topic area	BBC Bitesize Websites	Video links	Revision guide page numbers (Combined Science Higher)	GCSE Knowledge Organiser (Foundation)
<p><u>Rate of Reaction</u> (Spec reference 5.6.1)</p> <ul style="list-style-type: none"> • Methods of measuring reaction rates • Calculating average rates of reaction and rates at specific points on a graph using tangents • Collision theory – Activation energy and factors affecting rate (concentration, pressure, surface area, temperatures) • Catalysts – Definition, key features, how they work 	<p>Rates of Reaction https://www.bbc.co.uk/bitesize/guides/zpkp7p3/revision/1</p>	<p>Cognito https://www.youtube.com/watch?v=SPXanyy3-hU&t=1s</p> <p>https://www.youtube.com/watch?v=-4HXaUBbv04&t=1s</p> <p>https://www.youtube.com/watch?v=GCR5xeduq2o&t=1s</p> <p>Free Science https://www.youtube.com/watch?v=UkrBJ6-uGFA&t=1s</p> <p>https://www.youtube.com/watch?v=6LV63WtuvJg&t=1s</p> <p>https://www.youtube.com/watch?v=u4Co4N-Jmbs&t=1s</p> <p>https://www.youtube.com/watch?v=WojotwxPD6l&t=2s</p> <p>https://www.youtube.com/watch?v=G2TEfhwgq84&t=1s</p> <p>https://www.youtube.com/watch?v=hel8fQjxcO8&t=1s</p>	<p>142-146</p>	<p>61-63</p>

<p><i>Required Practical 11 - Investigate how changes in concentration affect the rates of reactions by a method involving measuring the volume of gas produced and a method involving a change in colour or turbidity</i></p>		<p><i>Required Practical 11 – Making Reaction rates</i> https://www.youtube.com/watch?v=N5p06i9ilmo&t=1s</p>		
<p><u>Reversible reactions and dynamic equilibrium</u> (Spec reference 5.6.2)</p> <ul style="list-style-type: none"> • Reversible reactions and the energy changes in each direction • Dynamic equilibrium – Definitions and how it is established • Changing the position of the equilibrium – Effect of changing concentration, 	<p>Reversible Reactions https://www.bbc.co.uk/bitesize/guides/z32bpbk/revision/1</p>	<p>Cognito https://www.youtube.com/watch?v=ty9TczsW5ew&t=1s https://www.youtube.com/watch?v=IYyoncESnmQ</p> <p>Free Science https://www.youtube.com/watch?v=66qcNNJFy6E https://www.youtube.com/watch?v=utmV4Q0t6MI&t=1s https://www.youtube.com/watch?v=SII5m0RQqik&t=1s https://www.youtube.com/watch?v=hngzmRrAXTE&t=1s</p>	<p>147-148</p>	<p>64</p>

pressure or temperature (Le Chatelier's Principle)				
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Chemistry Unit 7 – Organic Chemistry

Major focus topic area	BBC Bitesize Websites	Video links	Revision guide page numbers (Combined Science Higher)	GCSE Knowledge Organiser (Foundation)
<p><u>Carbon compounds as fuels and feedstock</u></p> <p>(Spec reference 5.7.1)</p> <ul style="list-style-type: none"> • Crude oil formation • Hydrocarbons – Definition, Properties • Alkanes – Definition, names and structures (1-4 carbons) • Fractional Distillation – Method, Importance 	<p>Crude oil, hydrocarbons and alkanes</p> <p>https://www.bbc.co.uk/bitesize/guides/zxd4y4j/revision/1</p>	<p>Cognito</p> <p>https://www.youtube.com/watch?v=ykIFtTjoso&t=1s</p> <p>https://www.youtube.com/watch?v=F8J2Firblxg&t=1s</p> <p>https://www.youtube.com/watch?v=CjmriZq5xRo&t=1s</p> <p>https://www.youtube.com/watch?v=bOiYlKX9ZRY&t=1s</p> <p>Free Science</p> <p>https://www.youtube.com/watch?v=CX2IYWggEBc&t=1s</p> <p>https://www.youtube.com/watch?v=4EAh9E2KhOE&t=1s</p>	150-153	65-66

<ul style="list-style-type: none"> Cracking – Importance, production of alkenes 		https://www.youtube.com/watch?v=8PM_tWNfBGY&t=3s https://www.youtube.com/watch?v=3I7yCkSXPos&t=1s https://www.youtube.com/watch?v=7AWwjKbRa_o&t=1s		
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Chemistry Unit 8 – Chemical Analysis

Major focus topic area	BBC Bitesize Websites	Video links	Revision guide page numbers (Combined Science Higher)	GCSE Knowledge Organiser (Foundation)
<p><u>Purity, Formulations and Chromatography</u></p> <p>(Spec reference 5.8.1)</p> <ul style="list-style-type: none"> Pure Substances – Definition, how to identify using melting and boiling points Formulations – Definition, Examples 	<p>Analysing substances (Slides 1-4 only)</p> <p>https://www.bbc.co.uk/bitesize/guides/zp2wrwx/revision/1</p>	<p><u>Cognito</u></p> <p>https://www.youtube.com/watch?v=-OtJI-R-4rU&t=1s</p> <p>https://www.youtube.com/watch?v=TdJ57SQ6GAQ&t=1s</p> <p><u>Free Science</u></p> <p>https://www.youtube.com/watch?v=3oJxWwcnfJY</p> <p>https://www.youtube.com/watch?v=hndJf_5aB9I</p>	153-154	67-68

<ul style="list-style-type: none"> Chromatography – Method, How it works, Using to identify if a substance is pure, Calculating Rf values <p><i>Required Practical 12 – Investigate how paper chromatography can be used to separate and tell the difference between coloured substances</i></p>		<p><i>Required Practical 12 – Chromatography</i></p> <p>https://www.youtube.com/watch?v=P8i4QYncQxl</p>		
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YOU WILL NOT BE ASSESSED ON

- Identification of common gases (Spec ref 5.8.2)

Chemistry Unit 9 – Chemistry of the Atmosphere

Major focus topic area	BBC Bitesize Websites	Video links	Revision guide page numbers (Combined Science Higher)	GCSE Knowledge Organiser (Foundation)
<p><u>The Composition and evolution of the Earth's atmosphere</u> (Spec reference 5.9.1)</p> <ul style="list-style-type: none"> Percentage of each gas in the atmosphere of the Earth today How scientists believe the Earth's atmosphere evolved How oxygen increased and carbon dioxide decreased during the evolution of the Earth's atmosphere 	<p>Developing the Earth's Atmosphere https://www.bbc.co.uk/bitesize/guides/z9pk3k7/revision/1</p>	<p><u>Cognito</u> https://www.youtube.com/watch?v=l0h_-3M0Pso</p> <p><u>Free Science</u> https://www.youtube.com/watch?v=t1Z3GINldLA&t=37s</p> <p>https://www.youtube.com/watch?v=14XIKuOZ2Yw&t=132s</p>	<p>157</p>	<p>69</p>

Chemistry Unit 10 – Using Resources

Major focus topic area	BBC Bitesize Websites	Video links	Revision guide page numbers (Combined Science Higher)	GCSE Knowledge Organiser (Foundation)
<p><u>Using the Earth's resources and obtaining potable water</u></p> <p>(Spec reference 5.10.1)</p> <ul style="list-style-type: none"> • Sustainable development – Finite, Renewable, Natural, Synthetic • Process of obtaining potable water • Process of treating waste water • Alternative methods of extracting metals – Phytomining, Bioleaching 	<p>Sustainable Development https://www.bbc.co.uk/bitesize/guides/zswfxfr/revision/1</p> <p>Water https://www.bbc.co.uk/bitesize/guides/zg6cfcw/revision/1</p> <p>Ways of Reducing the use of Resources (Slide 3) https://www.bbc.co.uk/bitesize/guides/zwvq4qt/revision/3</p>	<p>Cognito https://www.youtube.com/watch?v=PDeiRIQvWnM</p> <p>https://www.youtube.com/watch?v=jLaeBykDwaM&t=9s</p> <p>Free Science https://www.youtube.com/watch?v=1UQnUQR0tTo&t=1s</p> <p>https://www.youtube.com/watch?v=-XczTGavTZU</p> <p>https://www.youtube.com/watch?v=n7pYRQs20bl&t=1s</p> <p>https://www.youtube.com/watch?v=b5RVPauf4oM&t=1s</p>	<p>161-162, 164-165</p>	<p>Top 72, 73-75</p>

