

Revision Olympics



GCSE Science

Revision Guide December 2024–May 2025

Exam Specification and General Support

Exam specification and exam board	Combined Science: Trilogy AQA - 8464
Past paper questions	Assessment Resources
Useful revision websites	BBC Bitesize SENECA CONTIGO
Exam info	13th May 2025 – Biology Paper 1 19th May 2025 – Chemistry Paper 1 22nd May 2025 – Physics Paper 1 9th June 2025 – Biology Paper 2 13th June 2025 – Chemistry Paper 2 16th June 2025 – Physics Paper 2



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Week	Activity 1	Activity 2																		
<p>1 2.12.24</p>	<p>Biology – Ecology</p> <p>Watch the video on ecological definitions</p> <p>Create flash cards for each definition</p>	<p>Watch the video on the sampling required practical and write out your method to sample a school field to determine the population cover of daisies</p> <p>Try some of the questions from the practice questions</p> <p>Mark scheme</p>																		
<p>2 9.12.24</p>	<p>Chemistry – Rates</p> <p>Write out definitions for each of the following key words</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Rate of Reaction</td> <td style="width: 50%;">Reversible Reaction</td> </tr> <tr> <td>Activation Energy</td> <td>Equilibrium</td> </tr> <tr> <td>Collision Theory</td> <td>Dynamic Equilibrium</td> </tr> <tr> <td>Reactants</td> <td>Le Chatelier’s Principle</td> </tr> <tr> <td>Products</td> <td>Rate Equation</td> </tr> <tr> <td>Concentration</td> <td>Pressure (for gases)</td> </tr> <tr> <td>Temperature</td> <td>Collision Frequency</td> </tr> <tr> <td>Surface Area</td> <td>Successful Collisions</td> </tr> <tr> <td>Catalyst</td> <td>Concentration Gradient</td> </tr> </table>	Rate of Reaction	Reversible Reaction	Activation Energy	Equilibrium	Collision Theory	Dynamic Equilibrium	Reactants	Le Chatelier’s Principle	Products	Rate Equation	Concentration	Pressure (for gases)	Temperature	Collision Frequency	Surface Area	Successful Collisions	Catalyst	Concentration Gradient	<p>Watch the video on rates of reaction (up to six to watch)</p> <p>Try some of the questions from the practice questions</p> <p>Mark Scheme</p>
Rate of Reaction	Reversible Reaction																			
Activation Energy	Equilibrium																			
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Reactants	Le Chatelier’s Principle																			
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<p>3 6.12.24</p>	<p>Physics – Forces</p> <p>Watch the video and produce a summary sheet of the forces content</p>	<p>Try some of the questions from the practice questions using the link below</p> <p>Higher Tier Foundation Tier</p> <p>Mark Scheme</p> <p>Higher Foundation</p>																		



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XMAS BREAK	<p>Biology – Cell biology</p> <p>Watch the video as a starting point and then make key word flash cards for the key words below:</p> <table border="0"> <tr> <td>Cell Membrane</td> <td>Stem Cell</td> </tr> <tr> <td>Nucleus</td> <td>Mitosis</td> </tr> <tr> <td>Cytoplasm</td> <td>Chromosome</td> </tr> <tr> <td>Mitochondria</td> <td>DNA</td> </tr> <tr> <td>Ribosome</td> <td>Gene</td> </tr> <tr> <td>Chloroplast</td> <td>Diffusion</td> </tr> <tr> <td>Vacuole</td> <td>Osmosis</td> </tr> <tr> <td>Cell Wall</td> <td>Active Transport</td> </tr> <tr> <td>Plasma Membrane</td> <td>Chlorophyll</td> </tr> <tr> <td>Prokaryote</td> <td>Resolution</td> </tr> <tr> <td>Eukaryote</td> <td>Magnification</td> </tr> </table>	Cell Membrane	Stem Cell	Nucleus	Mitosis	Cytoplasm	Chromosome	Mitochondria	DNA	Ribosome	Gene	Chloroplast	Diffusion	Vacuole	Osmosis	Cell Wall	Active Transport	Plasma Membrane	Chlorophyll	Prokaryote	Resolution	Eukaryote	Magnification	<p>Watch the following two videos on the required practicals and write out a bullet point method for each.</p> <p>Microscopy</p> <p>Osmosis</p> <p>For the osmosis practical what other food could they use to replace the potato?</p> <p>Try some of the questions on transport in cells from the practice questions</p> <p>Mark Scheme</p>
Cell Membrane	Stem Cell																							
Nucleus	Mitosis																							
Cytoplasm	Chromosome																							
Mitochondria	DNA																							
Ribosome	Gene																							
Chloroplast	Diffusion																							
Vacuole	Osmosis																							
Cell Wall	Active Transport																							
Plasma Membrane	Chlorophyll																							
Prokaryote	Resolution																							
Eukaryote	Magnification																							
4 6.01.25	<p>Chemistry – Periodic Table</p> <p>Watch the video on the periodic table and try the following practice questions</p> <p>Questions</p> <p>Mark Scheme</p>	<p>Use the link to help you make a mind map on atomic structure and the development of the atomic model</p> <p>Once you have revised this topic try some of the questions from the practice questions</p> <p>Mark Scheme</p>																						
5 13.01.25	<p>Physics – Energy</p> <p>Use the revision notes to make flash cards on energy topic. Each flash card could have a question or a definition</p>	<p>Try some of the questions from the practice questions using the link below</p> <p>Higher tier</p> <p>Foundation tier</p> <p>Mark Scheme</p> <p>Higher</p> <p>Foundation</p>																						



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6 20.01.25	Biology – Homeostasis Watch the video as a starting point and then make key word flash cards for the key words below: <table border="0"> <tr> <td>Homeostasis</td> <td>Type 2 Diabetes</td> </tr> <tr> <td>Negative Feedback</td> <td>Dialysis</td> </tr> <tr> <td>Receptor</td> <td>Endocrine System</td> </tr> <tr> <td>Effector</td> <td>Hormone</td> </tr> <tr> <td>Coordinator</td> <td>Endocrine Glands</td> </tr> <tr> <td>Glucose Regulation</td> <td>Pituitary Gland</td> </tr> <tr> <td>Insulin</td> <td>Thyroid Gland</td> </tr> <tr> <td>Glucagon</td> <td>Adrenal Gland</td> </tr> <tr> <td>Pancreas</td> <td>Fertility</td> </tr> <tr> <td>Glycogen</td> <td>Contraception</td> </tr> <tr> <td>Type 1 Diabetes</td> <td></td> </tr> </table>	Homeostasis	Type 2 Diabetes	Negative Feedback	Dialysis	Receptor	Endocrine System	Effector	Hormone	Coordinator	Endocrine Glands	Glucose Regulation	Pituitary Gland	Insulin	Thyroid Gland	Glucagon	Adrenal Gland	Pancreas	Fertility	Glycogen	Contraception	Type 1 Diabetes		Watch the following two videos on the required practicals and write out a bullet point method for each. Microscopy Osmosis For the osmosis practical what other food could they use to replace the potato? Try some of the questions on transport in cells from the practice questions Mark Scheme
Homeostasis	Type 2 Diabetes																							
Negative Feedback	Dialysis																							
Receptor	Endocrine System																							
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Pancreas	Fertility																							
Glycogen	Contraception																							
Type 1 Diabetes																								
7 27.01.25	Chemistry – Chemical changes Watch the video clip on chemical changes and make a mind map of the key points	Try some of the questions from the practice questions Mark Scheme																						
8 3.02.25	Physics – Waves Watch the video as a starting point and then make key word flash cards for the key words below: <table border="0"> <tr> <td>Wave</td> <td>Sound waves</td> </tr> <tr> <td>Amplitude</td> <td>Radio waves</td> </tr> <tr> <td>Wavelength</td> <td>Microwaves</td> </tr> <tr> <td>Frequency</td> <td>Infrared</td> </tr> <tr> <td>Transverse wave</td> <td>Visible light</td> </tr> <tr> <td>Longitudinal wave</td> <td>Ultraviolet</td> </tr> <tr> <td>Reflection</td> <td>X-rays</td> </tr> <tr> <td>Refraction</td> <td>Gamma rays</td> </tr> <tr> <td>Electromagnetic waves</td> <td></td> </tr> </table>	Wave	Sound waves	Amplitude	Radio waves	Wavelength	Microwaves	Frequency	Infrared	Transverse wave	Visible light	Longitudinal wave	Ultraviolet	Reflection	X-rays	Refraction	Gamma rays	Electromagnetic waves		Try some of the questions from the practice questions using the link below Higher Foundation Mark Scheme Higher Foundation				
Wave	Sound waves																							
Amplitude	Radio waves																							
Wavelength	Microwaves																							
Frequency	Infrared																							
Transverse wave	Visible light																							
Longitudinal wave	Ultraviolet																							
Reflection	X-rays																							
Refraction	Gamma rays																							
Electromagnetic waves																								
9 10.02.25	Biology – Organisation Watch the video on the topic of organisation and make notes on key topics – digestion, heart and circulatory system, respiratory system and plant organisation	Try some of the questions from the practice questions Mark Scheme																						



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HALF TERM	<p>Chemistry - Bonding</p> <p>For each key word below write out a definition with an example</p> <table border="0"> <tr> <td>Atom</td> <td>Delocalised Electrons</td> </tr> <tr> <td>Ion</td> <td>Giant Covalent Structure</td> </tr> <tr> <td>Ionic Bond</td> <td>Simple Molecular Structure</td> </tr> <tr> <td>Covalent Bond</td> <td>Intermolecular Forces</td> </tr> <tr> <td>Metallic Bond</td> <td>Dot-and-Cross Diagram</td> </tr> <tr> <td>Electron</td> <td></td> </tr> <tr> <td>Lattice Structure</td> <td></td> </tr> <tr> <td>Electrostatic Attraction</td> <td></td> </tr> </table> <p>Check understanding by completing the quiz</p>	Atom	Delocalised Electrons	Ion	Giant Covalent Structure	Ionic Bond	Simple Molecular Structure	Covalent Bond	Intermolecular Forces	Metallic Bond	Dot-and-Cross Diagram	Electron		Lattice Structure		Electrostatic Attraction		<p>Try some of the questions from the practice questions</p> <p>Mark Scheme</p>
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Lattice Structure																		
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10 24.02.25	<p>Mocks Weeks</p>																	
11 3.03.25																		
12 10.03.25	<p>Physics – Electricity</p> <p>Draw diagrams of series and parallel circuits to include a bulb and variable resistor. Describe how you would measure the current and potential difference in both circuits and what you would expect to see.</p> <p>Write out a method to include the independent, dependant and control variables to show how resistance changes in different thicknesses of copper wire.</p>	<p>Try some of the questions from the practice questions</p> <p>Mark Scheme</p>																
13 17.03.25	<p>Biology – Infection and response</p> <p>Make a revision clock and dump all you can retrieve about the following topics: Communicable diseases, human defence mechanisms, vaccinations, antibiotics and pain killers and finally discover and development of drugs. You should spend 15 minutes on each section. Then using your class notes or revision guide check where there are gaps in your knowledge and spend time focusing on those areas, either making a mind map or answering exam questions.</p>	<p>Try some of the questions from the practice questions</p> <p>Mark Scheme</p>																

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<p>14 24.03.25</p>	<p>Chemistry – Organic</p> <p>Read through the following bitesize revision pages and then answer the following questions</p> <ol style="list-style-type: none"> 1. What is a hydrocarbon? 2. Why is crude oil and important resource? Give some examples of its uses 3. What is the general formula for an alkane? 4. Draw the structural formula for ethane and butane 5. Describe how crude oil is separated into its different fractions. 	<p>Try some of the questions from the practice questions</p> <p>Mark Scheme</p>																		
<p>15 31.03.25</p>	<p>Physics – Particle model of matter</p> <p>Write out definitions for the following key terms</p> <table border="0"> <tr> <td>Density</td> <td>Boiling</td> </tr> <tr> <td>Solid including a particle diagram</td> <td>Evaporation</td> </tr> <tr> <td>Liquid including a particle diagram</td> <td>Condense</td> </tr> <tr> <td>Gas including a particle diagram</td> <td>Sublimation</td> </tr> <tr> <td>Melting</td> <td>Physical change</td> </tr> <tr> <td>Freezing</td> <td>Chemical change</td> </tr> <tr> <td></td> <td>Internal energy</td> </tr> <tr> <td></td> <td>Specific heat capacity</td> </tr> <tr> <td></td> <td>Specific latent heat</td> </tr> </table>	Density	Boiling	Solid including a particle diagram	Evaporation	Liquid including a particle diagram	Condense	Gas including a particle diagram	Sublimation	Melting	Physical change	Freezing	Chemical change		Internal energy		Specific heat capacity		Specific latent heat	<p>Try some of the questions from the practice questions</p> <p>Mark Scheme</p>
Density	Boiling																			
Solid including a particle diagram	Evaporation																			
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	Internal energy																			
	Specific heat capacity																			
	Specific latent heat																			
<p>EASTER BREAK (week 1)</p>	<p>Complete the past paper for paper 1 content 2018. You will need to select appropriate tier of entry</p>	<p>Use the link to mark your papers and identify gaps in knowledge.</p> <p>Mark Scheme</p>																		
<p>EASTER BREAK (week 2)</p>	<p>Complete the past paper for paper 2 content 2018. You will need to select appropriate tier of entry</p>	<p>Use the link to mark your papers and identify gaps in knowledge.</p> <p>Mark Scheme</p>																		



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Week	Activity 1	Activity 2
16 21.04.25	<p>Biology - Bioenergetics</p> <p>Produce two revision maps for this topic one on photosynthesis and one on respiration. Your revision map should include the following:</p> <p>Photosynthesis</p> <ul style="list-style-type: none">• Equation• Factors affecting rate of photosynthesis including sketches of graphs for temperature and carbon dioxide concentration• Method for the required practical• Uses of glucose from photosynthesis <p>Respiration</p> <ul style="list-style-type: none">• Aerobic respiration• Anaerobic respiration• Response to exercise• Metabolism	<p>Try some of the questions from the practice questions</p> <p>Mark Scheme</p>
17 28.04.25	<p>Chemistry – Energy changes</p> <p>Watch the video on energy changes and answer the questions below.</p> <ol style="list-style-type: none">1. What is an exothermic reaction? Give an example.2. What is combustion?3. State two other exothermic reactions.4. Sketch and energy profile diagram for an exothermic reaction and add labels to explain what the products have less energy5. Label your energy profile to show the change in energy6. What is an endothermic reaction. Give an example.7. Sketch and energy profile diagram for an endothermic reaction and add labels to explain what the products have more energy than the reactants8. What is the activation energy9. Add labels to your diagrams to show the activation energy for both the exothermic and endothermic reactions	<p>Try some of the questions from the practice questions</p> <p>Mark Scheme</p>



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Week	Activity 1	Activity 2
18 5.05.25	<p>Physics - Radioactivity</p> <p>Watch the following videos on radioactivity</p> <p>https://www.youtube.com/watch?v=F_Y1-JieCrg&list=RDQMaMnFhinz5Bk&start_radio=1</p> <p>https://www.youtube.com/watch?v=teGu0VAPIOo</p> <p>Complete the quiz to check understanding and identify gaps in your knowledge</p>	<p>Try some of the questions from the practice questions using the link below -</p> <p>Higher Tier Foundation</p> <p>Mark Scheme Higher Foundation</p>
19 12.05.25	<p>Chemistry – Chemistry of the atmosphere</p> <p>Watch the video on evolution of the Earth's atmosphere</p> <p>Now complete the quiz and check your understanding</p>	<p>Try some of the questions from the practice questions</p> <p>Mark Scheme</p>
20 19.05.25	<p>Complete the following quizzes</p> <p>https://www.footprints-science.co.uk/index.php?quiz=Significant_figures</p> <p>https://www.footprints-science.co.uk/index.php?quiz=Standard_form</p>	<p>Complete the following quizzes</p> <p>https://www.footprints-science.co.uk/index.php?quiz=Independent_and_dependent_variables</p> <p>https://www.footprints-science.co.uk/index.php?quiz=Variables_and_values</p>