

## ADVANCED INFORMATION FOR EXAMINATIONS

Issued by the Exam Boards for GCSE examinations

SUBJECT	EXAM BOARD	TOPICS STUDENTS <u>MUST</u> REVISE	TOPICS STUDENTS <u>DO NOT</u> HAVE TO REVISE	WHAT WILL BE EXAMINED ON IN MOCK EXAMS	HOW WILL THE REVISION/COURSE BE STRUCTURED BETWEEN NOW AND THE SUMMER EXAM?	STAFF EMAIL TO CONTACT FOR MORE INFORMATION	LINK TO EXAM BOARD SPECIFIC ADVANCED INFORMATION DOCUMENT
Art & Design	Edexcel Pearsons	Not Applicable as full qualification is NEA (non-examination assessment)	Not Applicable as full qualification is NEA (non-examination assessment) - changes in October 2021 removed Component 2, meaning qualification entirely based on internally set projects.	Students will complete a 10-hour final piece, based on their full Component 1 portfolio. This will be a summative piece, concluding their personal investigation.	While the course does not require revision as the qualification is fully assessed on coursework portfolio, the remainder of the course will be focused on developing independent projects and working towards a 10-hour final piece at the end.	<a href="mailto:ESamuels@hammersmithacademy.org">ESamuels@hammersmithacademy.org</a>	<a href="https://support.pearson.com/uk/s/feed/0D55p0000Gi4cYeCQI">https://support.pearson.com/uk/s/feed/0D55p0000Gi4cYeCQI</a>
Biology (Single Science) Foundation Tier	AQA	<p>Biology Paper 1: Cell Biology</p> <ul style="list-style-type: none"> <li>• 4.1.1 Cell structure</li> <li>• 4.1.3 Transport in cells</li> </ul> <p>• Required practical activity 1: how a light microscope is used to observe plant cells.</p> <p>• Required practical activity 3: investigate the effect of a range of concentrations of salt solution on the mass of plant tissue.</p> <p>Organisation</p> <ul style="list-style-type: none"> <li>• 4.2.2 Animal tissues, organs and organ systems</li> </ul> <p>• Required practical activity 4: use qualitative reagents to test for a range of carbohydrates, lipids and proteins.</p> <p>Infection and Response</p> <ul style="list-style-type: none"> <li>• 4.3.1 Communicable diseases</li> <li>• Bioenergetics</li> <li>• 4.4.1 Photosynthesis</li> </ul> <p>• Required practical activity 6: investigate the effect of light intensity on the rate of photosynthesis using an aquatic organism such as pondweed.</p> <p>For Biology Paper 2: Homeostasis and Response</p> <ul style="list-style-type: none"> <li>• 4.5.2 The human nervous system</li> <li>• 4.5.3 Hormonal control in humans</li> <li>• 4.5.4 Plant hormones</li> </ul> <p>• Required practical activity 7: carry out an investigation into human reaction times.</p> <p>• Required practical activity 8: investigate the effect of light on the growth of newly germinated seedlings.</p> <p>Inheritance, Variation, and Evolution</p> <ul style="list-style-type: none"> <li>• 4.6.1 Reproduction</li> </ul> <p>• 4.6.3 The development of understanding of genetics and evolution</p> <p>Ecology</p> <p>• Required practical activity 9: measure the population size of a common species in a habitat.</p>	<ul style="list-style-type: none"> <li>• 4.1.1.4 Cell differentiation</li> <li>• 4.2.1 Principles of organisation</li> <li>• 4.2.2.3 Blood</li> <li>• 4.2.2.7 Cancer</li> <li>• 4.3.1.5 Protist diseases</li> <li>• 4.4.1.3 Uses of glucose from photosynthesis</li> <li>• 4.4.2.1 Aerobic and anaerobic respiration</li> <li>• 4.4.2.2 Response to exercise</li> <li>• 4.4.2.3 Metabolism</li> <li>• 4.5.2.2 The brain</li> <li>• 4.5.2.3 The eye</li> <li>• 4.5.3.3 Maintaining water and nitrogen balance in the body</li> <li>• 4.6.1.3 Advantages and disadvantages of sexual and asexual reproduction</li> <li>• 4.6.1.5 DNA structure</li> <li>• 4.6.1.8 Sex determination</li> <li>• 4.6.2 Variation and evolution</li> <li>• 4.6.3.1 Theory of evolution</li> <li>• 4.6.3.2 Speciation</li> <li>• 4.6.3.3 The understanding of genetics</li> <li>• 4.6.3.7 Resistant bacteria</li> <li>• 4.7.1.4 Adaptations</li> <li>• 4.7.2.2 How materials are cycled</li> <li>• 4.7.2.3 Decomposition</li> <li>• 4.7.3.1 Biodiversity</li> <li>• 4.7.3.3 Land use</li> <li>• 4.7.3.4 Deforestation</li> <li>• 4.7.3.5 Global warming</li> <li>• 4.7.3.6 Maintaining biodiversity</li> <li>• 4.7.4 Trophic levels in an ecosystem</li> <li>• 4.7.5 Food production</li> </ul>	Biology Paper 2 (Monday 28 March). Content will match the above as closely as possible.	Emphasis on Advance Information. Improving revision and examination technique.	<a href="mailto:TBridle@hammersmithacademy.org">TBridle@hammersmithacademy.org</a>	<a href="https://filestore.aqa.org.uk/content/summer-2022/AQA-8461-AI-22.PDF">https://filestore.aqa.org.uk/content/summer-2022/AQA-8461-AI-22.PDF</a>
Biology (Single Science) Higher Tier	AQA	<p>For Biology Paper 1: Cell Biology</p> <ul style="list-style-type: none"> <li>• 4.1.1 Cell structure</li> <li>• 4.1.3 Transport in cells</li> </ul> <p>• Required practical activity 1: use a light microscope to observe plant cells.</p> <p>• Required practical activity 3: investigate the effect of a range of concentrations of salt solution on the mass of plant tissue.</p> <p>Organisation</p> <ul style="list-style-type: none"> <li>• 4.2.2 Animal tissues, organs and organ systems</li> <li>• 4.2.3 Plant tissues, organs and systems</li> </ul> <p>• Required practical activity 4: use qualitative reagents to test for a range of carbohydrates, lipids and proteins.</p> <p>Infection and Response</p> <ul style="list-style-type: none"> <li>• 4.3.1 Communicable diseases</li> <li>• 4.3.2 Monoclonal antibodies</li> </ul>	<ul style="list-style-type: none"> <li>• 4.2.2.3 Blood</li> <li>• 4.2.2.7 Cancer</li> <li>• 4.3.1.8 Antibiotics and pain killers</li> <li>• 4.3.1.9 Discovery and development of drugs</li> <li>• 4.4.2.2 Response to exercise</li> <li>• 4.5.2.1 Structure and function</li> <li>• 4.5.2.2 The brain</li> <li>• 4.5.2.3 The eye</li> <li>• 4.5.3.4 Hormones in human reproduction</li> <li>• 4.5.3.5 Contraception</li> <li>• 4.5.3.6 The use of hormones to treat infertility</li> <li>• 4.5.3.7 Negative feedback</li> <li>• 4.5.4.2 Use of plant hormones</li> <li>• 4.6.1.3 Advantages and disadvantages of sexual and asexual reproduction</li> <li>• 4.6.1.8 Sex determination</li> <li>• 4.6.2 Variation and evolution</li> </ul>	Biology Paper 2 (Monday 28 March). Content will match the above as closely as possible.	Emphasis on Advance Information. Improving revision and examination technique.	<a href="mailto:TBridle@hammersmithacademy.org">TBridle@hammersmithacademy.org</a>	<a href="https://filestore.aqa.org.uk/content/summer-2022/AQA-8461-AI-22.PDF">https://filestore.aqa.org.uk/content/summer-2022/AQA-8461-AI-22.PDF</a>

		<p>For Biology Paper 2: Homeostasis and Response</p> <ul style="list-style-type: none"> <li>• 4.5.2 The human nervous system</li> <li>• 4.5.3 Hormonal control in humans <ul style="list-style-type: none"> <li>• 4.5.4 Plant hormones</li> </ul> </li> </ul> <p>• Required practical activity 8: investigate the effect of light on the growth of newly germinated seedlings.</p> <p>Inheritance, Variation, and Evolution</p> <ul style="list-style-type: none"> <li>• 4.6.1 Reproduction Ecology</li> <li>• 4.7.2 Organisation of an ecosystem</li> </ul> <p>• Required practical activity 9: measure the population size of a common species in a habitat.</p>	<ul style="list-style-type: none"> <li>• 4.6.3 The development of understanding of genetics and evolution</li> <li>• 4.6.4 Classification of living organisms</li> <li>• 4.7.1.4 Adaptations</li> <li>• 4.7.2.4 Impact of environmental change</li> <li>• 4.7.3.1 Biodiversity</li> <li>• 4.7.3.4 Deforestation</li> <li>• 4.7.3.6 Maintaining biodiversity</li> <li>• 4.7.4.1 Trophic levels</li> <li>• 4.7.4.2 Pyramids of biomass</li> <li>• 4.7.5.3 Sustainable fisheries</li> <li>• 4.7.5.4 Role of biotechnology</li> </ul>				
Chemistry (Single Science) Foundation Tier	AQA	<p>For Chemistry Paper 1: Atomic Structure and the Periodic Table</p> <ul style="list-style-type: none"> <li>• 4.1.1 A simple model of the atom, symbols, relative atomic mass, electronic charge and isotopes <ul style="list-style-type: none"> <li>• 4.1.2 The periodic table</li> </ul> </li> <li>Bonding, Structure, and the Properties of Matter <ul style="list-style-type: none"> <li>• 4.2.1 Chemical bonds, ionic, covalent and metallic</li> </ul> </li> <li>• 4.2.2 How bonding and structure are related to the properties of substances</li> <li>• 4.2.4 Bulk and surface properties of matter including nanoparticles</li> </ul> <p>Chemical Changes</p> <ul style="list-style-type: none"> <li>• 4.4.2 Reactions of acids</li> </ul> <p>• Required practical activity 1: preparation of a pure, dry sample of a soluble salt from an insoluble oxide or carbonate, using a Bunsen burner to heat dilute acid and a water bath or electric heater to evaporate the solution.</p> <p>• Required practical activity 2: determination of the reacting volumes of solutions of a strong acid and a strong alkali by titration.</p> <p>Energy Changes</p> <ul style="list-style-type: none"> <li>• 4.5.1 Exothermic and endothermic reactions</li> </ul> <p>• Required practical activity 4: investigate the variables that affect temperature changes in reacting solutions such as, eg, acid plus metals, acid plus carbonates, neutralisations, displacement of metals.</p> <p>For Chemistry Paper 2: Rate Extent and Extent of Chemical Change</p> <ul style="list-style-type: none"> <li>• 4.6.1 Rate of reaction</li> <li>• 4.6.2 Reversible reactions and dynamic equilibrium</li> </ul> <p>• Required practical activity 5: investigate how changes in concentration affect the rates of reactions by a method involving measuring the volume of a gas produced and a method involving a change in colour or turbidity. This should be an investigation developing a hypothesis.</p> <p>Organic Chemistry</p> <ul style="list-style-type: none"> <li>• 4.7.1 Carbon compounds as fuels and feedstock</li> </ul> <p>Chemical Analysis</p> <ul style="list-style-type: none"> <li>• 4.8.3 Identification of ions by chemical and spectroscopic means</li> </ul> <p>• Required practical activity 6: investigate how paper chromatography can be used to separate and tell the difference between coloured substances. Students should calculate R<sub>f</sub> values.</p> <p>• Required practical activity 7: use of chemical tests to identify the ions in unknown single ionic compounds covering the ions from sections Flame tests through to Sulfates.</p> <p>Chemistry of the Atmosphere</p> <ul style="list-style-type: none"> <li>• 4.9.1 The composition and evolution of the Earth's atmosphere</li> </ul> <p>Using Resources</p> <ul style="list-style-type: none"> <li>• 4.10.1 Using the Earth's resources and obtaining potable water <ul style="list-style-type: none"> <li>• 4.10.2 Life cycle assessment and recycling</li> <li>• 4.10.4 The Haber process and the use of NPK fertilisers</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• 4.5.2 Chemical cells and fuel cells</li> <li>• 4.8.2 Identification of common gases</li> </ul>	Chemistry Paper 1. Content will match the above as closely as possible.	Emphasis on Advance Information. Improving revision and examination technique.	<a href="mailto:TBridle@hammersmithacademy.org">TBridle@hammersmithacademy.org</a>	<a href="https://filestore.aqa.org.uk/content/summer-2022/AQA-8461-AI-22.PDF">https://filestore.aqa.org.uk/content/summer-2022/AQA-8461-AI-22.PDF</a>
Chemistry (Single Science) Higher Tier	AQA	<p>For Chemistry Paper 1: Atomic Structure and the Periodic Table</p> <ul style="list-style-type: none"> <li>• 4.1.2 The periodic table</li> </ul> <p>Bonding, Structure, and the Properties of Matter</p> <ul style="list-style-type: none"> <li>• 4.2.1 Chemical bonds, ionic, covalent and metallic</li> </ul> <ul style="list-style-type: none"> <li>• 4.2.2 How bonding and structure are related to the properties of substances</li> <li>• 4.2.3 Structure and bonding of carbon</li> </ul> <p>Quantitative Chemistry</p> <ul style="list-style-type: none"> <li>• 4.3.2 Use of amount of substance in relation to masses of pure substances</li> </ul>	<ul style="list-style-type: none"> <li>• 4.2.4 Bulk and surface properties of matter including nanoparticles</li> <li>• 4.9.2 Carbon dioxide and methane as greenhouse gases</li> </ul>	Chemistry Paper 1. Content will match the above as closely as possible.	Emphasis on Advance Information. Improving revision and examination technique.	<a href="mailto:TBridle@hammersmithacademy.org">TBridle@hammersmithacademy.org</a>	<a href="https://filestore.aqa.org.uk/content/summer-2022/AQA-8462-AI-22.PDF">https://filestore.aqa.org.uk/content/summer-2022/AQA-8462-AI-22.PDF</a>

		<p>Chemical Changes</p> <ul style="list-style-type: none"> <li>• 4.4.1 Reactivity of metals</li> <li>• 4.4.2 Reactions of acids</li> <li>• 4.4.3 Electrolysis</li> </ul> <p>• Required practical activity 1: preparation of a pure, dry sample of a soluble salt from an insoluble oxide or carbonate, using a Bunsen burner to heat dilute acid and a water bath or electric heater to evaporate the solution.</p> <p>• Required practical activity 2: determination of the reacting volumes of solutions of a strong acid and a strong alkali by titration.</p> <p>Energy Changes</p> <ul style="list-style-type: none"> <li>• 4.5.1 Exothermic and endothermic reactions</li> </ul> <p>• Required practical activity 4: investigate the variables that affect temperature changes in reacting solutions such as, eg, acid plus metals, acid plus carbonates, neutralisations, displacement of metals.</p> <p>For Chemistry Paper 2:</p> <p>Rate Extent and Extent of Chemical Change</p> <ul style="list-style-type: none"> <li>• 4.6.1 Rate of reaction</li> <li>• 4.6.2 Reversible reactions and dynamic equilibrium</li> </ul> <p>• Required practical activity 5: investigate how changes in concentration affect the rates of reactions by a method involving measuring the volume of a gas produced and a method involving a change in colour or turbidity. This should be an investigation developing a hypothesis.</p> <p>Organic Chemistry</p> <ul style="list-style-type: none"> <li>• 4.7.1 Carbon compounds as fuels and feedstock</li> </ul> <p>Chemical Analysis</p> <p>• Required practical activity 7: use of chemical tests to identify the ions in unknown single ionic compounds covering the ions from sections Flame tests through to Sulfates.</p> <p>Chemistry of the Atmosphere</p> <ul style="list-style-type: none"> <li>• 4.9.1 The composition and evolution of the Earth's atmosphere</li> </ul> <p>Using Resources</p> <ul style="list-style-type: none"> <li>• 4.10.1 Using the Earth's resources and obtaining potable water</li> <li>• 4.10.4 The Haber process and the use of NPK fertilisers</li> </ul>					
<p>Combined Science: Trilogy Foundation Tier</p>	<p>AQA</p>	<p>For Biology Paper 1</p> <p>Cell Biology</p> <ul style="list-style-type: none"> <li>• 4.1.2 Cell division</li> </ul> <p>• Required practical activity 1: use of a light microscope.</p> <p>Organisation</p> <ul style="list-style-type: none"> <li>• 4.2.2 Animal tissues, organs and organ systems</li> </ul> <p>• Required practical activity 3: use qualitative reagents to test for a range of carbohydrates, lipids and proteins.</p> <p>Infection and Response</p> <ul style="list-style-type: none"> <li>• 4.3.1 Communicable diseases</li> </ul> <p>Bioenergetics</p> <ul style="list-style-type: none"> <li>• 4.4.1 Photosynthesis</li> </ul> <p>Required practical activities that will be assessed:</p> <p>• Required practical activity 5: investigate the effect of light on the rate of photosynthesis of an aquatic plant such as pondweed.</p> <p>For Chemistry Paper 1</p> <p>Atomic Structure and the Periodic Table</p> <ul style="list-style-type: none"> <li>• 5.1.2 The periodic table</li> </ul> <p>Bonding, Structure and the Properties of Matter</p> <ul style="list-style-type: none"> <li>• 5.2.2 How bonding and structure are related to the properties of substances</li> <li>• 5.2.3 Structure and bonding of carbon</li> </ul> <p>Quantitative Chemistry</p> <ul style="list-style-type: none"> <li>• 5.3.2 Use of amount of substance in relation to masses of pure substances</li> </ul> <p>Chemical Changes</p> <ul style="list-style-type: none"> <li>• 5.4.1 Reactivity of metals</li> <li>• 5.4.2 Reactions of acids</li> <li>• 5.4.3 Electrolysis</li> </ul> <p>• Required practical activity 8: preparation of a pure, dry sample of a soluble salt from an insoluble oxide or carbonate, using a Bunsen burner to heat dilute acid and a water bath or electric heater to evaporate the solution.</p> <p>• Required practical activity 9: investigate what happens when aqueous solutions are electrolysed using inert electrodes. This should be an investigation involving developing a hypothesis.</p> <p>Energy Changes</p>	<p>Biology</p> <ul style="list-style-type: none"> <li>• 4.1.3.2 Osmosis</li> <li>• 4.1.3.3 Active transport</li> <li>• 4.2.2.4 Coronary heart disease: a non-communicable disease</li> <li>• 4.4.1.3 Uses of glucose from photosynthesis</li> <li>• 4.4.2 Respiration</li> </ul> <p>Topics not assessed in this paper:</p> <ul style="list-style-type: none"> <li>• 4.5.2 The human nervous system</li> <li>• 4.5.3.3 Hormones in human reproduction</li> <li>• 4.5.3.4 Contraception</li> <li>• 4.6.1.1 Sexual and asexual reproduction</li> <li>• 4.6.1.2 Meiosis</li> <li>• 4.6.1.6 Sex determination</li> <li>• 4.6.2.1 Variation</li> <li>• 4.6.2.2 Evolution</li> <li>• 4.6.2.3 Selective breeding</li> <li>• 4.6.3.3 Extinction</li> <li>• 4.6.3.4 Resistant bacteria</li> <li>• 4.7.1.4 Adaptations</li> <li>• 4.7.3.1 Biodiversity</li> <li>• 4.7.3.3 Land use</li> <li>• 4.7.3.4 Deforestation</li> <li>• 4.7.3.5 Global warming</li> <li>• 4.7.3.6 Maintaining biodiversity</li> </ul> <p>Chemistry</p> <ul style="list-style-type: none"> <li>• 5.9.2 Carbon dioxide and methane as greenhouse gases</li> </ul> <p>Physics</p> <ul style="list-style-type: none"> <li>• 6.2.3 Domestic uses and safety</li> <li>• 6.3.3 Particle model and pressure</li> <li>• 6.4.1 Atoms and isotopes</li> <li>• 6.5.3 Forces and elasticity</li> </ul>	<p>Chemistry Paper 1. Content will match the above as closely as possible.</p> <p>Physics Paper 2. Content will match the above as closely as possible.</p> <p>Biology Paper 2 (Monday 28 March). Content will match the above as closely as possible.</p>	<p>Emphasis on Advance Information.</p> <p>Improving revision and examination technique.</p>	<p><a href="mailto:TBride@hammersmithacademy.org">TBride@hammersmithacademy.org</a></p>	<p><a href="https://filestore.aqa.org.uk/content/summer-2022/AQA-8464-AI-22.PDF">https://filestore.aqa.org.uk/content/summer-2022/AQA-8464-AI-22.PDF</a></p>

- 5.5.1 Exothermic and endothermic reactions
- Required practical activity 10: investigate the variables that affect temperature changes in reacting solutions such as, eg, acid plus metals, acid plus carbonates, neutralisations, displacement of metals.  
For Physics Paper 1:  
Energy
- 6.1.1 Energy changes in a system, and the ways energy is stored before and after such changes
  - 6.1.3 National and global energy resources
- Required practical activity 14: an investigation to determine the specific heat capacity of one or more materials. The investigation will involve linking the decrease of one energy store (or work done) to the increase in temperature and subsequent increase in thermal energy stored.  
Electricity
- 6.2.1 Current, potential difference and resistance
- Required practical activity 16: use circuit diagrams to construct appropriate circuits to investigate the I–V characteristics of a variety of circuit elements, including a filament lamp, a diode and a resistor at constant temperature.  
Particle Model of Matter
- 6.3.1 Changes of state and the particle model  
Atomic Structure
- 6.4.2 Atoms and nuclear radiation  
For Biology Paper 2:  
Homeostasis and Response
- 4.5.3 Hormonal control in humans  
Inheritance, Variation, and Evolution
  - 4.6.1 Reproduction  
Ecology
- 4.7.1 Adaptations, interdependence and competition
- 4.7.2 Organisation of an ecosystem
- Required practical activity 7: 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.  
For Chemistry Paper 2:  
Rate and Extent of Chemical Change
- 5.6.1 Rate of reaction
- 5.6.2 Reversible reactions and dynamic equilibrium
- Required practical activity 11: investigate how changes in concentration affect the rates of reactions by a method involving measuring the volume of a gas produced and a method involving a change in colour or turbidity. This should be an investigation involving developing a hypothesis.  
Organic Chemistry
- 5.7.1 Carbon compounds as fuels and feedstock  
Chemical Analysis
- 5.8.1 Purity, formulations and chromatography
- Required practical activity 12: investigate how paper chromatography can be used to separate and tell the difference between coloured substances.  
Students should calculate R<sub>f</sub> values.  
Chemistry of the Atmosphere
- 5.9.1 The composition and evolution of the Earth's atmosphere
- 5.9.3 Common atmospheric pollutants and their sources  
Using Resources
- 5.10.1 Using the Earth's resources and obtaining potable water  
For Physics Paper 2:  
Forces
- 6.5.1 Forces and their interactions
  - 6.5.4.1 Describing motion along a line
- 6.5.4.2 Forces, accelerations and Newton's Laws of motion
  - 6.5.4.3 Forces and braking  
Waves
- 6.6.2 Electromagnetic waves
- Required practical activity 21: investigate how the amount of infrared radiation absorbed or radiated by a surface depends on the nature of that surface.  
Magnetism and Electromagnetism
- 6.7.1 Permanent and induced magnetism, magnetic forces and fields
  - 6.7.2 The motor effect

<p>Combined Science: Trilogy Higher Tier</p>	<p>AQA</p>	<p>For Biology Paper 1 Cell Biology</p> <ul style="list-style-type: none"> <li>• 4.1.2 Cell division Organisation</li> <li>• 4.2.2 Animal tissues, organs and organ systems</li> </ul> <p>• Required practical activity 3: use qualitative reagents to test for a range of carbohydrates, lipids and proteins.</p> <p>• Required practical activity 4: investigate the effect of pH on the rate of reaction of amylase enzyme. Bioenergetics</p> <ul style="list-style-type: none"> <li>• 4.4.1 Photosynthesis</li> </ul> <p>Required practical activities that will be assessed:</p> <p>• Required practical activity 5: investigate the effect of light on the rate of photosynthesis of an aquatic plant such as pondweed.</p> <p>For Chemistry Paper 1 Bonding, Structure and the Properties of Matter</p> <ul style="list-style-type: none"> <li>• 5.2.2 How bonding and structure are related to the properties of substances</li> </ul> <p>Quantitative Chemistry</p> <ul style="list-style-type: none"> <li>• 5.3.2 Use of amount of substance in relation to masses of pure substances</li> </ul> <p>Chemical Changes</p> <ul style="list-style-type: none"> <li>• 5.4.1 Reactivity of metals</li> <li>• 5.4.2 Reactions of acids</li> <li>• 5.4.3 Electrolysis</li> </ul> <p>• Required practical activity 8: preparation of a pure, dry sample of a soluble salt from an insoluble oxide or carbonate, using a Bunsen burner to heat dilute acid and a water bath or electric heater to evaporate the solution.</p> <p>• Required practical activity 9: investigate what happens when aqueous solutions are electrolysed using inert electrodes. This should be an investigation involving developing a hypothesis. Energy Changes</p> <ul style="list-style-type: none"> <li>• 5.5.1 Exothermic and endothermic reactions</li> </ul> <p>• Required practical activity 10: investigate the variables that affect temperature changes in reacting solutions such as, eg, acid plus metals, acid plus carbonates, neutralisations, displacement of metals.</p> <p>For Physics Paper 1: Energy</p> <ul style="list-style-type: none"> <li>• 6.1.1 Energy changes in a system, and the ways energy is stored before and after such changes</li> </ul> <p>• Required practical activity 14: an investigation to determine the specific heat capacity of one or more materials. The investigation will involve linking the decrease of one energy store (or work done) to the increase in temperature and subsequent increase in thermal energy stored. Electricity</p> <ul style="list-style-type: none"> <li>• 6.2.4 Energy transfers</li> </ul> <p>• Required practical activity 16: use circuit diagrams to construct appropriate circuits to investigate the I–V characteristics of a variety of circuit elements, including a filament lamp, a diode and a resistor at constant temperature. Particle Model of Matter</p> <ul style="list-style-type: none"> <li>• 6.3.1 Changes of state and the particle model</li> <li>• 6.3.3 Particle model and pressure</li> </ul> <p>Atomic Structure</p> <ul style="list-style-type: none"> <li>• 6.4.1 Atoms and isotopes</li> <li>• 6.4.2 Atoms and nuclear radiation</li> </ul> <p>For Biology Paper 2: Homeostasis and Response</p> <ul style="list-style-type: none"> <li>• 4.5.3 Hormonal control in humans</li> </ul> <p>Ecology</p> <ul style="list-style-type: none"> <li>• 4.7.2 Organisation of an ecosystem</li> <li>• 4.7.3 Biodiversity and the effect of human interaction on an ecosystem</li> </ul> <p>• Required practical activity 7: 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.</p> <p>For Chemistry Paper 2: Rate and Extent of Chemical Change</p> <ul style="list-style-type: none"> <li>• 5.6.1 Rate of reaction</li> </ul>	<p>Biology</p> <ul style="list-style-type: none"> <li>• 4.1.1.5 Microscopy</li> <li>• 4.1.3 Transport in cells</li> <li>• 4.2.3 Plant tissues, organs and systems</li> <li>• 4.3.1.2 Viral diseases</li> <li>• 4.3.1.4 Fungal diseases</li> <li>• 4.3.1.5 Protist diseases</li> <li>• 4.3.1.6 Human defence systems</li> <li>• 4.4.1.3 Uses of glucose from photosynthesis</li> <li>• 4.4.2.2 Response to exercise</li> <li>• 4.5.2 The human nervous system</li> <li>• 4.5.3.4 Contraception</li> <li>• 4.6.1.1 Sexual and asexual reproduction</li> <li>• 4.6.1.3 DNA and the genome</li> <li>• 4.6.1.4 Genetic inheritance</li> <li>• 4.6.1.5 Inherited disorders</li> <li>• 4.6.1.6 Sex determination</li> <li>• 4.6.2 Variation and evolution</li> <li>• 4.6.3 The development of understanding of genetics and evolution</li> <li>• 4.7.1.4 Adaptations</li> <li>• 4.7.3.3 Land use</li> <li>• 4.7.3.4 Deforestation</li> </ul> <p>Chemistry</p> <ul style="list-style-type: none"> <li>• 5.8.2 Identification of common gases</li> </ul> <p>Physics</p> <ul style="list-style-type: none"> <li>• 6.2.2 Series and parallel circuits</li> <li>• 6.2.3 Domestic uses and safety</li> <li>• 6.3.2 Internal energy and energy transfers</li> <li>• 6.5.3 Forces and elasticity</li> <li>• 6.5.4.3 Forces and braking</li> <li>• 6.7.1 Permanent and induced magnetism, magnetic forces and fields</li> </ul>	<p>Chemistry Paper 1. Content will match the above as closely as possible.</p>	<p>Emphasis on Advance Information. Improving revision and examination technique.</p>	<p><a href="mailto:TBride@hammersmithacademy.org">TBride@hammersmithacademy.org</a></p>	<p><a href="https://filestore.aqa.org.uk/content/summer-2022/AQA-8464-A1-22.PDF">https://filestore.aqa.org.uk/content/summer-2022/AQA-8464-A1-22.PDF</a></p>
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Computer Science	OCR	<p>PAPER 1 - Computer System</p> <p>1.1 Systems architecture</p> <p>1.1.1 Architecture of the CPU</p> <p>The purpose of the CPU</p> <ul style="list-style-type: none"> <li>o The fetch-execute cycle</li> </ul> <p>Common CPU components and their function:</p> <ul style="list-style-type: none"> <li>o ALU (Arithmetic Logic Unit)</li> <li>o CU (Control Unit)</li> <li>o Cache</li> <li>o Registers</li> </ul> <p>Von Neumann architecture:</p> <ul style="list-style-type: none"> <li>o MAR (Memory Address Register)</li> <li>o MDR (Memory Data Register)</li> <li>o Program Counter</li> <li>o Accumulator</li> </ul> <p>Common CPU components and their features.</p> <p>Von Neumann architecture</p> <p>1.2 Memory and storage:</p> <p>1.2.1 Primary storage (Memory)</p> <ul style="list-style-type: none"> <li>o The need for primary storage</li> <li>o The difference between RAM and ROM</li> <li>o The purpose of ROM in a computer system</li> <li>o The purpose of RAM in a computer system</li> <li>o Virtual memory</li> </ul> <p>1.2.2 Secondary storage:</p> <p>The need for secondary storage</p> <ul style="list-style-type: none"> <li>o Common types of storage:</li> <li>o Optical</li> <li>o Magnetic</li> <li>o Solid state</li> </ul> <p>Suitable storage devices and storage media for a given application</p> <ul style="list-style-type: none"> <li>o The advantages and disadvantages of different storage devices and storage media relating to these characteristics:</li> <li>o Capacity</li> <li>o Speed</li> <li>o Portability</li> <li>o Durability</li> <li>o Reliability</li> <li>o Cost</li> </ul> <p>1.2.3 The units of data storage:</p> <ul style="list-style-type: none"> <li>o Bit</li> <li>o Nibble (4 bits)</li> <li>o Byte (8 bits)</li> <li>o Kilobyte (1,000 bytes or 1 KB)</li> <li>o Megabyte (1,000 KB)</li> <li>o Gigabyte (1,000 MB)</li> <li>o Terabyte (1,000 GB)</li> <li>o Petabyte (1,000 TB)</li> </ul> <ul style="list-style-type: none"> <li>o How data needs to be converted into a binary format to be processed by a computer</li> </ul>	<p>1.1.2 CPU performance:</p> <p>How common characteristics of CPUs affect their performance:</p> <ul style="list-style-type: none"> <li>o Clock speed</li> <li>o Cache size</li> <li>o Number of cores</li> </ul> <p>1.1.3 Embedded systems:</p> <ul style="list-style-type: none"> <li>o The purpose and characteristics of embedded systems</li> <li>o Examples of embedded systems</li> </ul>	<p>Only topics listed in the Advance Information for Paper 1: computer systems</p> <p>All topics for Paper 2: Computational Thinking, algorithm and programming</p>	<p>Reteaching of topics students not secure on yet and exam techniques on technical skills on how to approach questions especially higher mark questions.</p> <p>Regular past exam paper practice/End of units quizzes and reinforcing skills in topics with synoptic questions such as Database SQL, Programming techniques and Ethics</p>	<p><a href="mailto:ACurtis@hammersmithacademy.org">ACurtis@hammersmithacademy.org</a></p>	<p><a href="https://ocr.org.uk/qualifications/2022-advance-information/">https://ocr.org.uk/qualifications/2022-advance-information/</a></p>

		<ul style="list-style-type: none"> <li>- Data capacity and calculation of data capacity requirements</li> <li>1.2.4 Data Storage: <ul style="list-style-type: none"> <li>Numbers</li> <li>- How to convert positive denary whole numbers to binary numbers (up to and including 8 bits) and vice versa</li> <li>- How to add two binary integers together (up to and including 8 bits) and explain overflow errors which may occur</li> <li>- How to convert positive denary whole numbers into 2-digit hexadecimal numbers and vice versa</li> <li>- How to convert binary integers to their hexadecimal equivalents and vice versa <ul style="list-style-type: none"> <li>- Binary shifts</li> <li>Characters: <ul style="list-style-type: none"> <li>- The use of binary codes to represent characters</li> <li>- The term 'character set'</li> </ul> </li> </ul> </li> <li>- The relationship between the number of bits per character in a character set, and the number of characters which can be represented, e.g.: <ul style="list-style-type: none"> <li>o ASCII</li> <li>o Unicode</li> </ul> </li> <li>Images: <ul style="list-style-type: none"> <li>- How an image is represented as a series of pixels, represented in binary <ul style="list-style-type: none"> <li>- Metadata</li> <li>- The effect of colour depth and resolution on: <ul style="list-style-type: none"> <li>o The quality of the image</li> <li>o The size of an image file</li> </ul> </li> </ul> </li> <li>Sound: <ul style="list-style-type: none"> <li>- How sound can be sampled and stored in digital form</li> <li>- The effect of sample rate, duration and bit depth on: <ul style="list-style-type: none"> <li>o The playback quality</li> <li>o The size of a sound file</li> </ul> </li> </ul> </li> </ul> </li> <li>1.2.5 Compression <ul style="list-style-type: none"> <li>- The need for compression</li> <li>- Types of compression: <ul style="list-style-type: none"> <li>o Lossy</li> <li>o Lossless</li> </ul> </li> </ul> </li> </ul> </li> <li>1.3 Computer networks, connections and protocols</li> <li>1.3.1 Networks and topologies <ul style="list-style-type: none"> <li>Factors that affect the performance of networks.</li> <li>The hardware needed to connect stand-alone computers into a Local Area Network.</li> <li>The Internet as a worldwide collection of computer networks. <ul style="list-style-type: none"> <li>- Types of network: <ul style="list-style-type: none"> <li>o LAN (Local Area Network)</li> <li>o WAN (Wide Area Network)</li> </ul> </li> <li>- Factors that affect the performance of networks</li> </ul> </li> <li>- The different roles of computers in a client-server and a peer-to-peer network</li> <li>- The hardware needed to connect stand-alone computers into a Local Area Network: <ul style="list-style-type: none"> <li>o Wireless access points</li> <li>o Routers</li> <li>o Switches</li> <li>o NIC (Network Interface Controller/Card)</li> <li>o Transmission media</li> </ul> </li> <li>- The Internet as a worldwide collection of computer networks: <ul style="list-style-type: none"> <li>o DNS (Domain Name Server)</li> <li>o Hosting</li> <li>o The Cloud</li> <li>o Web servers and clients</li> </ul> </li> <li>- Star and Mesh network topologies</li> </ul> </li> <li>1.3.2 Wired and wireless networks, protocols and layers <ul style="list-style-type: none"> <li>Modes of connection.</li> <li>Encryption.</li> <li>IP addressing and MAC addressing.</li> <li>Standards.</li> <li>Common protocols including: <ul style="list-style-type: none"> <li>o TCP/IP (Transmission Control Protocol/Internet Protocol)</li> <li>o HTTP</li> </ul> </li> <li>1.4.2 Identifying and preventing vulnerabilities: <ul style="list-style-type: none"> <li>Common prevention methods: <ul style="list-style-type: none"> <li>o Penetration testing</li> <li>o Anti-malware</li> </ul> </li> </ul> </li> </ul> </li> <li>1.6 Ethical, legal, cultural and environmental impacts of digital technology <ul style="list-style-type: none"> <li>1.6.1 Ethical, legal, cultural and environmental impact <ul style="list-style-type: none"> <li>Impacts of digital technology on wider society.</li> <li>Legislation relevant to Computer Science.</li> </ul> </li> </ul> </li> </ul> <p>PAPER 2 - Computational Thinking, Algorithms and Programming (All must be studied)</p>	None. Questions may come up on all areas of the specification	Students will be examined on all areas of the specification however, the more complex questions which require a high level of understanding and	The completion of coursework will continue as scheduled. The theory lessons and exam question practise will be adjusted to place more time and emphasis on the topics identified in the advance information	<a href="mailto:L.Ferrell@hammersmithacademy.org">L.Ferrell@hammersmithacademy.org</a>	<a href="https://filestore.aqa.org.uk/content/summer-2022/AQA-8552-A1-22.PDF">https://filestore.aqa.org.uk/content/summer-2022/AQA-8552-A1-22.PDF</a>
Design and Technology	AQA	All. However, students should be prepared to answer longer, more complex questions of 4- 8 marks on the following topics: Section B: 3.2.1 Selection of materials or components					

		3.2.3 Ecological and social footprint 3.2.8 Specialist techniques and processes Section C: 3.3.2 Environmental, social and economic challenge 3.3.5 Communication of design ideas 3.3.6 Prototype development 3.3.9 Material management		evaluation will be on the topics identified in the advance information.			
Drama	Edexcel	Students have been given an extended pre-published extract from their set text DNA which will be the focus of their responses in Section A of the written exam. Students must have a comprehensive knowledge of the play DNA by Dennis Kelly including the context in which it was written and first performed and how they would approach the text as a director, designer and performer, demonstrating their knowledge of performance skills and design elements. Students must also have watched a live theatre production OR streamed production and be able to analyse and evaluate how theatre makers communicate and engage with an audience, offering a personal judgement of the performance they have seen.	N/A	Section A: Bringing Texts to Life • 45 marks, assessing AO3. • This section consists of one question broken into five parts (short and extended responses) based on a pre-published extract from the chosen performance text. • Performance texts are not allowed in the examination as the extracts will be provided. Section B: Live Theatre Evaluation • 15 marks, assessing AO4. • This section consists of two questions requiring students to analyse and evaluate a live theatre performance they have seen. • Students are allowed to bring in theatre evaluation notes of up to a maximum of 500 words.	Students will be directed to the extract that will feature in the summer 2022 exam but will continue to revise their knowledge of the play as a whole as this is still a requirement of the paper. Students will continue to revise DNA and Live Review once a week until the completion of their practical examination, after which point, the focus will be completely on the written paper with a greater focus on DNA, being the larger section of the written paper.	<a href="mailto:ECracknell@hammersmithacademy.org">ECracknell@hammersmithacademy.org</a>	<a href="https://qualifications.pearson.com/content/dam/pdf/GCSE/Drama/2016/teaching-and-learning-materials/W54680_GCSE_Drama_1DR0_AN_Accessible_version.pdf">https://qualifications.pearson.com/content/dam/pdf/GCSE/Drama/2016/teaching-and-learning-materials/W54680_GCSE_Drama_1DR0_AN_Accessible_version.pdf</a>
Economics	OCR	J205/01 – Introduction to Economics Paper 1 Topic Areas 2.1 The role of markets 2.2 Demand 2.3 Supply 2.4 Price 2.5 Competition 2.6 Production 2.7 The labour market 2.8 The role of money and financial markets Quantitative skills • Calculation of percentages and percentage changes, including interest on savings. • Calculation of income, including gross and net pay. • Construction of graphs from data, including supply and demand curves. • Interpretation and use of economic data, such as unemployment figures, exports and imports. J205/02 – National and International Economics Paper 2 Topic Areas 3.1 Economic growth 3.4 Price stability 3.5 Fiscal policy 3.6 Monetary policy 4.1 Importance of international trade 4.2 Balance of payments 4.3 Exchange rates Quantitative skills • Calculation of percentages and percentage changes, including interest on savings. • Calculations of averages, including cost. • Interpretation and use of information from graphs and charts. • Interpretation and use of economic data, such as unemployment, exports and imports.	1.1 Main economic groups and factors of production 1.2 The basic economic problem 3.2 Low unemployment 3.3 Fair distribution of income 3.7 Supply side policies 3.8 Limitations of markets 4.4 Globalisation	The topics the examination board will assess in the summer.	Consolidating subject knowledge - gap analysis Exam techniques - talking mocks Extended essay writing mind maps Completing examination papers in class. Essay under timed conditions. Keywords matching to their definitions.	<a href="mailto:JErdmann@hammersmithacademy.org">JErdmann@hammersmithacademy.org</a>	<a href="https://ocr.org.uk/qualifications/2022-advance-information/">https://ocr.org.uk/qualifications/2022-advance-information/</a>
English Literature	Pearson EDEXCEL	An Inspector Calls, Macbeth and Jekyll and Hyde	Poetry (both Unseen and Relationships)	An Inspector Calls and Macbeth	Cycling between revision of An Inspector Calls, Macbeth and Jekyll and Hyde.	<a href="mailto:TSmith@hammersmithacademy.org">TSmith@hammersmithacademy.org</a>	<a href="https://qualifications.pearson.com/content/dam/pdf/A%20Level/English%20Literature/2015/teaching-and-learning-materials/W73043_GCE_A_English_Literature_9ETO_AN_Accessible_version.pdf">https://qualifications.pearson.com/content/dam/pdf/A%20Level/English%20Literature/2015/teaching-and-learning-materials/W73043_GCE_A_English_Literature_9ETO_AN_Accessible_version.pdf</a>
English Language	Pearson EDEXCEL	Language Paper 1: Unseen Victorian Fiction extract and creative writing Language Paper 2: Unseen non-fiction extracts (20th century unseen extract from a magazine article; 21st century unseen extract from a memoir) and non-fiction writing (article-writing, formal letter writing)	Non-fiction writing: speech writing.	Language Paper 2: Unseen 20th century extract and unseen 21st century extract; non-fiction writing (speech or article or letter)	Constant revision cycles of unseen extracts and non-fiction writing tasks,	<a href="mailto:TSmith@hammersmithacademy.org">TSmith@hammersmithacademy.org</a>	<a href="https://www.pearson.com/content/dam/pdf/GCSE/English%20Language/2015/teaching-and-learning-materials/W55470_GCSE_English_Language_1EN0_AN_Accessible_Version.pdf?clen=110641&amp;chunk=true">chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/viewer.html?pdfurl=https%3A%2F%2Fqualifications.pearson.com%2Fcontent%2Fdam%2Fpdf%2FGCSE%2FEnglish%2520Language%2F2015%2Fteaching-and-learning-materials%2FW55470_GCSE_English_Language_1EN0_AN_Accessible_Version.pdf&amp;clen=110641&amp;chunk=true</a>
Geography	AQA (8035)	Paper 1 - Natural Hazards, Tectonic Hazards, Weather Hazards, Climate Change Section B - Ecosystems, Tropical Rainforests, Hot Deserts Section C - UK Landscapes, Coastal Landscapes, River Landscapes	Paper 1 - No changes Paper 2 - Students DO NOT need to study Section B (optional) - The Changing Economic World Paper 3 - Students DO NOT need to prepare questions on familiar fieldwork (fieldwork completed by them)	Paper 1 - Full Mock (Section A, B and C) Paper 2 - Full Mock (Section A and C) Paper 3 - Paper will be assessed at a later date following the mocks (Section A and B)	- 2 X revision lessons per week - Revision lessons will focus on included topics in assessment - Revision structure is to revise each element of paper 1, 2 and 3 in class explicitly	<a href="mailto:POBrien@hammersmithacademy.org">POBrien@hammersmithacademy.org</a>	<a href="https://www.aqa.org.uk/subjects/geography/gcse/geography-8035/changes-for-2022">https://www.aqa.org.uk/subjects/geography/gcse/geography-8035/changes-for-2022</a>



		<p>Paper 2 Section A - The Urban World (City in an LIC), Urban Change in UK (City in UK), Sustainable Urban Development</p> <p>Section C - Resource Management, Water Management</p> <p>Paper 3 Section A - Issue Evaluation Section B - Unseen Fieldwork</p>			- Revision lessons - developing Cornell notes and applying knowledge and understanding to exam style questions		
History	AQA	<p>3 units: - BB Conflict and tension: the inter-war years, 1918–1939 - AB Germany, 1890–1945: Democracy and dictatorship - AA Britain: Health and the people: c1000 to the present day</p>	<p>1 Unit: - BC Elizabethan England, c1568–1603</p>	<p>3 mock exams Following 2 in the Exam Hall. - BB Conflict and tension: the inter-war years, 1918–1939 - AB Germany, 1890–1945: Democracy and dictatorship Following unit in 1st week after half term in class. - AA Britain: Health and the people: c1000 to the present day Same content / exam questions as actual exam.</p>	<p>A student revision map has been with students since September. We continue to follow it as exam changes were anticipated. Current focus: - AA Britain: Health and the people: c1000 to the present day Already revised: - BB Conflict and tension: the inter-war years, 1918–1939 - AB Germany, 1890–1945: Democracy and dictatorship</p>	<p><a href="mailto:alexglavanis@hammersmithacademy.org">alexglavanis@hammersmithacademy.org</a></p>	<p><a href="https://www.aqa.org.uk/subjects/history/gcse/history-8145/changes-for-2022">https://www.aqa.org.uk/subjects/history/gcse/history-8145/changes-for-2022</a></p>
Mathematics	Edexcel (Foundation)	<p>Advance information will be provided for each paper and for each tier of entry- this can be found on the link included. However, students may need to draw on prior knowledge and skills, as well as expect unfamiliar contexts.</p>	<p>This has not been specified by the exam board as there may be synoptic questions which require students to bring together knowledge skills and understanding from across the specification.</p>	<p>Students have been provided with a revision list for their mock exams. Number, Powers and roots Convert between fractions and percentages Order fractions Rounding Money Convert fraction to percentage Apply four operations Fraction problem Find percentage of quantity Primes, factors, multiples Square numbers Fraction arithmetic Roots and powers Multiples Estimation LCM and HCF Calculator use Product of prime factors Standard form Error interval Algebra Simplify expression Solve linear equations Use nth term of quadratic sequence Solve linear equation Simplify algebraic expressions Factorise Sequence as a diagram Graphs and equations of lines Quadratic equation Substitution Quadratic graph Linear sequence Use inequality notation Ratio, proportion and rates of change Write a ratio Change between standard unit Conversion using graph Proportion Use compound units Solve ratio, fraction and percentage problem Percentage increase Ratio in real context Average speed Density Direct proportion Compound interest Geometry and measures Solve area problem Properties of 2D shapes Angle properties Area of rectangle Parallel lines Similar triangles Pythagoras' Theorem Transformations Transformation Parallel lines Volume of prisms Loci and scale drawing Vectors Plans and elevation Probability Probability and relative frequency Statistics Pie chart Listing strategies Bar chart Scatter graph Pie charts Tally chart Frequency trees Pictogram Frequency tables</p>	<p>Class teachers analyse students' performance in their mock papers to plan lessons on topics and skills students have not yet mastered. Students will also receive additional resources and support with the topics listed in the advance information list.</p>	<p><a href="mailto:SSuganthakumaran@hammersmithacademy.org">SSuganthakumaran@hammersmithacademy.org</a></p>	<p><a href="https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/teaching-and-learning-materials/W73038_GCSE_Mathematics_1MA1_AN_Accessible_version_v2.pdf">https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/teaching-and-learning-materials/W73038_GCSE_Mathematics_1MA1_AN_Accessible_version_v2.pdf</a></p>

Mathematics	Edexcel (Higher)	Advance information will be provided for each paper and for each tier of entry- this can be found on the link included. However, students may need to draw on prior knowledge and skills, as well as expect unfamiliar contexts.	This has not been specified by the exam board as there may be synoptic questions which require students to bring together knowledge skills and understanding from across the specification.	Students have been provided with a revision list for their mock exams. Number Product of prime factors Primes, factors, multiples Solve ratio, fraction and percentage problem Standard form Surds Standard form Fractions Bounds Compound interest Recurring decimal to fraction Algebra Derive expression Simplify algebraic expressionsAlgebraic fractions Gradients of parallel and perpendicular lines Graphs and equations of lines Recognising graphs Expansion of brackets Inverse and composite functions Quadratic graph Laws of indices Equation of a circle Negative and fractional indices Algebraic proof Solve two simultaneous equations Quadratic sequences Equations of straight lines Equation of a tangent to a circle Simultaneous equations (linear and non linear) Geometric proof Ratio, proportion and rates of change Density Compound units Speed Reverse percentages Growth and decay, compound interest Inverse proportion Direct and inverse proportion Use of ratio Geometry and measures Area of rectangle Transformations Plans and elevations Pythagoras' Theorem Circle theorems Similar triangles Volume of a cone Gradient of a curve Transformations Vectors Vectors Circle theorems Sine and cosine rules Trigonometry Area of a sector Surface area and volume of spheres Area problem Probability Dependent combined events Dependent combined events Probability Dependent/ independent probabilities Statistics Scatter graphs Two-way tables Cumulative frequency graphs Mean HistogramsHistograms	Class teachers analyse students' performance in their mock papers to plan lessons on topics and skills students have not yet mastered. Students will also receive additional resources and support with the topics listed in the advance information list.	<a href="mailto:SSuganthakumaran@hammersmithacademy.org">SSuganthakumaran@hammersmithacademy.org</a>	<a href="https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/teaching-and-learning-materials/W73038_GCSE_Mathematics_1MA1_AN_Accessible_version_v2.pdf">https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/teaching-and-learning-materials/W73038_GCSE_Mathematics_1MA1_AN_Accessible_version_v2.pdf</a>
Further Mathematics	AQA	Advance information will be provided for each paper - this can be found on the link included. However, students may need to draw on prior knowledge and skills, as well as expect unfamiliar contexts.	This has not been specified by the exam board and the advanced information covers all examined components.	Students have been provided with a revision list for their mock exams.	The course has been covered and students will be spending time practising and preparing exam questions.	<a href="mailto:SSuganthakumaran@hammersmithacademy.org">SSuganthakumaran@hammersmithacademy.org</a>	<a href="https://filestore.aqa.org.uk/content/summer-2022/AQA-8365-AI-22.PDF">https://filestore.aqa.org.uk/content/summer-2022/AQA-8365-AI-22.PDF</a>
Media Studies	OCR	J200/01 - Component 1: Television and Promoting Media - 1 hour 45 minutes (written exam) Component 1A - Media Language/Representation - Television: unknown extract from The Avengers - Representation - Television - Representation/Context - Television: Cuffs Component 1B - Industries - Film (The Lego Movie) - Industries/Audiences - Film, Video games - The Lego Movie, Minecraft - Media Language - Advertising and marketing - The Lego Movie trailer J200/02 - Component 2: Music and News - 1 hour 15 minutes (written exam) Component 2A - Audiences - Radio - Radio 1 Live Lounge - Representation - Music Video - Beyonce 'If I Were A Boy' or Bruno Mars 'Uptown Funk' - Media Language/Representation - Magazines - MOJO and one unseen Magazine extract Component 2B - Industries - Online, social and participatory media - The Observer/Guardian website and social media	No texts omitted, however, the Media Form has been quantified so students can hone in on specific sections of SoLs: Language/ Representation/ Industry/ Audience/ Context.	Complete Paper 1 and 2 practice exams which will use past papers according with slight customisations according to specific question categories (Language/Representation/Industry/Audience/Context).	Walking Talking Mock style content run-throughs, practice exam questions, low-stakes quizzes, set-text specific terminology, Paper 1 1. The Avengers (language/representation) 2. Cuffs (representation/context) 3. Television - General (representation) 4. The Lego Movie (industry) 5. The Lego Movie (audiences) 6. Minecraft (audiences) 7. Lego Movie trailer (media language) Paper 2 1. Radio 1 Live Lounge (audiences) 2. Beyonce 'If I Were A Boy' (representation) 3. Bruno Mars 'Uptown Funk' (representation) 4. MOJO (language/representation) 5. Magazines - General (language/representation) 6. Observer/Guardian website and social media (industries) 7. Observer (language/representation/context) 8. Historical Observer covers (language/representation/context)	<a href="mailto:SCole-Savidge@hammersmithacademy.org">SCole-Savidge@hammersmithacademy.org</a>	<a href="https://www.ocr.org.uk/qualifications/2022-advance-information/">https://www.ocr.org.uk/qualifications/2022-advance-information/</a> Qualification Level: GCSE Qualification: Media Studies J200

		<ul style="list-style-type: none"> <li>- Media Language/Representation/Contexts - Newspapers - The Observer</li> <li>- Media Language/Representation/Contexts - Newspapers - set historical Observer front covers</li> </ul>					
Music	OCR	<ul style="list-style-type: none"> <li>AoS2: The Concerto Through Time <ul style="list-style-type: none"> <li>• The Classical Concerto</li> <li>• The Romantic Concerto</li> </ul> </li> <li>AoS3: Rhythms of the World <ul style="list-style-type: none"> <li>• India and Punjab</li> <li>• Eastern Mediterranean and Middle East</li> </ul> </li> <li>AoS4: Film Music</li> <li>AoS5: Conventions of Pop <ul style="list-style-type: none"> <li>• Rock 'n' Roll of the 1950s and 1960s</li> <li>• Pop Ballads of the 1970s, 1980s and 1990s</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>AoS2: The Concerto Through Time <ul style="list-style-type: none"> <li>• The Baroque Concerto</li> </ul> </li> <li>AoS3: Rhythms of the World <ul style="list-style-type: none"> <li>• African</li> <li>• Calypso (traditional and steel pan)</li> <li>• Samba</li> </ul> </li> <li>AoS5: Conventions of Pop <ul style="list-style-type: none"> <li>• Rock Anthems of the 1970s and 1980s</li> <li>• Solo Artists from 1990s to present day</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Classical Concerto</li> <li>Romantic Concerto</li> <li>Indian Classical/Bhangra/Greek/Israeli and Palestinian (2 out of these 4)</li> <li>Film Music (2 questions)</li> <li>Rock n' Roll</li> <li>Pop Ballad</li> <li>8 Questions Total</li> </ul>	<p>Focus primarily on the above topics.</p> <p>Other topics will be revisited in homework tasks so that students still have that knowledge for future study.</p> <p>Note: ALL topics had been taught by the end of Year 10 and therefore this cohort have been taught the entire curriculum. However, our revision will now focus on the topics outlined above from this point forward in lessons.</p>	<a href="mailto:KSlav@hammersmithacademy.org">KSlav@hammersmithacademy.org</a>	<a href="https://www.ocr.org.uk/images/J536%20GCSE%20Music%20Advance%20Information_Jun2022.pdf">https://www.ocr.org.uk/images/J536%20GCSE%20Music%20Advance%20Information_Jun2022.pdf</a>
PE	Edexcel	All - all content could be assessed. There have been some topics identified that will only be assessed on questions "worth fewer than 2 marks".	None - There have been some topics identified that will only be assessed on questions "worth fewer than 2 marks".	Full content - 2 full papers	<p>SBE/JWO to meet and look at the topics that the cohort have struggled with in M1, M2, M3 from QLA topics. These topics will then be cross referenced with the advanced information from edexcel and only use exam questions worth fewer than 2 marks for the topics in the advanced information. Students will be sent the topics that will only be assessed on questions worth fewer than 2 marks so enable targeted revision.</p>	<a href="mailto:SBeattie@hammersmithacademy.org">SBeattie@hammersmithacademy.org</a>	<a href="https://qualifications.pearson.com/content/dam/pdf/GCSE/Physical%20Education/2016/Teaching%20and%20Learning%20materials/W73044_GCSE_Physical_Education_1P_E0_AN_Accessible_version.pdf">https://qualifications.pearson.com/content/dam/pdf/GCSE/Physical%20Education/2016/Teaching%20and%20Learning%20materials/W73044_GCSE_Physical_Education_1P_E0_AN_Accessible_version.pdf</a>
Physics (Single Science) Higher Tier	AQA	<p>For Physics Paper 1: Energy</p> <ul style="list-style-type: none"> <li>• 4.1.1 Energy changes in a system, and the ways energy is stored before and after such changes <ul style="list-style-type: none"> <li>• 4.1.2 Conservation and dissipation of energy</li> <li>• 4.2.4 Energy transfers</li> </ul> </li> <li>• Required practical activity 2: investigate the effectiveness of different materials as thermal insulators and the factors that may affect the thermal insulation properties of a material. Particle Model of Matter <ul style="list-style-type: none"> <li>• 4.3.1 Changes of state and the particle model</li> <li>• 4.3.2 Internal energy and energy transfers</li> </ul> </li> <li>• Required practical activity 5: use appropriate apparatus to make and record the measurements needed to determine the densities of regular and irregular solid objects and liquids. Volume should be determined from the dimensions of regularly shaped objects, and by a displacement technique for irregularly shaped objects. Dimensions to be measured using appropriate apparatus such as a ruler, micrometer or Vernier callipers.</li> </ul> <p>For Physics Paper 2 Forces</p> <ul style="list-style-type: none"> <li>• 4.5.1 Forces and their interactions</li> <li>• 4.5.2 Work done and energy transfer <ul style="list-style-type: none"> <li>• 4.5.3 Forces and elasticity</li> </ul> </li> <li>• 4.5.5 Pressure and pressure differences in fluids <ul style="list-style-type: none"> <li>• 4.5.6.1 Describing motion along a line</li> <li>• 4.5.7 Momentum</li> </ul> </li> <li>Waves <ul style="list-style-type: none"> <li>• 4.6.1 Waves in air, fluids and solids</li> </ul> </li> <li>• Required practical activity 9: investigate the reflection of light by different types of surface and the refraction of light by different substances. Space <ul style="list-style-type: none"> <li>• 4.8.1 Solar system; stability of orbital motions; satellites</li> <li>• 4.8.2 Red-shift</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• 4.2.1 Current, potential difference and resistance</li> <li>• 4.2.2 Series and parallel circuits</li> <li>• 4.2.3 Domestic uses and safety</li> <li>• 4.3.3 Particle model and pressure</li> <li>• 4.4.1 Atoms and isotopes</li> <li>• 4.4.3 Hazards and uses of radioactive emissions and of background radiation</li> <li>• 4.4.4 Nuclear fission and fusion</li> <li>• 4.5.4 Moments, levers and gears</li> <li>• 4.6.2 Electromagnetic waves</li> <li>• 4.6.3 Black body radiation</li> <li>• 4.7.1 Permanent and induced magnetism, magnetic forces and fields</li> </ul>	<p>Physics Paper 2. Content will match the above as closely as possible.</p>	<p>Emphasis on Advance Information. Improving revision and examination technique.</p>	<a href="mailto:TBridle@hammersmithacademy.org">TBridle@hammersmithacademy.org</a>	<a href="https://filestore.aqa.org.uk/content/summer-2022/AQA-8463-AI-22.PDF">https://filestore.aqa.org.uk/content/summer-2022/AQA-8463-AI-22.PDF</a>
Physics (Single Science) Foundation Tier	AQA	<p>For Physics Paper 1: Energy</p> <ul style="list-style-type: none"> <li>• 4.1.1 Energy changes in a system, and the ways energy is stored before and after such changes <ul style="list-style-type: none"> <li>• 4.1.2 Conservation and dissipation of energy</li> </ul> </li> <li>• Required practical activity 2: investigate the effectiveness of different materials as thermal insulators and the factors that may affect the thermal insulation properties of a material. Electricity <ul style="list-style-type: none"> <li>• 4.2.1 Current, potential difference and resistance <ul style="list-style-type: none"> <li>• 4.2.5 Static electricity</li> </ul> </li> <li>Particle Model of Matter <ul style="list-style-type: none"> <li>• 4.3.1 Changes of state and the particle model</li> <li>• 4.3.2 Internal energy and energy transfers</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• 4.2.3 Domestic uses and safety</li> <li>• 4.3.3 Particle model and pressure</li> <li>• 4.4.1 Atoms and isotopes</li> <li>• 4.4.4 Nuclear fission and fusion</li> <li>• 4.5.4 Moments, levers and gears</li> <li>• 4.5.6.2 Forces, accelerations and Newton's Laws of motion</li> <li>• 4.5.6.3 Forces and braking</li> <li>• 4.6.3 Black body radiation</li> <li>• 4.8.2 Red-shift</li> </ul>	<p>Physics Paper 2. Content will match the above as closely as possible.</p>	<p>Emphasis on Advance Information. Improving revision and examination technique.</p>	<a href="mailto:TBridle@hammersmithacademy.org">TBridle@hammersmithacademy.org</a>	<a href="https://filestore.aqa.org.uk/content/summer-2022/AQA-8463-AI-22.PDF">https://filestore.aqa.org.uk/content/summer-2022/AQA-8463-AI-22.PDF</a>

		<ul style="list-style-type: none"> <li>Required practical activity 5: use appropriate apparatus to make and record the measurements needed to determine the densities of regular and irregular solid objects and liquids. Volume should be determined from the dimensions of regularly shaped objects, and by a displacement technique for irregularly shaped objects. Dimensions to be measured using appropriate apparatus such as a ruler, micrometer or Vernier callipers.</li> <li>Atomic Structure</li> <li>4.4.2 Atoms and nuclear radiation</li> <li>For Physics Paper 2: Forces</li> <li>4.5.1 Forces and their interactions</li> <li>4.5.2 Work done and energy transfer</li> <li>4.5.6.1 Describing motion along a line</li> <li>Waves</li> <li>4.6.1 Waves in air, fluids and solids</li> <li>4.6.2 Electromagnetic waves</li> <li>Required practical activity 9: investigate the reflection of light by different types of surface and the refraction of light by different substances.</li> <li>4.8.1 Solar system; stability of orbital motions; satellites</li> </ul>				
Religious Studies	AQA	<p>Christianity</p> <p>The nature of God: Different Christian beliefs about creation Different Christian beliefs about the afterlife Jesus Christ - the crucifixion, resurrection and ascension &amp; the means of salvation Worship and festivals The role and meaning of the sacraments - Baptism &amp; Holy Communion The role and importance of pilgrimage Role of the Church Worldwide The place of mission, evangelism and Church growth The importance of the worldwide Islam</p> <p>The nature of God Angels, their nature and role, including Jibril and Mika'il Authority Risalah (Prophethood) The holy books The Imamate in Shi'a Islam Worship Salah and its significance Friday prayer Festivals Zakah Hajj Jihad</p> <p>Festivals and commemorations and their importance for Muslims in Great Britain today Then all the content for all four themes.</p>	<p>Christianity</p> <p>God as omnipotent, loving and just, and the problem of evil and suffering the incarnation and Jesus as the Son of God sin, including original sin Different forms of worship and their significance Prayer and its significance, including the Lord's Prayer, set prayers and informal prayer two contrasting examples of Christian pilgrimage The role of the Church in the local community, including food banks and street pastors the work of one of the following: Catholic Agency For Overseas Development (CAFOD), Christian Aid, Tearfund</p> <p>Islam</p> <p>The six articles of faith in Sunni Islam and five roots of Usul ad-Din in Shi'a Islam, including key similarities and differences. Tawhid (the Oneness of God) Predestination and human freedom and its relationship to the Day of Judgement Akhirah (life after death) Five Pillars of Sunni Islam and the Ten Obligatory Acts of Shi'a Islam Shahadah Sawm</p>	<p>Paper1 - the identified content on Christianity and Islam Paper 2 - Themes</p>	<p>Plan for revision session and homework's has already been shared with students. The focus is on revising the key themes as Christianity and Islam have been revised this year.</p>	<p><a href="mailto:DOHana-James@hammersmithacademy.org">DOHana-James@hammersmithacademy.org</a></p> <p><a href="https://filestore.aqa.org.uk/content/summer-2022/AQA-8062-A1-22.PDF">https://filestore.aqa.org.uk/content/summer-2022/AQA-8062-A1-22.PDF</a></p>
Spanish	AQA	<p>All the topics are included for Papers 1 (listening), 2 (reading) and 3 (speaking). There are no amendments for these papers. Paper 4(writing) the only amendments are: Foundation: Removal of Topic 3 in Theme 3: Education Post 16. Higher: Removal of Topic 3 in Theme 1: Free time activities. All other themes and subtopics are included.</p>	<p>For Paper 4 (Writing) only: Foundation: Theme 3 topic 3: Education Post 16 Higher: Theme 1 Topic 3: Free Time activities</p>	<p>Students will complete full papers for the following skills: Listening and Writing. Listening and Writing Papers will include the following topics: Higher: Theme 1: Identity and culture Topic 1: Me, my family and friends Topic 2: Technology in everyday life Topic 3: Free-time activities Topic 4: Customs and festivals in Spanish-speaking countries/communities Theme 2: Local, national, international and global areas of interest Topic 1: Home, town, neighborhood and region Topic 2: Social issues ● Charity/voluntary work ● Healthy/unhealthy living Theme 3: Current and future study and employment Topic 1: My studies Topic 4: Jobs, career choices and ambitions Foundation Theme 1: Identity and culture Topic 1: Me, my family and friends ● Relationships with family and friends ● Marriage/partnership Topic 2: Technology in everyday life ● Social media ● Mobile technology Topic 3: Free-time activities</p>	<p>Using the data gathered so far, we will continue with the differentiated approach based on Tiers expectations., targeting the steps needed to jump to the next grade and secure scaffolded progress. Grammar and Key vocab: We will continue with the Level up activities as a Do Now, these are low stakes mini tests that helps us review, consolidate and monitor the students knowledge on key grammar and vocabulary content. We will now focus on the grammar behind Spanish tenses, as many students still struggle with it, making sure that they learn the most common verbs in the I and we form in the present/past/future/conditional. They will have a table of 3/4 verbs every week. They'd have to learn them and every lesson I'd put the table up and with some bits filled in and they had to fill in the rest. We will use the verbs in sentences Writing and Speaking We will continue sharing/displaying the Writing Success Criteria Table whenever students need to answer written or spoken question. We will continue modelling 40 and 90 word texts (Writing) and use them as a reading comprehension or dictation to embed those skills. Then we'd discuss what made it a good text and they'd have to write it. This could be used for their Speaking General Conversation task. We will take sentences from those tasks before hand and get them to translate to English and Spanish to review and reinforce memorisation.</p>	<p><a href="mailto:KLeon@hammersmithacademy.org">KLeon@hammersmithacademy.org</a></p> <p><a href="https://www.regentsparkcollege.org.uk/assets/Documents/Attachments/Spanish.PDF">https://www.regentsparkcollege.org.uk/assets/Documents/Attachments/Spanish.PDF</a></p>

				<ul style="list-style-type: none"> <li>• Cinema and TV</li> </ul> <p>Topic 4: Customs and festivals in Spanish-speaking countries/communities  Theme 2: Local, national, international and global areas of interest  Topic 1: Home, town, neighborhood and region  Topic 2: Social issues</p> <ul style="list-style-type: none"> <li>• Charity/voluntary work</li> </ul> <p>Topic 4: Travel and tourism  Theme 3: Current and future study and employment  Topic 1: My studies  Topic 4: Jobs, career choices and ambitions</p>	<p>They could use these sentences in their 40/90 word. Speaking Lots of photo descriptions, ordering role play scripts .</p> <p>We will memorise some key questions to cover the requirement of asking a question.  Reading and Listening:  Past papers and exam style questions practice, sharing exam strategies for each skill and consolidating a question style/presentation in each lesson.</p>		
<p>ASDAN Animal Management,  ASDAN Progress English, ASDAN Progress Maths,  Entry Level English,  Entry Level Maths</p>	<p>ASDAN, Edexcel</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p><a href="mailto:THillman@hammersmithacademy.org">THillman@hammersmithacademy.org</a></p>	<p>N/A</p>