

# AQA GCSE Combined Science Trilogy: Higher

Advance Information of Assessed Content 2022

Link to specification: <https://filestore.aqa.org.uk/resources/science/specifications/AQA-8464-SP-2016.PDF>

Link to advance information document: <https://filestore.aqa.org.uk/content/summer-2022/AQA-8464-AI-22.PDF>

Link to revised Physics equation sheet: <https://filestore.aqa.org.uk/resources/science/AQA-8464-8465-ES-INS.PDF>

AQA GCSE Combined Science:  
Higher Tier  
Paper 1  
(biology, chemistry, physics)

These specification points will be the **major focus** of this paper.

**Exam date: 17<sup>th</sup> May**

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Spec point	Concepts	Bitesize	YouTube
<b>4.1.2</b> Cell Division	<ul style="list-style-type: none"> <li>How DNA is arranged as chromosomes</li> <li>Series of stages in the cell cycles inc. mitosis</li> <li>Definition and uses of stem cells</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/z2kmk2p/revision/2">https://www.bbc.co.uk/bitesize/guides/z2kmk2p/revision/2</a>  <a href="https://www.bbc.co.uk/bitesize/guides/z2kmk2p/revision/3">https://www.bbc.co.uk/bitesize/guides/z2kmk2p/revision/3</a>	<a href="https://www.youtube.com/watch?v=RHyZVmbiA78">https://www.youtube.com/watch?v=RHyZVmbiA78</a>  <a href="https://www.youtube.com/watch?v=Kh27evjxvYM&amp;t=24s">https://www.youtube.com/watch?v=Kh27evjxvYM&amp;t=24s</a>
<b>4.2.2</b> Animal tissues, organs and organ systems	<ul style="list-style-type: none"> <li>Functions of tissues and organs in the digestive system</li> <li>Digestive enzymes</li> <li>Functions of tissues and organs in the circulatory system</li> <li>Pathway of blood through the heart</li> <li>Adaptations of components of the blood</li> <li>Risk factors of non-communicable diseases</li> <li>Explain the cause of CHD</li> <li>Evaluate the advantages and disadvantages of treating cardiovascular diseases by drugs, mechanical devices or transplant</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/z89mk2p/revision/1">https://www.bbc.co.uk/bitesize/guides/z89mk2p/revision/1</a>  <a href="https://www.bbc.co.uk/bitesize/guides/zsnscrd/revision/1">https://www.bbc.co.uk/bitesize/guides/zsnscrd/revision/1</a>	<a href="https://www.youtube.com/watch?v=4ui4oSHHzA">https://www.youtube.com/watch?v=4ui4oSHHzA</a>  <a href="https://www.youtube.com/watch?v=VLK2wANjQm0">https://www.youtube.com/watch?v=VLK2wANjQm0</a>  <a href="https://www.youtube.com/watch?v=bpYaKM2hVFY">https://www.youtube.com/watch?v=bpYaKM2hVFY</a>  <a href="#">GCSE Biology - Why Do We Get Heart Disease and How to Treat It? - Cardiovascular Disease (CVD) #20 – YouTube</a>
<b>Required practical 3:</b> test for carbohydrates, lipids and proteins	<ul style="list-style-type: none"> <li>Reagent and positive result for carbohydrates, proteins and lipids</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/z89mk2p/revision/3">https://www.bbc.co.uk/bitesize/guides/z89mk2p/revision/3</a>	<a href="https://www.youtube.com/watch?v=SqWTJWOBww4">https://www.youtube.com/watch?v=SqWTJWOBww4</a>
<b>Required Practical 4</b> investigate the effect of pH on the rate of reaction of amylase enzyme.	<ul style="list-style-type: none"> <li>Action of enzymes</li> <li>Describe and explain the effect of extreme pH on rate of enzymes</li> <li>Testing for starch</li> <li>Identify independent, dependent, control variables</li> <li>How to measure the dependent variable</li> <li>Method</li> <li>Analysing results</li> </ul>	<a href="#">Required practical activity - Animal organisation - digestion - AQA - GCSE Combined Science Revision - AQA Trilogy - BBC Bitesize</a>	<a href="#">GCSE Science Revision Biology "Required Practical 5: Effect of pH on Amylase" – YouTube</a>  <a href="#">Enzymes - GCSE Science Required Practical – YouTube</a>

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4.4.1 Photosynthesis	<ul style="list-style-type: none"> <li>• Photosynthesis equation</li> <li>• Factors affecting rate of photosynthesis</li> <li>• Explain graphs of photosynthesis rate involving 2/3 factors and decide which is the limiting factor.</li> <li>• Understand and use inverse proportion – the inverse square law and light intensity</li> <li>• Explain the important of limiting factors in enhancing the conditions in greenhouses to gain the maximum rate of photosynthesis while still maintaining profit.</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/zs4mk2p/revision/1">https://www.bbc.co.uk/bitesize/guides/zs4mk2p/revision/1</a>	<a href="https://www.youtube.com/watch?v=rAJGnS_ktk4">https://www.youtube.com/watch?v=rAJGnS_ktk4</a>  <a href="#">GCSE Science Revision Biology "Limiting Factors" – YouTube</a>  <a href="#">The Rate of Photosynthesis &amp; The Inverse Square Law – YouTube</a>
<b>Required Practical 5:</b> effect of light intensity on rate of photosynthesis	<ul style="list-style-type: none"> <li>• Independent, dependent, control variables</li> <li>• How to measure the dependent variable</li> <li>• Method</li> <li>• Analysing results</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/zs4mk2p/revision/5">https://www.bbc.co.uk/bitesize/guides/zs4mk2p/revision/5</a>	<a href="https://www.youtube.com/watch?v=cBCKedXdFeE">https://www.youtube.com/watch?v=cBCKedXdFeE</a>

These specification points will **not be assessed** on this paper.

Spec point NOT assessed
4.1.1.5 Microscopy
4.1.3 Transport in cells
4.2.3 Plant tissues, organs and systems
4.3.1.2 Viral Diseases
4.3.1.4 Fungal Diseases
4.3.1.5 Protist Diseases
4.3.1.6 Human Defence Systems
4.4.1.3 Uses of Glucose from Photosynthesis
4.4.2.2 Response to exercise

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5.2.2 How bonding and structure are related to the properties of a substance	<ul style="list-style-type: none"> <li>Interpreting melting and boiling point data to determine state at a certain temp</li> <li>Link energy needed to change state to strength of forces between particles</li> <li>State symbols</li> <li>Describe &amp; explain properties of ionic compounds</li> <li>Describe &amp; explain properties of simple covalent molecules</li> <li>Describe &amp; explain properties of polymers</li> <li>Describe &amp; explain properties of metals and alloys</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/topics/z33rrwx">https://www.bbc.co.uk/bitesize/topics/z33rrwx</a>	<a href="https://www.youtube.com/watch?v=leVxy7cjZMU">https://www.youtube.com/watch?v=leVxy7cjZMU</a>  <a href="https://www.youtube.com/watch?v=DECGNyC-x_s">https://www.youtube.com/watch?v=DECGNyC-x_s</a>  <a href="https://www.youtube.com/watch?v=EP0zfm_FVqc">https://www.youtube.com/watch?v=EP0zfm_FVqc</a>  <a href="https://www.youtube.com/watch?v=A-wTpLPICd0">https://www.youtube.com/watch?v=A-wTpLPICd0</a>
5.3.2 Use of amount of substance in relation to masses of pure substances	<ul style="list-style-type: none"> <li>Calculating relative formula mass</li> <li>Calculating the number of moles in a given mass of a substance, calculating the mass of a certain no. of moles of a substance</li> <li>Avogadro's constant – the number of particles in 1 mole of a substance</li> <li>Calculate the masses of reactants and products from the balanced symbol equation and the mass of a given reactant or product.</li> <li>Using molar ratios to balance equations</li> <li>Identifying limiting reactants and explaining the effect on yield of products</li> <li>Define concentration of a solution</li> <li>Calculate the concentration of a solution, or the mass of a solute dissolved in a given volume to create a solution of given concentration</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/topics/zsnyy4j">https://www.bbc.co.uk/bitesize/topics/zsnyy4j</a>	<a href="https://www.youtube.com/watch?v=q49NwlrjaFw">https://www.youtube.com/watch?v=q49NwlrjaFw</a>  <a href="https://www.youtube.com/watch?v=wPGVQu3UXpw">https://www.youtube.com/watch?v=wPGVQu3UXpw</a>  <a href="https://www.youtube.com/watch?v=TV6n5MFH6IU">https://www.youtube.com/watch?v=TV6n5MFH6IU</a>  <a href="https://www.youtube.com/watch?v=YKvUQ2cPmJg">https://www.youtube.com/watch?v=YKvUQ2cPmJg</a>  <a href="https://www.youtube.com/watch?v=MuzOmFhiE8o">https://www.youtube.com/watch?v=MuzOmFhiE8o</a>  <a href="https://www.youtube.com/watch?v=3G3KQIyoZDI">https://www.youtube.com/watch?v=3G3KQIyoZDI</a>

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<b>5.4.1</b> The Reactivity of Metals	<ul style="list-style-type: none"> <li>Metals + oxygen</li> <li>Reduction and oxidation in terms of oxygen</li> <li>Reduction and oxidation in terms of electrons</li> <li>Identify in a given reaction, symbol equation or half equation which species are oxidised and which are reduced</li> <li>The Reactivity Series</li> <li>Displacement reactions</li> <li>Extraction of metals by reduction</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/zy7dgd/revision/1">https://www.bbc.co.uk/bitesize/guides/zy7dgd/revision/1</a>	<a href="https://www.youtube.com/watch?v=Lk1V0buHEFs">https://www.youtube.com/watch?v=Lk1V0buHEFs</a>  <a href="https://www.youtube.com/watch?v=gnbuTl2aril">https://www.youtube.com/watch?v=gnbuTl2aril</a>  <a href="https://www.youtube.com/watch?v=2i5Lm7BMtpo">https://www.youtube.com/watch?v=2i5Lm7BMtpo</a>  <a href="https://www.youtube.com/watch?v=MXTSels6e2Y">https://www.youtube.com/watch?v=MXTSels6e2Y</a>
<b>5.4.2</b> Reactions of Acids	<ul style="list-style-type: none"> <li>Products of the reactions of acids and metals (naming salts)</li> <li>Explain the reactions of metals and acids in terms of loss and gain of electrons</li> <li>Products of reactions between               <ul style="list-style-type: none"> <li>acids and alkalis and insoluble bases</li> <li>acids and metal carbonates</li> </ul> </li> <li>pH scale and neutralisation</li> <li>Difference between strong and weak acids</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/ztv2dxs/revision/1">https://www.bbc.co.uk/bitesize/guides/ztv2dxs/revision/1</a>	<a href="https://www.youtube.com/watch?v=ofw6oHSYGFI">https://www.youtube.com/watch?v=ofw6oHSYGFI</a>  <a href="https://www.youtube.com/watch?v=QISsle_jSQ8">GCSE Science Revision Chemistry "Acids Reacting with Metals 2" - YouTube</a>  <a href="https://www.youtube.com/watch?v=QISsle_jSQ8">https://www.youtube.com/watch?v=QISsle_jSQ8</a>
<b>5.4.2.3</b> and <b>Required Practical 8:</b> preparation of a pure, dry sample of soluble salts	<ul style="list-style-type: none"> <li>Method of producing solid salt crystals from insoluble oxide or carbonate and acids</li> <li>Identifying errors in methods and reagents</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/ztv2dxs/revision/5">https://www.bbc.co.uk/bitesize/guides/ztv2dxs/revision/5</a>	<a href="https://www.youtube.com/watch?v=9GH95172Js8&amp;t=16s">https://www.youtube.com/watch?v=9GH95172Js8&amp;t=16s</a>  <a href="https://www.youtube.com/watch?v=9GH95172Js8&amp;t=16s">GCSE Science Revision Chemistry "Strong and Weak Acids" – YouTube</a>

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5.4.3 Electrolysis	<ul style="list-style-type: none"> <li>Describe the process of electrolysis</li> <li>Identifying oxidation and reduction in terms of electrons</li> <li>Writing half equations for oxidation/reduction reactions occurring at each electrode</li> <li>Electrolysis of molten ionic compounds</li> <li>Electrolysis of aluminium oxide</li> <li>Electrolysis of aqueous solutions, predicting products formed</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/z9h9v9q/revision/1">https://www.bbc.co.uk/bitesize/guides/z9h9v9q/revision/1</a>	<a href="https://www.youtube.com/watch?v=AhTRiL6xjBA&amp;t=2s">https://www.youtube.com/watch?v=AhTRiL6xjBA&amp;t=2s</a>  <a href="https://www.youtube.com/watch?v=iINOpROacf0">https://www.youtube.com/watch?v=iINOpROacf0</a>  <a href="https://www.youtube.com/watch?v=YcyMEIBEzAY">https://www.youtube.com/watch?v=YcyMEIBEzAY</a>  <a href="https://www.youtube.com/watch?v=6WjC_Vi4roA">https://www.youtube.com/watch?v=6WjC_Vi4roA</a>  <a href="https://www.youtube.com/watch?v=W9ngXNxSyoo">https://www.youtube.com/watch?v=W9ngXNxSyoo</a>
<b>Required Practical 9:</b> : investigate what happens when aqueous solutions are electrolysed using inert electrodes.	<ul style="list-style-type: none"> <li>Developing a hypothesis</li> <li>Planning an investigation</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/z9h9v9q/revision/3">https://www.bbc.co.uk/bitesize/guides/z9h9v9q/revision/3</a>	<a href="https://www.youtube.com/watch?v=ukbtTTG1Kew">https://www.youtube.com/watch?v=ukbtTTG1Kew</a>

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5.5.1 Exothermic and endothermic reactions	<ul style="list-style-type: none"> <li>Describe the law of the conservation of energy</li> <li>Define exo and endothermic reactions and describe their features</li> <li>Give examples of exo and endothermic reactions</li> <li>Define activation energy</li> <li>Represent exo and endothermic reactions with reaction profiles</li> <li>Describe bond breaking in the reactants as an endothermic process</li> <li>Describe bond formation in the products as an exothermic process</li> <li>Calculate the energy transferred in chemical reactions using bond energies supplied</li> <li>Use energy change values to identify if a reaction is exo/endothermic</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/z2b2k2p/revision/1">https://www.bbc.co.uk/bitesize/guides/z2b2k2p/revision/1</a>	<a href="https://www.youtube.com/watch?v=4HS6D0hTzdg">https://www.youtube.com/watch?v=4HS6D0hTzdg</a>  <a href="https://www.youtube.com/watch?v=dstRL5xB0Sk">https://www.youtube.com/watch?v=dstRL5xB0Sk</a>  <a href="https://www.youtube.com/watch?v=it0HGXhxD-s">https://www.youtube.com/watch?v=it0HGXhxD-s</a>  <a href="https://www.youtube.com/watch?v=eExCBkp4jB4">https://www.youtube.com/watch?v=eExCBkp4jB4</a>  <a href="https://www.youtube.com/watch?v=PdValXAVUOc">https://www.youtube.com/watch?v=PdValXAVUOc</a>
<b>Required Practical 10:</b> investigate the variables that affect temperature changes in reacting solutions such as, eg acid plus metals, carbonates, neutralisations, displacement of metals	<ul style="list-style-type: none"> <li>Identifying independent, dependent, control variables</li> <li>Analysing results</li> <li>Identifying exo and endothermic reactions from experimental results</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/z2b2k2p/revision/2">https://www.bbc.co.uk/bitesize/guides/z2b2k2p/revision/2</a>	<a href="https://www.youtube.com/watch?v=Bz0C9mmF2tw">https://www.youtube.com/watch?v=Bz0C9mmF2tw</a>

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Spec point	Concepts	Bitesize	YouTube
<b>6.1.1</b> Energy Changes in a system, and the ways energy is stored before and after such changes	<ul style="list-style-type: none"> <li>Identifying the energy changes in systems</li> <li>Calculate, using equations, the amount of energy associated with a moving object, a stretched spring and an object raised above ground level.</li> <li>Calculate, using an equation, the amount of energy stored in or released from a system as its temperature changes</li> <li>Define power</li> <li>Calculate Power and state its units</li> </ul>	<p><a href="https://www.bbc.co.uk/bitesize/guides/zskp7p3/revision/1">https://www.bbc.co.uk/bitesize/guides/zskp7p3/revision/1</a></p> <p><a href="https://www.bbc.co.uk/bitesize/guides/z8pk3k7/revision/1">https://www.bbc.co.uk/bitesize/guides/z8pk3k7/revision/1</a></p> <p><a href="https://www.bbc.co.uk/bitesize/guides/zy8g3k7/revision/1">https://www.bbc.co.uk/bitesize/guides/zy8g3k7/revision/1</a></p>	<p><a href="https://www.youtube.com/watch?v=JGwcDceYRYo">https://www.youtube.com/watch?v=JGwcDceYRYo</a></p> <p><a href="https://www.youtube.com/watch?v=-zy9eWzmGe4">https://www.youtube.com/watch?v=-zy9eWzmGe4</a></p> <p><a href="https://www.youtube.com/watch?v=Qw_9kX9PARc">https://www.youtube.com/watch?v=Qw_9kX9PARc</a></p> <p><a href="https://www.youtube.com/watch?v=63OTIdNb-TE">https://www.youtube.com/watch?v=63OTIdNb-TE</a></p> <p><a href="https://www.youtube.com/watch?v=EDTODPhaaMY">https://www.youtube.com/watch?v=EDTODPhaaMY</a></p>
<b>Required Practical 14:</b> an investigation to determine the specific heat capacity of one or more materials.	<ul style="list-style-type: none"> <li>Link the decrease of one energy store or the work done (e.g. by a heater) to the increase in temperature and subsequent increase in thermal energy stored by a material</li> </ul>	<p><a href="https://www.bbc.co.uk/bitesize/guides/zy8g3k7/revision/4">https://www.bbc.co.uk/bitesize/guides/zy8g3k7/revision/4</a></p>	<p><a href="https://www.youtube.com/watch?v=Hs5x0-IU2F4">https://www.youtube.com/watch?v=Hs5x0-IU2F4</a></p> <p><a href="https://www.youtube.com/watch?v=loeRLKNeUsc">https://www.youtube.com/watch?v=loeRLKNeUsc</a></p>
<b>6.2.4</b> Energy Transfers	<ul style="list-style-type: none"> <li>Use the equation that links energy transferred, charge flow and potential difference</li> <li>Use the equation that links power, current and potential difference</li> </ul>	<p><a href="https://www.bbc.co.uk/bitesize/guides/zgvq4qt/revision/3">https://www.bbc.co.uk/bitesize/guides/zgvq4qt/revision/3</a></p> <p><a href="https://www.bbc.co.uk/bitesize/guides/zgvq4qt/revision/9">https://www.bbc.co.uk/bitesize/guides/zgvq4qt/revision/9</a></p>	<p><a href="https://www.youtube.com/watch?v=WKvQLrXOqik">https://www.youtube.com/watch?v=WKvQLrXOqik</a></p>
<b>Required Practical 16:</b> construct appropriate circuits to investigate the I-V characteristics of circuit elements, inc. a filament lamp, diode and a resistor at constant temp.	<ul style="list-style-type: none"> <li>Placing ammeter and voltmeter in the correct place in a circuit to measure the current through and potential difference across a component</li> <li>Plotting graphs</li> <li>Describing and explaining patterns shown in graphed data</li> </ul>	<p><a href="https://www.bbc.co.uk/bitesize/guides/zgvq4qt/revision/5">https://www.bbc.co.uk/bitesize/guides/zgvq4qt/revision/5</a></p>	<p><a href="https://www.youtube.com/watch?v=A1SyKvdHoqY&amp;t=29s">https://www.youtube.com/watch?v=A1SyKvdHoqY&amp;t=29s</a></p>

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<b>6.3.1</b> Changes of state and the particle model	<ul style="list-style-type: none"> <li>Define and calculate the density of a substance or object</li> <li>Recognise/draw simple diagrams to model the difference between solids, liquids and gases</li> <li>Explain the differences in density between the different states of matter in terms of the arrangement of atoms or molecules.</li> <li>Describe how, when substances change state mass is conserved.</li> <li>Describe changes of state as physical changes</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/zqjy6yc/revision/1">https://www.bbc.co.uk/bitesize/guides/zqjy6yc/revision/1</a>  <a href="https://www.bbc.co.uk/bitesize/guides/zwwfxfr/revision/1">https://www.bbc.co.uk/bitesize/guides/zwwfxfr/revision/1</a>	<a href="https://www.youtube.com/watch?v=hkBrw2fG75U">https://www.youtube.com/watch?v=hkBrw2fG75U</a>  <a href="https://www.youtube.com/watch?v=-EZmXVOSa20">https://www.youtube.com/watch?v=-EZmXVOSa20</a>
<b>6.3.3</b> Particle Model and pressure	<ul style="list-style-type: none"> <li>Describe the motion of gases</li> <li>Explain how the motion and the average kinetic energy of the molecules in a gas is related to both its temperature and its pressure</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/z2xcfcw/revision/1">https://www.bbc.co.uk/bitesize/guides/z2xcfcw/revision/1</a>	<a href="https://www.youtube.com/watch?v=hK03DpgiISk">https://www.youtube.com/watch?v=hK03DpgiISk</a>  <a href="https://www.youtube.com/watch?v=9PwzPDJ7GYc">https://www.youtube.com/watch?v=9PwzPDJ7GYc</a>
<b>6.4.1</b> Atoms and isotopes	<ul style="list-style-type: none"> <li>Describe the structure of an atom.</li> <li>Compare the radius of the nucleus to the radius of the atom</li> <li>Describe how electrons are arranged on energy levels</li> <li>Describe how electrons can move energy levels further from or towards the nucleus through the absorption or emission on electromagnetic radiation</li> <li>Define the atomic number and mass number of elements</li> <li>Calculate the number of protons, neutrons and electrons in atoms</li> <li>State the relative mass and charge of protons, neutrons and electrons</li> <li>Describe the similarities and differences between atoms of isotopes of the same element</li> <li>Describe the development of the model of the atom</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/zpctjty/revision/1">https://www.bbc.co.uk/bitesize/guides/zpctjty/revision/1</a>  <a href="https://www.bbc.co.uk/bitesize/guides/z964y4j/revision/1">https://www.bbc.co.uk/bitesize/guides/z964y4j/revision/1</a>	<a href="https://www.youtube.com/watch?v=KwOHJbE4Tro">https://www.youtube.com/watch?v=KwOHJbE4Tro</a>  <a href="https://www.youtube.com/watch?v=sG6QoLxwIw4">https://www.youtube.com/watch?v=sG6QoLxwIw4</a>  <a href="https://www.youtube.com/watch?v=0ASldDQmIOQ">https://www.youtube.com/watch?v=0ASldDQmIOQ</a>

These specification points will be the **major focus** of this paper.

**Exam date: 9<sup>th</sup> June**

All other specification points from P1, other those on these pages that are not explicitly omitted, **may still be assessed** in multiple choice questions/linked to a previous answer, so cannot be completely ignored in your revision

Spec point	Concepts	Bitesize	YouTube
6.4.2 Atoms and nuclear radiation	<ul style="list-style-type: none"> <li>Describe radioactive decay</li> <li>Describe the four types of nuclear radiation and their properties (ionising power and penetration through materials and the air)</li> <li>Definition and units of activity and count rate</li> <li>Describe changes in the nucleus using nuclear decay equations</li> <li>Half lives</li> <li>Calculate the net decline, expressed as a ratio, in a radioactive emission after a given number of half-lives using <math>(0.5^n)</math> where <math>n</math> = number of half lives)</li> <li>Describing contamination and irradiation</li> </ul>	<p><a href="https://www.bbc.co.uk/bitesize/guides/zxbnh39/revision/1">https://www.bbc.co.uk/bitesize/guides/zxbnh39/revision/1</a></p> <p><a href="https://www.bbc.co.uk/bitesize/guides/zp4vfcw/revision/1">https://www.bbc.co.uk/bitesize/guides/zp4vfcw/revision/1</a></p>	<p><a href="https://www.youtube.com/watch?v=F_Y1-JieCrg">https://www.youtube.com/watch?v=F_Y1-JieCrg</a></p> <p><a href="https://www.youtube.com/watch?v=nW0S1C6wVrg">https://www.youtube.com/watch?v=nW0S1C6wVrg</a></p> <p><a href="https://www.youtube.com/watch?v=wj9BzGFao8k">https://www.youtube.com/watch?v=wj9BzGFao8k</a></p> <p><a href="https://www.youtube.com/watch?v=teGu0VAPIOo">https://www.youtube.com/watch?v=teGu0VAPIOo</a></p>

These specification points will **not be assessed** on this paper.

Spec point NOT assessed
6.2.2 Series and Parallel Circuits
6.2.3 Domestic uses and safety
6.3.2 Internal Energy and Energy Transfers

AQA GCSE Combined Science:  
Higher Tier  
Paper 2  
(biology, chemistry, physics)

These specification points will be the **major focus** of this paper.

**Exam date: 15<sup>th</sup> June**

All other specification points from B2, other those on these pages that are not explicitly omitted, **may still be assessed** in multiple choice questions/linked to a previous answer, so cannot be completely ignored in your revision

Spec point	Concepts	Bitesize	YouTube
4.5.3 Hormonal Control in Humans	<ul style="list-style-type: none"> <li>• Definition of 'hormone'</li> <li>• Function of the tissues and organs of the endocrine system</li> <li>• Identifying position of glands, and the hormones secreted from them</li> <li>• Hormones involved in control of blood glucose concentration</li> <li>• Type 1 and Type 2 diabetes</li> <li>• Explain how glucagon interacts with insulin in a negative feedback cycle to control blood glucose (sugar) levels in the body.</li> <li>• Describe the roles of hormones in human reproduction, including the menstrual cycle</li> <li>• Explain the interactions of FSH, oestrogen, LH and progesterone, in the control of the menstrual cycle</li> <li>• Explain the use of hormones in modern reproductive technologies to treat infertility.</li> <li>• Explain the roles of thyroxine and adrenaline in the body. Thyroxine levels are controlled by negative feedback</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/zq4mk2p/revision/1">https://www.bbc.co.uk/bitesize/guides/zq4mk2p/revision/1</a>	<a href="https://www.youtube.com/watch?v=c6olhi88KZs">https://www.youtube.com/watch?v=c6olhi88KZs</a>  <a href="https://www.youtube.com/watch?v=77oyUdNZ054">https://www.youtube.com/watch?v=77oyUdNZ054</a>  <a href="#">GCSE Biology Hormones in human reproduction (AQA 9-1) – YouTube</a>  <a href="#">GCSE Science Revision Biology "The Menstrual Cycle" – YouTube</a>  <a href="#">GCSE Science Revision Biology "Hormones to Treat Infertility" – YouTube</a>  <a href="#">GCSE Science Revision Biology "Negative Feedback" – YouTube</a>
4.7.2 Organisation of an ecosystem	<ul style="list-style-type: none"> <li>-interpret food chains and webs</li> <li>-identify producers, consumers, predators and prey from food chains and webs</li> <li>-describe the carbon and water cycles</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/zqskv9g/revision/1">https://www.bbc.co.uk/bitesize/guides/zqskv9g/revision/1</a>	<a href="https://www.youtube.com/watch?v=dRFQ8rZCK6Q">https://www.youtube.com/watch?v=dRFQ8rZCK6Q</a>  <a href="https://www.youtube.com/watch?v=urzpnjwazV0">https://www.youtube.com/watch?v=urzpnjwazV0</a>

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**Exam date: 15<sup>th</sup> June**

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Spec point	Concepts	Bitesize	YouTube
<b>4.7.3</b> Biodiversity and the effect of human interaction on an ecosystem	<ul style="list-style-type: none"> <li>Define biodiversity</li> <li>Describe ways in which pollution can occur, and the impacts of this pollution on biodiversity</li> <li>Describe ways to manage this pollution</li> <li>describe some of the biological consequences of global warming.</li> <li>Describe the things that scientists have introduced to reduce the negative effects of humans on ecosystems and biodiversity.</li> </ul>	<a href="#">Biodiversity and interdependence - Biodiversity and the effect of human interaction on ecosystems - AQA - GCSE Combined Science Revision - AQA Trilogy - BBC Bitesize</a>	<a href="#">GCSE Science Revision Biology "Biodiversity" – YouTube</a>  <a href="#">GCSE Science Revision Biology "Maintaining Biodiversity" – YouTube</a>  <a href="#">GCSE Biology - How Human Waste Reduces Biodiversity - Explained #63 – YouTube</a>  <a href="#">GCSE Science Revision Biology "Global Warming" - YouTube</a>
<b>Required Practical 7:</b> measure the population size of a common species in a habitat. Use sampling techniques to investigate the effect of a factor on the distribution of this species	<ul style="list-style-type: none"> <li>Using transects and quadrats are used by ecologists to determine the distribution and abundance of species in an ecosystem.</li> <li>Understand the terms mean, mode and median</li> <li>Calculate arithmetic means</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/zqskv9q/revision/3">https://www.bbc.co.uk/bitesize/guides/zqskv9q/revision/3</a>	<a href="https://www.youtube.com/watch?v=2MW6nwf80XM">https://www.youtube.com/watch?v=2MW6nwf80XM</a>  <a href="https://www.youtube.com/watch?v=RhMOCxXcDrQ">https://www.youtube.com/watch?v=RhMOCxXcDrQ</a>  <a href="https://www.youtube.com/watch?v=yLHz2Ea10Mg&amp;t=2s">https://www.youtube.com/watch?v=yLHz2Ea10Mg&amp;t=2s</a>

These specification points will **not be assessed** on this paper.

Spec point NOT assessed	
<b>4.5.2</b> The human nervous system	<b>4.6.2</b> Variation and Evolution
<b>4.5.3.4</b> Contraception	<b>4.6.3.</b> The development of understanding of genetics and evolution
<b>4.6.1.1</b> Sexual and asexual reproduction	
<b>4.6.1.3</b> DNA and the genome	<b>4.7.1.4</b> Adaptations
<b>4.6.1.4</b> Genetic Inheritance	<b>4.7.3.3</b> Land Use
<b>4.6.1.5</b> Inherited Disorders	<b>4.7.3.4</b> Deforestation
<b>4.6.1.6</b> Sex Determination	

These specification points will be the **major focus** of this paper.

**Exam date: 20<sup>th</sup> June**

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Spec point	Concepts	Bitesize	YouTube
5.6.1 Rate of Reaction	<ul style="list-style-type: none"> <li>Calculating the rate of a reaction</li> <li>Calculate the gradient of a tangent to the curve on these graphs as a measure of rate of reaction at a specific time.</li> <li>Describe collision theory</li> <li>Define activation energy</li> <li>Describe and explain the factors that increase the rate of reaction</li> <li>Describe and explain the effect of catalysts on rate of reaction</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/zp3p7p3/revision/1">https://www.bbc.co.uk/bitesize/guides/zp3p7p3/revision/1</a>	<a href="https://www.youtube.com/watch?v=UkrBJ6-uGFA">https://www.youtube.com/watch?v=UkrBJ6-uGFA</a>  <a href="https://www.youtube.com/watch?v=GCR5xeduq2o">https://www.youtube.com/watch?v=GCR5xeduq2o</a>  <a href="https://www.youtube.com/watch?v=-4HXaUBbv04">https://www.youtube.com/watch?v=-4HXaUBbv04</a>  <a href="https://www.youtube.com/watch?v=hel8fQjxc08">https://www.youtube.com/watch?v=hel8fQjxc08</a>
<b>Required Practical 11:</b> investigate how concentration affects the rates of reaction by a method involving measuring the volume of a gas produced/change in colour	<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>	<a href="https://www.bbc.co.uk/bitesize/guides/zp3p7p3/revision/6">https://www.bbc.co.uk/bitesize/guides/zp3p7p3/revision/6</a>	<a href="https://www.youtube.com/watch?v=N5p06i9ilm0">https://www.youtube.com/watch?v=N5p06i9ilm0</a>  <a href="https://www.youtube.com/watch?v=Gl6LVI7oAIU">https://www.youtube.com/watch?v=Gl6LVI7oAIU</a>
5.6.2 Reversible reactions and dynamic equilibrium	<ul style="list-style-type: none"> <li>Identify and give examples of reversible reactions</li> <li>Apply the conservation of energy to reversible reactions</li> <li>Define dynamic equilibrium</li> <li>Describe Le Chatelier's principle</li> <li>Describe and explain the effect of changing the following conditions on equilibrium; concentration, temperature, pressure</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/z32bpbk/revision/1">https://www.bbc.co.uk/bitesize/guides/z32bpbk/revision/1</a>	<a href="https://www.youtube.com/watch?v=66qcNNJFy6E">https://www.youtube.com/watch?v=66qcNNJFy6E</a>  <a href="#">GCSE Science Revision Chemistry "Concentration and Reversible Reactions" – YouTube</a>  <a href="#">GCSE Science Revision Chemistry "Pressure and Reversible Reactions" – YouTube</a>  <a href="#">GCSE Science Revision Chemistry "Temperature and reversible reactions" – YouTube</a>  <a href="#">GCSE Chemistry - Le Chatelier's Principle #42 (Higher Tier) – YouTube</a>

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**Exam date: 20<sup>th</sup> June**

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Spec point	Concepts	Bitesize	YouTube
<b>5.7.1</b> Carbon compounds as fuels and feedstock	<ul style="list-style-type: none"> <li>Describe crude oil as a mixture of different length hydrocarbons</li> <li>Define the term hydrocarbon</li> <li>Identify the first 4 alkanes from their chemical formula and name them</li> <li>Describe the trend in properties as hydrocarbon chain length increases</li> <li>Describe and explain the process of fractional distillation</li> <li>Describe the process of cracking</li> <li>Describe the use of alkenes</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/zxd4y4j/revision/1">https://www.bbc.co.uk/bitesize/guides/zxd4y4j/revision/1</a>	<a href="https://www.youtube.com/watch?v=CX2IYWggEBc">https://www.youtube.com/watch?v=CX2IYWggEBc</a>  <a href="https://www.youtube.com/watch?v=3I7yCkSXPos">https://www.youtube.com/watch?v=3I7yCkSXPos</a>  <a href="https://www.youtube.com/watch?v=7AWwjKbRa_o">https://www.youtube.com/watch?v=7AWwjKbRa_o</a>
<b>5.8.1</b> Purity, formulations and chromatography	<ul style="list-style-type: none"> <li>Define the term pure substance in chemistry</li> <li>Use melting and boiling point data to identify pure and impure substances</li> <li>Define the term formulation and give examples</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/zp2wrwx/revision/1">https://www.bbc.co.uk/bitesize/guides/zp2wrwx/revision/1</a>	<a href="https://www.youtube.com/watch?v=3oJxWwcnfJY">https://www.youtube.com/watch?v=3oJxWwcnfJY</a>
<b>Required Practical 12:</b> investigate how paper chromatography can be used to separate and tell the difference between coloured substances.	<ul style="list-style-type: none"> <li>Describe the properties of the mixtures that chromatography can be used to separate</li> <li>Describe and explain the experimental process of chromatography</li> <li>Explain how substances are separated using chromatography</li> <li>Interpret chromatograms and calculate R<sub>f</sub> values</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/zp2wrwx/revision/3">https://www.bbc.co.uk/bitesize/guides/zp2wrwx/revision/3</a>	<a href="https://www.youtube.com/watch?v=TdJ57SQ6GAQ">https://www.youtube.com/watch?v=TdJ57SQ6GAQ</a>  <a href="https://www.youtube.com/watch?v=pnTGNAfu6GE">https://www.youtube.com/watch?v=pnTGNAfu6GE</a>

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**Exam date: 20<sup>th</sup> June**

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Spec point	Concepts	Bitesize	YouTube
<b>5.9.1</b> The composition and evolution of the Earth's Atmosphere	<ul style="list-style-type: none"> <li>-describe the composition of the current atmosphere</li> <li>-describe the composition of the early atmosphere and explain theories of how the early atmosphere formed</li> <li>-explain how the early atmosphere changed to that of the present atmosphere</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/z9pk3k7/revision/1">https://www.bbc.co.uk/bitesize/guides/z9pk3k7/revision/1</a>	<a href="https://www.youtube.com/watch?v=t1Z3GINldLA">https://www.youtube.com/watch?v=t1Z3GINldLA</a>  <a href="https://www.youtube.com/watch?v=I0h_-3MOPso">https://www.youtube.com/watch?v=I0h_-3MOPso</a>
<b>5.10.1</b> Using the Earth's resources and obtaining potable water	<ul style="list-style-type: none"> <li>-Describe the renewable and non-renewable resources that we get from the Earth and its atmosphere</li> <li>-Define the term potable water</li> <li>-Describe how potable water can be produced.</li> <li>-Describe the differences in the treatment of waste water, salt water and ground water</li> <li>-Describe and evaluate alternative methods of extracting metals e.g. phytomining and bioleaching</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/zswfxfr/revision/1">https://www.bbc.co.uk/bitesize/guides/zswfxfr/revision/1</a>  <a href="https://www.bbc.co.uk/bitesize/guides/zg6cfcw/revision/1">https://www.bbc.co.uk/bitesize/guides/zg6cfcw/revision/1</a>  <a href="#">Biological methods of metal extraction - Higher - Ways of reducing the use of resources - AQA - GCSE Combined Science Revision - AQA Trilogy - BBC Bitesize</a>	<a href="https://www.youtube.com/watch?v=-XczTGavTZU">https://www.youtube.com/watch?v=-XczTGavTZU</a>  <a href="https://www.youtube.com/watch?v=n7pYRQs20bl">https://www.youtube.com/watch?v=n7pYRQs20bl</a>  <a href="https://www.youtube.com/watch?v=b5RVPauf4oM">https://www.youtube.com/watch?v=b5RVPauf4oM</a>

These specification points will **not be assessed** on this paper.

**Spec point NOT assessed**

**5.8.2** Identification of common gases

These specification points will be the **major focus** of this paper.

**Exam date: 23<sup>rd</sup> June**

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Spec point	Concepts	Bitesize	YouTube
6.5.1 Forces and their interactions	<ul style="list-style-type: none"> <li>Describe the difference between scalar and vector quantities and give examples</li> <li>Give examples of contact and non-contact forces</li> <li>Describe the relationship between mass, weight and gravitational field strength</li> <li>Use an equation to calculate weight</li> <li>Calculate the resultant of two forces that act in a straight line.</li> <li>Use vector diagrams to illustrate the resolving of forces e.g. two components acting at right angles to each other</li> <li>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</li> </ul>	<p><a href="https://www.bbc.co.uk/bitesize/guides/zskn2nb/revision/1">https://www.bbc.co.uk/bitesize/guides/zskn2nb/revision/1</a></p> <p><a href="https://www.bbc.co.uk/bitesize/guides/zcxfcw/revision/1">https://www.bbc.co.uk/bitesize/guides/zcxfcw/revision/1</a></p> <p><a href="https://www.bbc.co.uk/bitesize/guides/z232k2p/revision/1">https://www.bbc.co.uk/bitesize/guides/z232k2p/revision/1</a></p>	<p><a href="https://www.youtube.com/watch?v=P1ISWWUkMdQ">https://www.youtube.com/watch?v=P1ISWWUkMdQ</a></p> <p><a href="https://www.youtube.com/watch?v=xxK8N23nx9M">https://www.youtube.com/watch?v=xxK8N23nx9M</a></p> <p><a href="https://www.youtube.com/watch?v=W2aBVbcHr_k">https://www.youtube.com/watch?v=W2aBVbcHr_k</a></p> <p><a href="https://www.youtube.com/watch?v=PL8ATKipoB4">https://www.youtube.com/watch?v=PL8ATKipoB4</a></p> <p><a href="#">GCSE Physics - Vector Diagrams and Resultant Forces #43 – YouTube</a></p> <p><a href="#">Resolving Forces using Scale Drawings – YouTube</a></p>
6.5.4.1: Describing motion along a line	<ul style="list-style-type: none"> <li>Describe the difference between distance and displacement</li> <li>Use an equation to calculate speed</li> <li>Describe the difference between speed and velocity</li> <li>Explain that motion in a circle involves constant speed but changing velocity.</li> <li>Interpret distance-time graphs and velocity-time graphs</li> <li>Calculate speed of an accelerating object at any particular time by drawing a tangent and measuring the gradient of the distance–time graph at that time</li> <li>Calculate the distance travelled /displacement of an object by calculating the area under a velocity–time graph.</li> <li>Use an equation to calculate acceleration</li> <li>Describe how an object reaches terminal velocity</li> </ul>	<p><a href="https://www.bbc.co.uk/bitesize/guides/z2wy6yc/revision/1">https://www.bbc.co.uk/bitesize/guides/z2wy6yc/revision/1</a></p>	<p><a href="https://www.youtube.com/watch?v=QaU9jMHh7gE">https://www.youtube.com/watch?v=QaU9jMHh7gE</a></p> <p><a href="https://www.youtube.com/watch?v=M_0FRIX8wIM">https://www.youtube.com/watch?v=M_0FRIX8wIM</a></p> <p><a href="https://www.youtube.com/watch?v=DkCw2C-DkT0">https://www.youtube.com/watch?v=DkCw2C-DkT0</a></p> <p><a href="https://www.youtube.com/watch?v=b0VKIpetP9A">https://www.youtube.com/watch?v=b0VKIpetP9A</a></p> <p><a href="https://www.youtube.com/watch?v=Kzx8GBTI5VM">https://www.youtube.com/watch?v=Kzx8GBTI5VM</a></p> <p><a href="https://www.youtube.com/watch?v=YCVSQp428GI">https://www.youtube.com/watch?v=YCVSQp428GI</a></p> <p><a href="https://www.youtube.com/watch?v=VRvjQBJi0oY">https://www.youtube.com/watch?v=VRvjQBJi0oY</a></p> <p><a href="https://www.youtube.com/watch?v=EKrAPvSin-M">https://www.youtube.com/watch?v=EKrAPvSin-M</a></p>

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**Exam date: 23<sup>rd</sup> June**

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Spec point	Concepts	Bitesize	YouTube
<b>6.5.4.2</b> Force, accelerations and Newton's Laws of motion	<ul style="list-style-type: none"> <li>Describe Newton's first law of motion</li> <li>Describe Newton's second law of motion and use an equation to calculate the force required to make an object with a certain mass accelerate at a certain speed</li> <li>Explain that inertial mass is a measure of how difficult it is to change the velocity of an object</li> <li>Describe Newton's third law of motion</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/zgv797h/revision/1">https://www.bbc.co.uk/bitesize/guides/zgv797h/revision/1</a>	<a href="https://www.youtube.com/watch?v=i5PtaCJJFjw">https://www.youtube.com/watch?v=i5PtaCJJFjw</a>  <a href="https://www.youtube.com/watch?v=DpQ_ikFKru0">https://www.youtube.com/watch?v=DpQ_ikFKru0</a>
<b>6.6.5</b> Momentum	<ul style="list-style-type: none"> <li>Use an equation to calculate the momentum of an object from its mass and velocity</li> <li>Describe the law of the conservation of momentum</li> <li>Explain examples of momentum in an event, such as a collision</li> </ul>	<a href="#">What is momentum? - Higher - Momentum - Higher - AQA - GCSE Combined Science Revision - AQA Trilogy - BBC Bitesize</a>	<a href="#">GCSE Science Revision Physics "Momentum" – YouTube</a>  <a href="#">GCSE Physics - Momentum Part 1 of 2 - Conservation of Momentum Principle #59 – YouTube</a>  <a href="#">GCSE Physics - Momentum Part 2 of 2 - Changes in Momentum #60 – YouTube</a>
<b>6.6.2</b> Electro-magnetic Waves	<ul style="list-style-type: none"> <li>Describe the order of the electromagnetic spectrum</li> <li>Describe the properties of the different parts of the EM spectrum</li> <li>Describe the uses and hazards of the different parts of the EM spectrum</li> <li>Describe how changes in atoms and the nuclei of atoms can result in EM waves being generated</li> <li>Describe how waves are refracted at the boundary of two materials with different densities</li> <li>Construct ray diagrams to illustrate the refraction of a wave at the boundary between two different media.</li> <li>Use wave front diagrams to explain refraction in terms of the change of speed that happens when a wave travels from one medium to a different medium</li> <li>Describe how radio waves can be produced by oscillations in electrical circuits.</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/z3yq4qt/revision/3">https://www.bbc.co.uk/bitesize/guides/z3yq4qt/revision/3</a>  <a href="#">Reflection of waves - Reflection and refraction - AQA - GCSE Combined Science Revision - AQA Trilogy - BBC Bitesize</a>	<a href="https://www.youtube.com/watch?v=u5vkYjV1V1A&amp;t=3s">https://www.youtube.com/watch?v=u5vkYjV1V1A&amp;t=3s</a>  <a href="https://www.youtube.com/watch?v=L0iivb-acqU&amp;list=RDLVu5vkYjV1V1A&amp;index=2">https://www.youtube.com/watch?v=L0iivb-acqU&amp;list=RDLVu5vkYjV1V1A&amp;index=2</a>  <a href="#">GCSE Science Revision Physics "Refraction of Waves" – YouTube</a>  <a href="#">GCSE Physics - Radio Waves #65 – YouTube</a>

These specification points will be the **major focus** of this paper.

**Exam date: 23<sup>rd</sup> June**

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Spec point	Concepts	Bitesize	YouTube
<b>Required Practical 21</b> investigate how the amount of infrared radiation absorbed or radiated by a surface depends on the nature of the surface.	<ul style="list-style-type: none"> <li>Identify dependent, independent and variables</li> <li>Plan a method to ensure valid results are collected</li> <li>Draw conclusions from data</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/ztpm7p3/revision/1">https://www.bbc.co.uk/bitesize/guides/ztpm7p3/revision/1</a>	<a href="https://www.youtube.com/watch?v=LFwio38EK9s">https://www.youtube.com/watch?v=LFwio38EK9s</a>
<b>6.7.2</b> The motor effect	<ul style="list-style-type: none"> <li>Describe how an electromagnet is made</li> <li>Describe how to change the strength of the electromagnet</li> <li>Show that Fleming's left-hand rule represents the relative orientation of the force, the current in the conductor and the magnetic field.</li> <li>Describe the factors that affect the size of the force on the conductor.</li> <li>Use an equation to calculate the force acting on the conductor from the magnetic flux density, current and length of the wire</li> <li>Explain how the force on a conductor in a magnetic field causes the rotation of the coil in an electric motor</li> </ul>	<a href="https://www.bbc.co.uk/bitesize/guides/zg43y4j/revision/1">https://www.bbc.co.uk/bitesize/guides/zg43y4j/revision/1</a>	<a href="https://www.youtube.com/watch?v=79_SF5AZtzo">https://www.youtube.com/watch?v=79_SF5AZtzo</a> <a href="#">GCSE Science Revision Physics "The Motor Effect" – YouTube</a> <a href="#">GCSE Physics - Motor Effect #79 – YouTube</a> <a href="#">GCSE Physics - How the Electric Motor Works #80 – YouTube</a> <a href="#">GCSE Science Revision Physics "The Electric Motor" – YouTube</a>

These specification points will **not be assessed** on this paper.

Spec point NOT assessed
<b>6.5.3</b> Forces and elasticity
<b>6.5.4.3</b> Forces and braking
<b>6.7.1</b> Permanent and induced magnetism, magnetic forces and fields