

**SUBJECT: GCSE SEPARATE SCIENCE HIGHER.****EXAM BOARD: AQA****Specifications**Biology - <https://filestore.aqa.org.uk/resources/biology/specifications/AQA-8461-SP-2016.PDF>Chemistry - <https://filestore.aqa.org.uk/resources/chemistry/specifications/AQA-8462-SP-2016.PDF>Physics - <https://filestore.aqa.org.uk/resources/physics/specifications/AQA-8463-SP-2016.PDF>Exam Dates - [https://filestore.aqa.org.uk/admin/t\\_table\\_pdf/AQA-TT-GCSE-JUN22-CONFIRMED.PDF](https://filestore.aqa.org.uk/admin/t_table_pdf/AQA-TT-GCSE-JUN22-CONFIRMED.PDF)

Week	Focus	Key Knowledge	Revision Guide	Web Links
<b>21/2/22 Paper 1</b>	4.1.1 Cell Structure  <b>BIOLOGY</b>	Difference between prokaryotic and eukaryotic cells Comparison of plant cells and animal cells Function of organelles differentiation and specialised plant cells and animal cells	<b>Revise - Pages 8-9</b>  <b>Practise - Page 26</b>  <b>Review - Page 56</b>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/z84jtv4/revision/1">https://www.bbc.co.uk/bitesize/guides/z84jtv4/revision/1</a></li> <li>• <a href="#">Prokaryotic and eukaryotic cells</a></li> <li>• <a href="#">Animal cells</a></li> <li>• <a href="#">Plant cells</a></li> </ul>
	4.1.2 The Periodic Table  <b>CHEMISTRY</b>	The Periodic Table is arranged in order of proton number -What atoms of elements in the same group have in common -What atoms of elements in the same period have in common -development in the Periodic Table -ions formed from metals and non-metals -trends in physical and chemical properties of group 1,7 and 0 elements - Reactions of group 1 and 7 elements	<b>Revise - Pages 12-13</b>  <b>Practise - Page 25</b>  <b>Review – Page 45</b>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/z3sg2nb/revision/1">https://www.bbc.co.uk/bitesize/guides/z3sg2nb/revision/1</a></li> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zg923k7/revision/1">https://www.bbc.co.uk/bitesize/guides/zg923k7/revision/1</a></li> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zqwtci6/revision/1">https://www.bbc.co.uk/bitesize/guides/zqwtci6/revision/1</a></li> <li>• <a href="https://www.youtube.com/watch?v=IdS9roW7IzM&amp;t=119s">https://www.youtube.com/watch?v=IdS9roW7IzM&amp;t=119s</a></li> <li>• <a href="https://www.youtube.com/watch?v=uwzXfZoCP_k">https://www.youtube.com/watch?v=uwzXfZoCP_k</a></li> <li>• <a href="https://www.youtube.com/watch?v=dZGDUKQa_6g">https://www.youtube.com/watch?v=dZGDUKQa_6g</a></li> <li>• <a href="https://www.youtube.com/watch?v=HT1zAPQIBAQ">https://www.youtube.com/watch?v=HT1zAPQIBAQ</a></li> </ul>
	4.1.1 Energy changes in a system, and the ways energy is stored before and after such changes  <b>PHYSICS</b>	-identifying the energy changes in systems -Calculate, using equations, the amount of energy associated with a moving object, a stretched spring and an object raised above ground level. -Calculate, using an equation, the amount of energy stored in or released from a system as its temperature changes -Calculate Power	<b>Revise - Pages 26-29</b>  <b>Practise - Page 48</b>  <b>Review – Page 72</b>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zskp7p3/revision/1">https://www.bbc.co.uk/bitesize/guides/zskp7p3/revision/1</a></li> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/z8pk3k7/revision/1">https://www.bbc.co.uk/bitesize/guides/z8pk3k7/revision/1</a></li> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zy8g3k7/revision/1">https://www.bbc.co.uk/bitesize/guides/zy8g3k7/revision/1</a></li> <li>• <a href="https://www.youtube.com/watch?v=JGwcDCeYRYo">https://www.youtube.com/watch?v=JGwcDCeYRYo</a></li> <li>• <a href="https://www.youtube.com/watch?v=-zy9eWzmGe4">https://www.youtube.com/watch?v=-zy9eWzmGe4</a></li> <li>• <a href="https://www.youtube.com/watch?v=Qw_9kX9PARc">https://www.youtube.com/watch?v=Qw_9kX9PARc</a></li> <li>• <a href="https://www.youtube.com/watch?v=63OTIdNb-TE">https://www.youtube.com/watch?v=63OTIdNb-TE</a></li> <li>• <a href="https://www.youtube.com/watch?v=EDTODPhaaMY">https://www.youtube.com/watch?v=EDTODPhaaMY</a></li> </ul>

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Paper 2

<p><b>4.5.2</b> The human nervous system</p> <p><b>BIOLOGY</b></p>	<p>Function of the NS Control of body temperature Response to high/ low temperatures</p>	<p><b>Revise - Pages 46-48</b></p> <p><b>Practise - Page 70</b></p> <p><b>Review – Page 100</b></p>	<ul style="list-style-type: none"> <li>• <a href="#">Controlling body temperature.</a></li> <li>• <a href="https://www.youtube.com/watch?v=WoMPARSQPZw">https://www.youtube.com/watch?v=WoMPARSQPZw</a></li> </ul>
<p><b>4.6.1</b> Rate of Reaction</p> <p><b>CHEMISTRY</b></p>	<p>-Calculating the rate of a reaction -Calculate the gradient of a tangent to the curve on these graphs as a measure of rate of reaction at a specific time. -Describe collision theory -Define activation energy -Describe and explain the factors that increase the rate of reaction -Describe and explain the effect of catalysts on rate of reaction</p>	<p><b>Revise - Pages 60-63</b></p> <p><b>Practise - Page 79</b></p> <p><b>Review – Page 99</b></p>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/z3nbqhv/revision/1">https://www.bbc.co.uk/bitesize/guides/z3nbqhv/revision/1</a></li> <li>• <a href="https://www.youtube.com/watch?v=UkrBJ6-uGFA">https://www.youtube.com/watch?v=UkrBJ6-uGFA</a></li> <li>• <a href="https://www.youtube.com/watch?v=GCR5xeduq2o">https://www.youtube.com/watch?v=GCR5xeduq2o</a></li> <li>• <a href="https://www.youtube.com/watch?v=-4HXaUBbv04">https://www.youtube.com/watch?v=-4HXaUBbv04</a></li> <li>• <a href="https://www.youtube.com/watch?v=hel8fQjxcO8">https://www.youtube.com/watch?v=hel8fQjxcO8</a></li> </ul>
<p>4.5.1 Forces and their interactions</p> <p><b>PHYSICS</b></p>	<p>Describe the difference between scalar and vector quantities and give examples -give examples of contact and non-contact forces -Describe the relationship between mass, weight and gravitational field strength -Use an equation to calculate weight -Calculate the resultant of two forces that act in a straight line. -Use vector diagrams to illustrate the resolving of forces e.g. two components acting at right angles to each other -Use free body diagrams to describe qualitatively examples where several forces lead to a resultant force on an object, including balanced forces when the resultant force is zero</p>	<p><b>Revise - Pages 8-9 16-19</b></p> <p><b>Practise - Page 22 24-25</b></p> <p><b>Review – Page 42 45 46 47</b></p>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zpqngdm/revision/1">https://www.bbc.co.uk/bitesize/guides/zpqngdm/revision/1</a></li> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zyxv97h/revision/1">https://www.bbc.co.uk/bitesize/guides/zyxv97h/revision/1</a></li> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zgncity/revision/1">https://www.bbc.co.uk/bitesize/guides/zgncity/revision/1</a></li> <li>• <a href="https://www.youtube.com/watch?v=P1ISWWUkMdQ">https://www.youtube.com/watch?v=P1ISWWUkMdQ</a></li> <li>• <a href="https://www.youtube.com/watch?v=xxK8N23nx9M">https://www.youtube.com/watch?v=xxK8N23nx9M</a></li> <li>• <a href="https://www.youtube.com/watch?v=W2aBVbcHr_k">https://www.youtube.com/watch?v=W2aBVbcHr_k</a></li> <li>• <a href="https://www.youtube.com/watch?v=PL8ATKipoB4">https://www.youtube.com/watch?v=PL8ATKipoB4</a></li> <li>• <a href="#">GCSE Physics - Vector Diagrams and Resultant Forces #43 – YouTube</a></li> <li>• <a href="#">Resolving Forces using Scale Drawings – YouTube</a></li> </ul>

7/3/22  
Paper 1

<p><b>Required practical 1:</b> use of light microscope to observe cells</p> <p><b>BIOLOGY</b></p>	<p>How to prepare slides How to use the microscope to improve field of view, clarify, change magnification Microscopy calculations Unit conversions (mm, micrometres etc)</p>	<p><b>Revise - Pages 10-11</b> <b>Practise - Page 26</b> <b>Review – Page 57</b></p>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/z84jtv4/revision/1">https://www.bbc.co.uk/bitesize/guides/z84jtv4/revision/1</a></li> <li>• <a href="#">Required practical - Use of microscopes</a></li> <li>• <a href="#">Microscopy</a></li> <li>• <a href="#">Orders of magnitude</a></li> </ul>
<p><b>4.2.1</b> Chemical bonds, ionic, covalent and metallic</p> <p><b>CHEMISTRY</b></p>	<p>Describe the process of ionic bonding Describe the process of covalent bonding Describe the process of metallic bonding explain chemical bonding in terms of electrostatic forces and the transfer or sharing of electrons. work out the charge on the ions of metals and non-metals from the group number of the element, limited to the metals in Groups 1 and 2, and non-metals in Groups 6 and 7 Describe the structure of ionic compounds draw dot and cross diagrams for the molecules of hydrogen, chlorine, oxygen, nitrogen, hydrogen chloride, water, ammonia and methane Describe the structure of metals</p>	<p><b>Revise - Pages 16-23 12-13</b> <b>Practise - Page 25-29</b> <b>Review – Page 45-49</b></p>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zyydn8/revision/1">https://www.bbc.co.uk/bitesize/guides/zyydn8/revision/1</a></li> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zcpjfcw/revision/1">https://www.bbc.co.uk/bitesize/guides/zcpjfcw/revision/1</a></li> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/z8db7p3/revision/1">https://www.bbc.co.uk/bitesize/guides/z8db7p3/revision/1</a></li> <li>• <a href="https://www.youtube.com/watch?v=6DtrrWA5nkE">https://www.youtube.com/watch?v=6DtrrWA5nkE</a></li> <li>• <a href="https://www.youtube.com/watch?v=lenvZEcMc60">https://www.youtube.com/watch?v=lenvZEcMc60</a></li> <li>• <a href="https://www.youtube.com/watch?v=lhEm7aAKIDg">https://www.youtube.com/watch?v=lhEm7aAKIDg</a></li> <li>• <a href="https://www.youtube.com/watch?v=5I_1jRGS99E">https://www.youtube.com/watch?v=5I_1jRGS99E</a></li> <li>• <a href="https://www.youtube.com/watch?v=b1y2Q6YX1bQ">https://www.youtube.com/watch?v=b1y2Q6YX1bQ</a></li> <li>• <a href="https://www.youtube.com/watch?v=A-wTpLPICd0&amp;t=13s">https://www.youtube.com/watch?v=A-wTpLPICd0&amp;t=13s</a></li> </ul>
<p><b>4.1.2</b> Conservation and dissipation of energy</p> <p><b>PHYSICS</b></p>	<p>-Describe the law of the conservation of energy -Describe, and give examples of how energy is dissipated, or ‘wasted’ -Explain ways of reducing unwanted energy transfers -Describe thermal conductivity in relation to the rate of energy transfer by conduction, through a material -Calculate the efficiency of a device, process or system</p>	<p><b>Revise - Pages 26-28</b> <b>Practise - Page 48</b> <b>Review – Page 72</b></p>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/z8hsrwx/revision/1">https://www.bbc.co.uk/bitesize/guides/z8hsrwx/revision/1</a></li> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zp8jtv4/revision/1">https://www.bbc.co.uk/bitesize/guides/zp8jtv4/revision/1</a></li> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/z2gjt4/revision/1">https://www.bbc.co.uk/bitesize/guides/z2gjt4/revision/1</a></li> <li>• <a href="https://www.youtube.com/watch?v=H6D_ViW0Ch4">https://www.youtube.com/watch?v=H6D_ViW0Ch4</a></li> <li>• <a href="https://www.youtube.com/watch?v=NI5jaeBrIgQ">https://www.youtube.com/watch?v=NI5jaeBrIgQ</a></li> <li>• <a href="https://www.youtube.com/watch?v=43XCqAN53Sg">https://www.youtube.com/watch?v=43XCqAN53Sg</a></li> <li>• <a href="https://www.youtube.com/watch?v=GTdgl-0KckA">https://www.youtube.com/watch?v=GTdgl-0KckA</a></li> </ul>

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Assessment Week Begins on Friday

<p>21/3/22 Paper 2</p>	<p><b>4.5.3</b> Hormonal control in humans</p>	<p>The endocrine system</p> <ul style="list-style-type: none"> <li>- Function of hormones within the endocrine system</li> <li>- Control of blood glucose</li> <li>- Diabetes</li> <li>- Kidneys and the role of ADH</li> <li>- Adrenaline and thyroxine</li> </ul>	<p><b>Revise - Pages 50-51</b></p> <p><b>Practise - Page 71</b></p> <p><b>Review – Page 101</b></p>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zttqfcw/revision/1">https://www.bbc.co.uk/bitesize/guides/zttqfcw/revision/1</a></li> <li>• <a href="#">Endocrine system</a></li> </ul>	
	<p><b>BIOLOGY</b></p>	<p><b>Required Practical 5:</b> investigate how concentration affects the rates of reaction by a method involving measuring the volume of a gas produced/change in colour</p>	<ul style="list-style-type: none"> <li>-identify independent, dependent and control variables</li> <li>-describe how to measure the dependent variable</li> <li>-analyse results and draw conclusions from graphed data</li> <li>-calculate rate of reaction from data</li> </ul>	<p><b>Revise - Pages 60-63</b></p> <p><b>Practise - Page 79</b></p> <p><b>Review – Page 99</b></p>	<ul style="list-style-type: none"> <li>• <a href="#">Required practical - measure the production of a gas - Rates of reaction - AQA - GCSE Chemistry (Single Science) Revision - AQA - BBC Bitesize</a></li> <li>• <a href="https://www.youtube.com/watch?v=N5p06i9ilmo">https://www.youtube.com/watch?v=N5p06i9ilmo</a></li> <li>• <a href="https://www.youtube.com/watch?v=GI6LVI7oAIU">https://www.youtube.com/watch?v=GI6LVI7oAIU</a></li> </ul>
	<p><b>CHEMISTRY</b></p>	<p><b>4.5.2</b> Work done and energy transfer</p>	<ul style="list-style-type: none"> <li>-Use an equation to calculate the work done to an object</li> <li>-Convert between newton-metres and joules.</li> <li>-Work done against the frictional forces acting on an object causes a rise in the temperature of the object.</li> </ul>	<p><b>Revise – Pages 9- 10</b></p> <p><b>Practise - Page 22</b></p> <p><b>Review – Page 43</b></p>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zgncjty/revision/3">https://www.bbc.co.uk/bitesize/guides/zgncjty/revision/3</a></li> <li>• <a href="https://www.youtube.com/watch?v=JHEmpZ-YnrU">https://www.youtube.com/watch?v=JHEmpZ-YnrU</a></li> </ul>
<p><b>PHYSICS</b></p>					

28/3/22  
Paper 1

<p><b>4.1.3</b> Transport in cells</p> <p><b>BIOLOGY</b></p>	<p>Diffusion Factors affecting the rate of diffusion Osmosis Active transport</p>	<p><b>Revise - Pages 14-15</b></p> <p><b>Practise - Page 28</b></p> <p><b>Review – Page 59</b></p>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zs63tv4/revision/4">https://www.bbc.co.uk/bitesize/guides/zs63tv4/revision/4</a></li> <li>• <a href="#">Osmosis</a></li> <li>• <a href="#">Diffusion</a></li> <li>• <a href="#">Active transport</a></li> </ul>
<p><b>4.2.2</b> How bonding and structure are related to the properties of a substance</p> <p><b>CHEMISTRY</b></p>	<p>-interpreting melting and boiling point data to determine state at a certain temp -link energy needed to change state to strength of forces between particles -state symbols -describe &amp; explain properties of ionic compounds -describe &amp; explain properties of simple covalent molecules -describe &amp; explain properties of polymers -describe &amp; explain properties of metals and alloys</p>	<p><b>Revise - Pages 14-23</b></p> <p><b>Practise - Page 26-29</b></p> <p><b>Review – Page 46-49</b></p>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zyydn8/revision/1">https://www.bbc.co.uk/bitesize/guides/zyydn8/revision/1</a></li> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zcpjfcw/revision/1">https://www.bbc.co.uk/bitesize/guides/zcpjfcw/revision/1</a></li> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/z9twsrd/revision/1">https://www.bbc.co.uk/bitesize/guides/z9twsrd/revision/1</a></li> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/z8db7p3/revision/1">https://www.bbc.co.uk/bitesize/guides/z8db7p3/revision/1</a></li> <li>• <a href="https://www.youtube.com/watch?v=leVxy7cjZMU">https://www.youtube.com/watch?v=leVxy7cjZMU</a></li> <li>• <a href="https://www.youtube.com/watch?v=DECGNyC-x_s">https://www.youtube.com/watch?v=DECGNyC-x_s</a></li> <li>• <a href="https://www.youtube.com/watch?v=EP0zfm_FVqc">https://www.youtube.com/watch?v=EP0zfm_FVqc</a></li> <li>• <a href="https://www.youtube.com/watch?v=A-wTpLPICd0">https://www.youtube.com/watch?v=A-wTpLPICd0</a></li> </ul>
<p><b>Required Practical 2:</b> investigate the effectiveness of different materials as thermal insulators and the factors that may affect the thermal insulation properties of a material</p> <p><b>PHYSICS</b></p>	<p>-Identify dependent, independent and control variables -How to measure the dependent variable -Analysing results -Plotting graphs -Drawing conclusions from data</p>	<p><b>Revise - Pages 28</b></p> <p><b>Practise - Page 48</b></p> <p><b>Review – Page 72</b></p>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/z2gjt4/revision/3">https://www.bbc.co.uk/bitesize/guides/z2gjt4/revision/3</a></li> <li>• <a href="https://www.youtube.com/watch?v=ILH45loyPUA&amp;t=2s">https://www.youtube.com/watch?v=ILH45loyPUA&amp;t=2s</a></li> <li>• <a href="https://www.youtube.com/watch?v=MUy1o4ogCvw">https://www.youtube.com/watch?v=MUy1o4ogCvw</a></li> </ul>

4/4/22  
Paper 2

<p><b>4.5.4</b> Plant hormones</p> <p><b>BIOLOGY</b></p>	<p>Site of auxin production Role of auxin in producing phototropism / gravitropism</p>	<p><b>Revise - Pages 54-55</b> <b>Practise - Page 73</b> <b>Review – Page 103</b></p>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zc6cqhv/revision/1">https://www.bbc.co.uk/bitesize/guides/zc6cqhv/revision/1</a></li> <li>• <a href="https://www.youtube.com/watch?v=_Bf5WKEMB5o">https://www.youtube.com/watch?v=_Bf5WKEMB5o</a></li> </ul>
<p><b>4.6.2</b> Reversible reactions and dynamic equilibrium</p> <p><b>CHEMISTRY</b></p>	<p>-Identify and give examples of reversible reactions -Apply the conservation of energy to reversible reactions -Define dynamic equilibrium -Describe Le Chatelier’s principle -Describe and explain the effect of changing the following conditions on equilibrium; concentration, temperature, pressure</p>	<p><b>Revise - Pages 62-63</b> <b>Practise - Page 79</b> <b>Review – Page 99</b></p>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/zyhvw6f/revision/1">https://www.bbc.co.uk/bitesize/guides/zyhvw6f/revision/1</a></li> <li>• <a href="https://www.youtube.com/watch?v=66qcNNJFy6E">https://www.youtube.com/watch?v=66qcNNJFy6E</a></li> <li>• <a href="#">GCSE Science Revision Chemistry "Concentration and Reversible Reactions" – YouTube</a></li> <li>• <a href="#">GCSE Science Revision Chemistry "Pressure and Reversible Reactions" – YouTube</a></li> <li>• <a href="#">GCSE Science Revision Chemistry "Temperature and reversible reactions" – YouTube</a></li> <li>• <a href="#">GCSE Chemistry - Le Chatelier's Principle #42 (Higher Tier) – YouTube</a></li> </ul>
<p><b>4.5.3</b> Forces and elasticity</p> <p><b>PHYSICS</b></p>	<p>-Use an equation to calculate the pressure at the surface of a fluid -Use an equation to calculate the pressure due to a column of liquid -calculate the differences in pressure at different depths in a liquid. -Describe the factors which influence floating and sinking.</p>	<p><b>Revise - Pages 12-13</b> <b>Practise - Page 23</b> <b>Review – Page 43</b></p>	<ul style="list-style-type: none"> <li>• <a href="https://www.bbc.co.uk/bitesize/guides/z93dxfr/revision/1">https://www.bbc.co.uk/bitesize/guides/z93dxfr/revision/1</a></li> <li>• <a href="https://www.youtube.com/watch?v=P08-lYPy1hI">https://www.youtube.com/watch?v=P08-lYPy1hI</a></li> <li>• <a href="https://www.youtube.com/watch?v=9Gw0rIXn6ec">https://www.youtube.com/watch?v=9Gw0rIXn6ec</a></li> </ul>