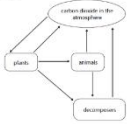
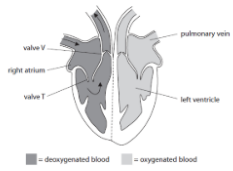


Year 11 Science - Revision Plan PPE Feb

Below are some suggestions for revision that you can complete over the next six weeks – Please also make sure you are using the topic lists to ensure that you have covered everything needed for your exams. Any questions please speak to your science teacher. You also have Educake quizzes that you can use to support your revision.

Week	Topic Area	Video Link	Activity	Exam question: EXTENSION
1	Biology – Natural cycles (carbon, water and nitrogen)	GCSE Biology - What is the Carbon Cycle? What is the Water Cycle? Cycles Explained #88 Yellow – Higher paper	Draw and label the carbon cycle and water cycle on flash cards. Use the technique of look, cover, say, check to learn each cycle off by heart.	 <p>Figure 1</p> <p>(1) Name the process that transfers carbon from plants to animals. (1)</p> <p>(2) Name the process that transfers carbon from plants to the atmosphere. (1)</p> <p>Plants use carbon dioxide from the atmosphere for _____.</p> <p>Animals release carbon dioxide into the atmosphere.</p> <p>(3) Which of these is not a decomposer? (1)</p> <p><input type="checkbox"/> A. mould <input type="checkbox"/> B. yeast <input type="checkbox"/> C. mushrooms <input type="checkbox"/> D. fox</p>
1	Chemistry: Groups of the periodic table	Development of the Periodic Table Lesson GCSE Chemistry Edexcel Higher Triple Cognito https://cognitoedu.org/coursestopic/c2-gcse-edexcel-h-t_1.1 Group 7 & Group 0 (Halogens & Noble Gases) Lesson GCSE Chemistry Edexcel Higher Triple Cognito	Produce flash cards of each group with their properties. Include reactivity and electronic structure.	Magnesium has an electronic configuration of 2.8.2. Oxygen has an electronic configuration of 2.6. Explain, in terms of their electronic configurations, how magnesium and oxygen atoms react to form the ionic compound magnesium oxide, MgO, and include a description of the structure of solid magnesium oxide.
1	Physics Forces and their effects	GCSE Physics - Contact and Non-Contact Forces #40 GCSE Physics - Resultant Forces & Free Body Diagrams #42 HIGHER	Draw force diagrams of the 3 non-contact forces: gravity, static, magnetic force	8.1 Energy Changes.pdf 8.2 Power.pdf

WEEK 2

<p>2</p>	<p>Biology The heart, blood and circulatory system</p>	<p>GCSE Biology - The Heart #23 GCSE Biology - What Is Blood Made of? / What Does Blood Do? #25</p>	<p>Draw a flow diagram for the journey of blood, starting with the vena cava.</p>	<p>Answer the question with a cross in the box you think is correct. If you change your mind about an answer, put a line through the box. And then mark your new answer with a cross.</p> <p>Figure 1 shows a diagram of the heart.</p>  <p>Figure 1</p> <p>(i) Draw arrows on Figure 1 to show how oxygenated blood flows through the heart. (2)</p> <p>(ii) What happens when the right ventricle contracts? (1)</p> <p><input type="checkbox"/> A valve T opens <input type="checkbox"/> A valve T closes <input type="checkbox"/> Blood is forced into the left atrium <input type="checkbox"/> Blood is forced into the pulmonary vein</p> <p>(iii) Draw two straight lines from each structure to its function. (2)</p> <table border="0"> <thead> <tr> <th>structure</th> <th>function</th> </tr> </thead> <tbody> <tr> <td>pulmonary vein →</td> <td>carries deoxygenated blood</td> </tr> <tr> <td></td> <td>forces blood towards body organs</td> </tr> <tr> <td></td> <td>carries blood from the lungs to the heart</td> </tr> <tr> <td>left ventricle →</td> <td>takes blood to the right side of the heart</td> </tr> <tr> <td></td> <td>forces blood towards the lungs</td> </tr> </tbody> </table> <p>(Total for question = 4 marks)</p>	structure	function	pulmonary vein →	carries deoxygenated blood		forces blood towards body organs		carries blood from the lungs to the heart	left ventricle →	takes blood to the right side of the heart		forces blood towards the lungs
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<p>2</p>	<p>Chemistry: Rates</p>	<p>Rates of Reaction Lesson GCSE Chemistry Edexcel Higher Triple Cognito Factors Affecting Rates of Reaction & Collision Theory Lesson GCSE Chemistry Edexcel Higher Triple Cognito Measuring Rates of Reaction from a Graph Lesson GCSE Chemistry Edexcel Higher Triple Cognito Rates Of Reaction - GCSE Science Required Practical</p>	<p>Mind map rates of reaction and factors affecting these. Can you link to practicals we have done. Include the variables.</p> <ul style="list-style-type: none"> • Magnesium and Hydrochloric acid • Sodium thiosulphate and hydrochloric acid 	<p>Describe how you could use marble chips and hydrochloric acid to find out how changing the size of the marble chips affects the rate of reaction (6)</p>												
<p>2</p>	<p>Physics Electricity: current, p.d. and charge</p>	<p>GCSE Physics - Series Circuits #17 GCSE Physics - Charge, Current & Time #16 GCSE Physics - V = IR Equation & Current/Potential Difference Graphs #15</p>	<p>Draw a series and a parallel circuit containing a cell and 2 bulbs each. Compare the brightness, current, p.d. and resistance in each circuit.</p>	<p>10.1 Current and Circuit Components, Series and Parallel Circuits, and Resistance.pdf</p>												

Week 3

3	Biology Blood cells adaptations and functions	Blood - Cellular respiration and transport - Edexcel - GCSE Combined Science Revision - Edexcel - BBC Bitesize	<p>Draw a mind map of the different specialised blood cells and use the look cover say check technique to learn them.</p>	<p>(ii) Explain how the shape of a red blood cell is related to its function. (3)</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
3	Chemistry: Fuels	Fractional Distillation Lesson GCSE Chemistry Edexcel Higher Combined Cognito Hydrocarbons Lesson GCSE Chemistry Edexcel Higher Combined Cognito	<ul style="list-style-type: none"> • Can you draw the Fractional distillation tower and label long chains, short chains, flammable, viscosity. • Write the chemical formulae for alkanes and alkenes. 	<p>* Useful products can be obtained by the fractional distillation of crude oil. The diagram shows a fractional distillation column and the fractions obtained.</p> <p>The petrol fraction is obtained from near the top of the column. The bitumen fraction is obtained from the bottom of the column.</p> <p>Explain how the petrol and bitumen fractions differ in their properties and uses.</p>
3	Physics Electricity: resistance, power and safety	GCSE Physics - V = IR Equation & Current/Potential Difference Graphs #15 GCSE Physics - Power and Work Done #7	<p>Identify the calculations containing power, resistance, charge, potential difference</p>	10.2 Energy and Mains Electricity - Edexcel Physics GCSE

Week 4

<p align="center">4</p>	<p align="center">Biology Hormones</p>	<p align="center">Endocrine system GCSE Biology - Endocrine System & Hormones #59</p> <p align="center">Fertility hormones</p> <p> GCSE Biology - What is IVF? How Does IVF Work and What Are The Risks? IVF Explained #62 Hormone technology to treat infertility - Higher - Hormones in human reproduction - Edexcel - GCSE Combined Science Revision - Edexcel - BBC Bitesize </p>	<p>Draw and label the endocrine glands. Write advantages of using hormones in fertility treatment.</p>	<p>Hormones are chemicals produced in endocrine glands. Draw one straight line from each hormone to the endocrine gland that produces it.</p> <table border="0" style="width: 100%;"> <tr> <td style="text-align: center; width: 50%;">hormone</td> <td style="text-align: center; width: 50%;">endocrine gland</td> </tr> <tr> <td style="text-align: center;">thyroxine</td> <td style="text-align: center;">thyroid gland</td> </tr> <tr> <td style="text-align: center;">adrenalin</td> <td style="text-align: center;">pituitary gland</td> </tr> <tr> <td></td> <td style="text-align: center;">pancreas</td> </tr> <tr> <td></td> <td style="text-align: center;">adrenal glands</td> </tr> <tr> <td></td> <td style="text-align: center;">ovaries</td> </tr> </table>	hormone	endocrine gland	thyroxine	thyroid gland	adrenalin	pituitary gland		pancreas		adrenal glands		ovaries
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	<p align="center">Chemistry: Earth's atmosphere</p>	<p> Air Pollution Lesson GCSE Chemistry Edexcel Higher Combined Cognito Gases in the Atmosphere Lesson GCSE Chemistry Edexcel Higher Combined Cognito The Evolution of the Atmosphere Lesson GCSE Chemistry Edexcel Higher Combined Cognito her Combined Cognito </p>	<ul style="list-style-type: none"> Draw a timeline about how the atmosphere has changed. 	<p>Complete the sentence by putting a cross (☒) in the box next to your answer.</p> <p>(i) The percentage of carbon dioxide in the Earth's atmosphere today is (1)</p> <p> <input type="checkbox"/> A greater than 5% <input type="checkbox"/> B 4% <input type="checkbox"/> C 3% <input type="checkbox"/> D less than 0.5% </p> <p>(ii) The percentage of carbon dioxide in the Earth's atmosphere today is less than that in the Earth's earliest atmosphere. Explain what has caused the percentage of carbon dioxide to decrease. (2)</p> <p>..... </p> <p>(iii) Carbon dioxide and other gases in the atmosphere help to keep the Earth warm. State how these gases keep the Earth warm. (1)</p>												

4	Physics Electromagnetism and magnetic forces	<p style="text-align: center;">GCSE Physics - Electromagnetism #78</p>		<p style="text-align: center;">12.1 Magnetic Fields and Motor Effect - Edexcel Physics GCSE</p> <p style="text-align: center;">13.1 Electromagnetic Induction and Transformers - Edexcel Physics GCSE</p>
Week 5				
5	Biology Food chains and water treatment	<p style="text-align: center;">GCSE Biology - Food Chains & Predator Prey Cycles #85</p> <p style="text-align: center;">The production of potable water - Natural cycles and decomposition - Edexcel - GCSE Biology (Single Science) Revision - Edexcel - BBC Bitesize</p>	Create a mindmap of basic food chains and the effects of predator prey cycles.	
	Chemistry: Ionic bonding	<p style="text-align: center;">GCSE Chemistry - What is Ionic Bonding? How Does Ionic Bonding Work? Ionic Bonds Explained #14</p>	Draw a mind map to show ionic bonding. Give examples of how the transfer of electrons work	<p>Magnesium has an electronic configuration of 2.8.2.</p> <p>Oxygen has an electronic configuration of 2.6.</p> <p>Explain, in terms of their electronic configurations, how magnesium and oxygen atoms react to form the ionic compound magnesium oxide, MgO, and include a description of the structure of solid magnesium oxide.</p> <p style="text-align: right;">(6 marks)</p>
5	Physics Density and states of matter; specific latent heat, specific heat capacity	<p style="text-align: center;">GCSE Physics - Density #27 GCSE Physics - Specific Latent Heat #29 GCSE Physics - Internal Energy and Specific Heat Capacity #28</p>		14.1 Heating Matter - Edexcel Physics GCSE
Week 6				
6	Biology Sampling method	<p style="text-align: center;">Quadrats and Sampling Required Practical - GCSE Biology kayscience.com</p>	Write out clear bullet points for the method for collecting population size. Use love cook write check to learn those bulletpoints.	
	Chemistry: Calculations	<p style="text-align: center;">GCSE Chemistry - Relative Formula Mass #24</p>	Practice calculations in your workbook and in these pdfs:	1.6 Calculations involving masses.pdf

6	Physics investigating springs.	GCSE Physics - Elasticity, spring constant, and Hooke's Law #44		15.1 Stretching, Compression and Fluids - Edexcel Physics GCSE
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TRIPLE Biology

All the above, plus:

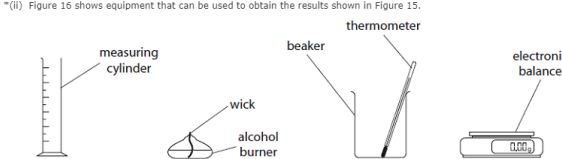
Plant structure & functions – Inc Photosynthesis	GCSE Biology - Factors Affecting the Rate of Photosynthesis #49 Plant Hormones - Tropisms & Auxins #52 GCSE Biology - Transport in plants - Translocation (Phloem) and Transpiration (Xylem) #51	Create mind-maps and /or flashcards: Detailed Notes - Topic 6 Plant Structures and their Functions - Edexcel Biology GCSE.pdf	Complete the past paper exam questions: Leaf Structure & Adaptations.pdf Photosynthesis.pdf Plant Hormones.pdf Transport in Plants.pdf
Animal coordination – Hormones & Menstrual cycle	GCSE Biology - Endocrine System & Hormones #59 GCSE Biology - The Menstrual Cycle & Puberty #60 GCSE Biology - Contraception #61 GCSE Biology - What is IVF? How Does IVF Work and What Are The Risks? IVF Explained #62 GCSE Biology - Homeostasis #54	Create mind-maps on the topic: Detailed Notes - Topic 7 Animal Coordination, Control and Homeostasis - Edexcel Biology GCSE.pdf	Complete the past paper exam questions: Homeostasis.pdf Hormonal Control.pdf Menstrual Cycle and Fertility.pdf

<p>Blood glucose & Diabetes</p>	<p>GCSE Biology - Control of Blood Glucose Concentration #56 - YouTube</p> <p>GCSE Biology - Type 1 vs Type 2 Diabetes - What is Diabetes and How to Treat It #57</p> <p>GCSE Biology - How We Control Our Body Temperature #55</p> <p>Biology - How the Kidneys Work - (Kidneys Part 1/3) #27</p>	<p>Create flashcards :of key definitions:</p> <p>Definitions - Topic 7 Animal Coordination, Control and Homeostasis - Edexcel Biology GCSE.pdf</p>	<p>Complete practice questions:</p> <p>Regulating Glucose Quiz GCSE Biology Edexcel Higher Triple Cognito</p> <p>Diabetes Quiz GCSE Biology Edexcel Higher Triple Cognito</p>
<p>Exchange and transport in animals</p>	<p>GCSE Biology - Specialised Exchange Surfaces</p> <p>GCSE Biology - Gas Exchange and Lungs #26 - YouTube</p> <p>What is Diffusion? How Does it Work? What Factors Affect it? #7</p> <p>GCSE Biology - Surface Area to Volume Ratio - YouTube</p>	<p>Create mind-maps and /or flashcards:</p> <p>Definitions.pdf</p> <p>Detailed Notes.pdf</p>	<p>Complete the past paper exam questions:</p> <p>Respiration.pdf</p> <p>The Circulatory System.pdf</p>
<p>Ecosystems</p>	<p>GCSE Biology - What is the Carbon Cycle? What is the Water Cycle? Cycles Explained #88</p> <p>GCSE Biology - Biotic and Abiotic Factors #83</p> <p>GCSE Biology - Food Chains & Predator Prey Cycles #85</p>	<p>Create mind-maps and /or flashcards:</p> <p>Detailed Notes - Topic 9 Ecosystems and Material Cycles - Edexcel Biology GCSE.pdf</p>	<p>Complete the past paper exam questions:</p> <p>Trophic Levels & Ecosystems.pdf</p>

	GCSE Biology - Pyramids of Biomass #87 - YouTube What Is Eutrophication Agriculture Biology FuseSchool - YouTube		
Biodiversity & water / carbon / nitrogen cycles		Create flashcards: Definitions - Topic 9 Ecosystems and Material Cycles - Edexcel Biology GCSE.pdf	Complete the past paper exam questions: Cycles within Ecosystems.pdf Humans & the Environment.pdf

TRIPLE Chem

All the above, plus:

Alcohols and carboxylic acids	GCSE Chemistry - Alcohols #57 GCSE Chemistry - Carboxylic Acids #58	Complete the Cognito quiz pages here: Alcohols Quiz GCSE Chemistry Edexcel Higher Triple Cognito Production of Ethanol Quiz GCSE Chemistry Edexcel Higher Triple Cognito Carboxylic Acids Quiz GCSE Chemistry Edexcel Higher Triple Cognito	<p>This question is about alcohols.</p> <p>A student used an alcohol burner to find the mass of different alcohols needed to raise the temperature of 100 cm³ of water by 20 °C.</p> <p>Figure 15 shows their results.</p> <table border="1"> <thead> <tr> <th>alcohol</th> <th>initial mass of alcohol burner and alcohol in g</th> <th>final mass of alcohol burner and alcohol in g</th> <th>mass of alcohol used in g</th> </tr> </thead> <tbody> <tr> <td>ethanol</td> <td>122.51</td> <td>122.02</td> <td>0.49</td> </tr> <tr> <td>propanol</td> <td>168.55</td> <td>168.13</td> <td>0.42</td> </tr> <tr> <td>butanol</td> <td>152.62</td> <td>152.23</td> <td></td> </tr> <tr> <td>pentanol</td> <td>67.22</td> <td>66.86</td> <td>0.36</td> </tr> </tbody> </table> <p>Figure 15</p> <p>*(ii) Figure 16 shows equipment that can be used to obtain the results shown in Figure 15.</p>  <p>Figure 16</p> <p>Describe an experiment, using the equipment in Figure 16, that could be used to obtain results like those shown in Figure 15.</p> <p>(6)</p>	alcohol	initial mass of alcohol burner and alcohol in g	final mass of alcohol burner and alcohol in g	mass of alcohol used in g	ethanol	122.51	122.02	0.49	propanol	168.55	168.13	0.42	butanol	152.62	152.23		pentanol	67.22	66.86	0.36
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<p>Polymers</p>	<p>GCSE Chemistry - What is a Polymer? Polymers / Monomers / Their Properties Explained #23</p>	<p>Complete the Cognito quiz pages here:</p> <p>Addition Polymers Quiz GCSE Chemistry Edexcel Higher Triple Cognito</p> <p>Condensation Polymers Quiz GCSE Chemistry Edexcel Higher Triple Cognito</p> <p>Naturally Occurring Polymers Quiz GCSE Chemistry Edexcel Higher Triple Cognito</p>	<p>* Polymers are addition or condensation polymers. Polymers can be formed by using the monomers shown in Figure 12.</p> <table border="1" data-bbox="1541 164 1865 528"> <thead> <tr> <th>monomer</th> <th>structure</th> </tr> </thead> <tbody> <tr> <td>chloroethene</td> <td> $\begin{array}{c} \text{H} & & \text{Cl} \\ & \diagdown & / \\ & \text{C}=\text{C} \\ & / & \diagdown \\ \text{H} & & \text{H} \end{array}$ </td> </tr> <tr> <td>ethane-1,2-diol</td> <td> $\begin{array}{c} \text{H} & \text{H} \\ & \\ \text{HO}-\text{C} & -\text{C}-\text{OH} \\ & \\ \text{H} & \text{H} \end{array}$ </td> </tr> <tr> <td>ethanedioic acid</td> <td> $\begin{array}{c} \text{O} & & \text{O} \\ // & & // \\ & \text{C}-\text{C} \\ / & & \backslash \\ \text{HO} & & \text{OH} \end{array}$ </td> </tr> </tbody> </table> <p>Figure 12</p> <p>Explain, using appropriate monomers from Figure 12, how different polymers can be formed.</p> <p style="text-align: right;">(6)</p>	monomer	structure	chloroethene	$\begin{array}{c} \text{H} & & \text{Cl} \\ & \diagdown & / \\ & \text{C}=\text{C} \\ & / & \diagdown \\ \text{H} & & \text{H} \end{array}$	ethane-1,2-diol	$\begin{array}{c} \text{H} & \text{H} \\ & \\ \text{HO}-\text{C} & -\text{C}-\text{OH} \\ & \\ \text{H} & \text{H} \end{array}$	ethanedioic acid	$\begin{array}{c} \text{O} & & \text{O} \\ // & & // \\ & \text{C}-\text{C} \\ / & & \backslash \\ \text{HO} & & \text{OH} \end{array}$
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ethanedioic acid	$\begin{array}{c} \text{O} & & \text{O} \\ // & & // \\ & \text{C}-\text{C} \\ / & & \backslash \\ \text{HO} & & \text{OH} \end{array}$										
<p>Testing ions</p>	<p>GCSE Chemistry - Tests for Anions - Carbonate, Sulfate and Halide Ions #65</p> <p>Testing For Positive Ions - Part 1 Chemical Tests Chemistry FuseSchool</p>	<p>Complete the Cognito quiz pages here:</p> <p>Tests for Cations Quiz GCSE Chemistry Edexcel Higher Triple Cognito</p> <p>Tests for Anions Quiz GCSE Chemistry Edexcel Higher Triple Cognito</p>	<p>A student carried out a flame test on a sample of solid potassium chloride. The student followed this method.</p> <p>step 1 dip a dry wooden splint into water</p> <p>step 2 then dip the wooden splint into the sample of potassium chloride</p> <p>step 3 hold the wooden splint in a roaring Bunsen burner flame</p> <p>step 4 observe the colour seen in the flame.</p> <p>(i) The student made the following observation and conclusion.</p> <p><i>'I saw that the flame colour was yellow so the sample must contain sodium ions.'</i></p> <p>Due to the way the student carried out the experiment, this is not a valid conclusion. Explain one improvement that the student could make to their method to obtain a valid conclusion.</p> <p>improvement</p> <p>.....</p> <p>.....</p> <p>reason</p> <p>.....</p> <p>.....</p> <p style="text-align: right;">(2)</p>								

Bulk and surface properties	GCSE Chemistry - Nanoparticles #22 GCSE Chemistry Revision "Ceramics and Composites" (Triple)	Complete the Cognito quiz pages here: Ceramics, Composites & Polymers Quiz GCSE Chemistry Edexcel Higher Triple Cognito Nanoparticles Quiz GCSE Chemistry Edexcel Higher Triple Cognito	Nanoparticles are found in some sunscreens. (i) An atom has a radius of about 0.1 nm. A nanoparticle might have a radius of about (1) <input type="checkbox"/> A 0.01 nm <input type="checkbox"/> B 0.1 nm <input type="checkbox"/> C 50 nm <input type="checkbox"/> D 1 cm (ii) A useful property of nanoparticles in sunscreens is that they (1) <input type="checkbox"/> A have a low surface area to volume ratio <input type="checkbox"/> B are toxic <input type="checkbox"/> C are white <input type="checkbox"/> D prevent harmful UV radiation reaching the skin (iii) A nanoparticle has a surface area of 38 400 nm ² and a volume of 51 200 nm ³ . Calculate the surface area to volume ratio. (2) surface area to volume ratio = 100 :
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TRIPLE Physics

All the above, plus:

Static electricity	GCSE Physics - Static Electricity #24		11.1 Static Electricity - Edexcel Physics GCSE
Upthrust	https://youtu.be/9Gw0rLXn6ec?si=nDlyv6p_UBvjsEuy		
Rotational Forces	https://youtu.be/kk6T0m9wmnU?si=zF-jQ_DLtKVtUrPH		9.2 Moments - Edexcel Physics GCSE

Gas pressure and volume	https://youtu.be/9PwzPDJ7GYc?si=wnMcW6ACW_5JY-pO		
Pressure in fluids	https://youtu.be/9Gw0rIXn6ec?si=UspqL_nPhh4mJea9		