

**Year 11**  
**GCSE and Level 2 Qualifications**  
**Advanced Information for Summer 2022**



<b>Subject: Art</b>	<b>Qualification: AQA GCSE</b>
Advance Information for GCSEs summer 2022	
No further advanced information for Art.	
Students will be assessed through their coursework only. There is no exam component this year.	

<b>Subject: Business Studies</b>	<b>Qualification: Pearson GCSE</b>
Advance Information for GCSEs summer 2022	
<a href="https://qualifications.pearson.com/content/dam/pdf/GCSE/Business/2017/teaching-and-learning-materials/W50843_GCSE_Business_1BS0_AN_Accessible_version.pdf">https://qualifications.pearson.com/content/dam/pdf/GCSE/Business/2017/teaching-and-learning-materials/W50843_GCSE_Business_1BS0_AN_Accessible_version.pdf</a>	
The following topics will <b>not</b> be assessed:	
Unit 1 (Y10 work)	
1.1.1 Dynamic Nature of Business	
1.2.1 Customer Needs	
1.2.4 Competitive Environment	
Unit 2 (Y11 work)	
2.1.2 Changes to Aims and Objectives	
2.2.2 Price	
2.3.3 Managing Quality	
2.5.2 Effective Recruitment	
2.5.3 Effective Training and Development	

**Paper 1 - Computational thinking and programming skills** – No change, all topics to be covered**Paper 2 - Computing concepts – The following areas will be examined:**3.3 Fundamentals of data representation

3.3.1 Number bases

3.3.2 Converting between number bases

3.3.3 Units of information

3.3.4 Binary arithmetic

3.3.5 Character encoding

3.3.6 Representing images – what is a pixel, image size and colour depth, calculations of bitmaps based on pixels and colour depth

3.3.7 Representing sound

3.3.8 Data compression – what is compression and why it is used. Huffman trees and Run Length Encoding

3.4 Computer systems

3.4.2 Boolean logic

3.4.3 Software classification

3.4.4 Classification of programming languages and translators

3.4.5 Systems architecture – Memory (RAM, ROM, Cache and register), secondary storage (solid state, optical and magnetic, cloud storage including advantages and disadvantages compared to local storage)

3.5 Fundamentals of computer networks

Describe the main types of computer network including - Personal Area Network (PAN), Local Area Network (LAN) and Wide Area Network (WAN).

Wired or wireless networks - advantages and disadvantages of wireless networks as opposed to wired networks.

Purpose and use of common network protocols including - Ethernet, Wi-Fi, TCP (Transmission Control Protocol), UDP (User Datagram Protocol), IP (Internet Protocol), HTTP (Hypertext Transfer Protocol), HTTPS (Hypertext Transfer Protocol Secure), FTP (File Transfer Protocol), email protocols: SMTP (Simple Mail Transfer Protocol) and IMAP (Internet Message Access Protocol).

Understand that the HTTP, HTTPS, SMTP, IMAP and FTP protocols operate at the application layer.

Understand that the TCP and UDP protocols operate at the transport layer.

3.6 Cyber security

3.6.2 Cyber security threats

3.6.3 Methods to detect and prevent cyber security threats

3.7 Relational databases and structured query language (SQL)

All areas

3.8 Ethical, legal and environmental impacts of digital technology on wider society, including issues of privacy  
All areas

**Subject: Digital Applications BTEC**

**Qualification: Pearson BTEC**

Advance Information for GCSEs summer 2022

No advance information.

**Subject: Drama**

**Qualification: Pearson GCSE**

Advance Information for GCSEs summer 2022

Component 3 Section A (the written exam) will students to answer questions on the Set Text: 1984, George Orwell, adapted by Robert Icke and Duncan Macmillan

The examining board has chosen one extended extract from which a shorted extract will be chosen for them to focus on in the exam. This means that students only have to focus on one part of the play rather than the whole text. This extended extract chosen by the exam board is taken from the middle section of the play. It STARTS: p.35 WINSTON You're hurt? And ENDS: p.45 JULIA He was unpersoned when I was eight.

Students will answer all questions in section A based in this smaller section of the set text.

Students will answer both questions in section B with reference to the streamed play that they have seen in class.

**Subject: Design Technology**

**Qualification: AQA GCSE**

Advance Information for GCSEs summer 2022

- 3.2.1 Selection of materials or components
- 3.2.3 Ecological and social footprint
- 3.2.8 Specialist techniques and processes
- 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

<b>Subject: English Language</b>	<b>Qualification: AQAGCSE</b>
Advance Information for GCSEs summer 2022	
No changes to English Language Paper 1 Creative Reading and Writing.	
Paper 2 English Language Writer's view points and Perspectives: Section A Reading One of the extracts will be from a 21 <sup>st</sup> Century Autobiography One of the extracts will be a 19 <sup>th</sup> Century essay Section B Writing The form of the writing task will be an article.	

<b>Subject: English Literature</b>	<b>Qualification: AQA GCSE</b>
Advance Information for GCSEs summer 2022	
No changes to the original advice and guidance as there are no further changes to English Literature as the content has already had a reduction.	

<b>Subject: Food and Nutrition</b>	<b>Qualification: AQA GCSE</b>
Advance Information for GCSEs summer 2022	
AQA have given guidance in that the following specification topics will be a focus for the written exam. 3.2.3.1 Making informed choices 3.2.3.4 Diet, nutrition and health 3.3.2.2 Carbohydrates 2 3.4.2.1 Buying and storing food 3.4.2.2 Preparing, cooking and serving 3.5.1.1 Factors affecting food choice 3.6.1.2 Food and the environment 3.6.2.1 Food production <a href="https://filestore.aqa.org.uk/content/summer-2022/AQA-8585-AI-22.PDF">https://filestore.aqa.org.uk/content/summer-2022/AQA-8585-AI-22.PDF</a>	

Advanced information on which specific areas will appear in the exam will not be released in Geography- but pupils will study, and be examined on, fewer topics.

The information below is provided by the OCR exam board:

(<https://ocr.org.uk/qualifications/gcse/geography-a-geographical-themes-j383-from-2016/changes-for-2022/>)

There will be no change to Component 01 (**PAPER 1**)

The following information refers to **Component 02 (PAPER 2) only:**

We have introduced two sections in the question paper to clarify where optionality is in the assessment:

- In Section A students will answer all the questions for Theme 2.2 'People of the planet'.
- In Section B students will answer one option – either Theme '2.1 Ecosystems of the planet' or Theme '2.3 Environmental threats to our planet'.
- The exam paper has been **reduced** from 60 marks to **42 marks** to reflect the removal of one theme, as the students have a choice between two themes.
- The **duration** of the exam paper has changed from 60 minutes to **45 minutes** (as students will answer two out of the three themes)

The following information refers to **Component 03 (PAPER 3) only:**

- The changes are only in relation to fieldwork for section B.
- We will remove questions which relate to the student's own fieldwork experience, this equates to 15 marks.
- There will still be questions related to unfamiliar fieldwork contexts and these will equate to 15 marks. There will be seven marks for lower tariff questions and one higher tariff question (eight marks) with a further three marks for SPaG.

- The questions will be in the same style as those shown in the sample assessment materials, practice papers, and the past papers from 2018, 2019 and Nov 2020.
- The unfamiliar fieldwork questions will include both physical and human geography fieldwork contexts. The questions will relate to these two fieldwork contexts:
  - The physical fieldwork context is **rivers**
  - The human fieldwork context is **urban**.
- The exam paper has been **reduced** from 80 marks to **65 marks** to reflect the removal of the own fieldwork questions.
- The **duration** of the exam paper has changed from 1 hour and 30 minutes to **1 hour and 20 minutes** (as own fieldwork questions have been removed)

<b>Subject: Health and Social Care</b>	<b>Qualification: OCR Cambridge National Level 2</b>
Advance Information for GCSEs summer 2022	
No advance information has been released as this is a Level1/2 qualification and not a GCSE.	

<b>Subject: History</b>	<b>Qualification: OCR B GCSE</b>
Advance Information for GCSEs summer 2022	
There are no recent changes to the GCSE History examination. Adjustments for this qualification were made at the end of Year 10. OCR removed one of our units of study meaning that students have only had to cover 80% of the original GCSE course.	

<b>Subject: Maths</b>	<b>Qualification: Pearson GCSE</b>
Advance Information for GCSEs summer 2022	
<ul style="list-style-type: none"> <li>• Advance information is provided for each paper and each tier of entry. Full details can be found following the link below.</li> <li>• The information is listed in specification order and does not reflect the order of questioning.</li> <li>• The information should be used to guide and focus students' revision and exam preparation for each paper.</li> <li>• Students may still need to draw on prior knowledge and skills.</li> <li>• Students will be expected to apply their knowledge to unfamiliar contexts.</li> <li>• Students' responses to questions may draw upon knowledge, skills and understanding from across the content listed when responding to questions.</li> <li>• Students will be issued with a formula sheet as an exam aid for both foundation and higher tier papers. These can be found via the link below.</li> </ul> <p><a href="https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/teaching-and-learning-materials/W73038_GCSE_Mathematics_1MA1_AN_Accessible_version.pdf">https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/teaching-and-learning-materials/W73038_GCSE_Mathematics_1MA1_AN_Accessible_version.pdf</a></p>	

<b>Subject: Media Studies</b>	<b>Qualification: Eduqas GCSE</b>
Advance Information for GCSEs summer 2022	
<p><b>Component 1, Section A:</b> Exploring Media Language and Representation</p> <ul style="list-style-type: none"> <li>• Media Language: print Advertisement (either Quality Street or This Girl Can)</li> <li>• Media Contexts and Representation: Magazines – Pride magazine front cover to compare and contrast with an 'unseen' magazine front cover</li> </ul> <p><b>Section B:</b> Exploring Media Industries and Audiences</p> <ul style="list-style-type: none"> <li>• Media Industries: Film – Spectre (Bond film franchise).</li> <li>• Audiences: Video Games – Fortnite; includes synoptic assessment.</li> </ul> <p><b>Component 2, Section A:</b> Television – Crime Drama</p> <ul style="list-style-type: none"> <li>• Media Language: Television – Luther</li> <li>• Media Contexts: Television – Luther</li> </ul> <p>Section B: Music • Representation: Music Videos – Roar (Katy Perry) and Freedom (Pharrell Williams)</p> <ul style="list-style-type: none"> <li>• Media Industries: Music Websites – Katy Perry</li> </ul>	

<b>Subject: MFL French</b>	<b>Qualification: AQA GCSE</b>
Advance Information for GCSEs summer 2022	
<p><b>Speaking exam 25%</b> – as we practised in January. Role play, photo card &amp; conversation. To take place, as planned, after Easter. AQA contingency plans in place, if needed. No change in the topics to revise.</p> <p><b>Reading exam 25% &amp; Listening exam 25%</b> – as the November PPE1 exams. No change in the topics to revise.</p> <p><b>ADVANCE INFORMATION - Writing exam 25%</b> - This will be 5 minutes longer, so you can decide which 90 word (foundation &amp; higher) and which 150 word (higher) question to answer. There will be a choice of <b>3</b> questions for each, so that you can choose your favourite theme. These are the topics that could be included –</p>	
<p><b>Foundation tier</b> - (also for the photo question &amp; 40 word question) <b>Higher tier</b> -</p>	
<p><b>Theme 1</b> –</p> <p>a) Me, family &amp; friends – relationships / marriage  b) Technology c) Freetime activities - music, cinema, TV, food, eating out, sport  NOT customs &amp; festivals</p>	<p><b>Theme 1</b> –</p> <p>a) Me, family &amp; friends – relationships / marriage  b) Technology c) Freetime activities - music, cinema, TV, food, eating out, sport  NOT customs &amp; festivals</p>
<p><b>Theme 2</b> –</p> <p>a) Home, town, neighbourhood &amp; region b) Social issues – voluntary work, healthy living  NOT travel &amp; tourism/holidays  NOT global issues – environment, poverty &amp; homelessness</p>	<p><b>Theme 2</b> –</p> <p>a) Home, town, neighbourhood &amp; region b) Social issues – voluntary work, healthy living c) global issues – environment, poverty &amp; homelessness  NOT travel &amp; tourism/holidays</p>
<p><b>Theme 3</b> –</p> <p>a) My studies b) Life at school c) Jobs, career choices &amp; ambitions  NOT Education post 16</p>	<p><b>Theme 3</b> –</p> <p>a) My studies b) Life at school c) Education post 16  d) Jobs, career choices &amp; ambitions</p>

<b>Subject: MFL German</b>	<b>Qualification: AQA GCSE</b>
Advance Information for GCSEs summer 2022	
<p><b>Speaking exam 25%</b> – as we practised in January. Role play, photo card &amp; conversation. To take place, as planned, after Easter. AQA contingency plans in place, if needed. No change in the topics to revise.</p> <p><b>Reading exam 25% &amp; Listening exam 25%</b> – as the November PPE1 exams. No change in the topics to revise.</p> <p><b>ADVANCE INFORMATION - Writing exam 25%</b> - This will be 5 minutes longer, so you can decide which 90 word (foundation &amp; higher) and which 150 word (higher) question to answer. There will be a choice of <b>3</b> questions for each, so that you can choose your favourite theme. These are the topics that could be included –</p>	
<p><b>Foundation tier</b> - (also for the photo question &amp; 40 word question) <b>Higher tier</b> -</p>	



<p><b>Theme 1 –</b>  <b>a)Technology b) Freetime activities- music, cinema, TV, food, eating out, sport</b>  <i>NOT me, family, friends, relationships, marriage</i>  <i>NOT customs &amp; festivals</i></p>	<p><b>Theme 1 –</b>  <b>a)Technology b) Freetime activities - music, cinema, TV, food, eating out, sport</b>  <i>NOT me, family, friends, relationships, marriage</i>  <i>NOT customs &amp; festivals</i></p>
<p><b>Theme 2 –</b>  <b>a) Home, town, neighbourhood &amp; region b) Travel &amp; tourism</b>  <i>NOT social issues – voluntary work, healthy lifestyles</i>  <i>NOT global issues – environment, poverty, homelessness</i></p>	<p><b>Theme 2 –</b>  <b>a) Home, town, neighbourhood &amp; region b) Travel &amp; tourism</b>  <i>NOT social issues – voluntary work, healthy lifestyles</i>  <i>NOT global issues – environment, poverty, homelessness</i></p>
<p><b>Theme 3 –</b>  <b>a) Life at school b) Jobs, career choices &amp; ambitions</b>  <i>NOT My studies</i>  <i>NOT Education post 16</i></p>	<p><b>Theme 3 –</b>  <b>a)Life at school b) Education post 16 c) Jobs, career choices &amp; ambitions</b>  <i>NOT My studies</i></p>

<b>Subject: Music</b>	<b>Qualification: Pearson GCSE</b>
Advance Information for GCSEs summer 2022	
<p><b>AOS Section A</b>  Western Classical Tradition from 1650 – 1910  Popular Music  Traditional Music  Western Classical Tradition since 1910</p> <p><b>AOS Section B</b>  Mozart’s Clarinet Concerto in A major, K. 622, 3rd movement, Rondo  Prologue/ Little Shop of Horrors Overture</p>	

<b>Subject: PE</b>	<b>Qualification: Pearson GCSE</b>
Advance Information for GCSEs summer 2022	
<p>Full details of the advance information can be found via the link below. This advance information details the major focus of the content of the exams in 2022. The information is presented in specification order and not question order. Topics that are not included in the advance information may still appear in questions worth fewer than 2 marks.</p>	

[https://qualifications.pearson.com/content/dam/pdf/GCSE/Physical%20Education/2016/Teaching%20and%20learning%20materials/W73044\\_GCSE\\_Physical\\_Education\\_1PE0\\_AN\\_Accessible\\_version.pdf](https://qualifications.pearson.com/content/dam/pdf/GCSE/Physical%20Education/2016/Teaching%20and%20learning%20materials/W73044_GCSE_Physical_Education_1PE0_AN_Accessible_version.pdf)

**Subject: Photography**

**Qualification: AQA GCSE**

Advance Information for GCSEs summer 2022

No further advanced information for Art.

Students will be assessed through their coursework only. There is no exam component this year.

**Subject: RE**

**Qualification: Pearson GCSE**

Advance Information for GCSEs summer 2022

[https://qualifications.pearson.com/content/dam/pdf/GCSE/religious-studies-b/2016/Teaching-and-learning-materials/W73059\\_GCSE\\_Religious\\_Studies\\_B\\_1RB0\\_AN\\_Accessible\\_version.pdf](https://qualifications.pearson.com/content/dam/pdf/GCSE/religious-studies-b/2016/Teaching-and-learning-materials/W73059_GCSE_Religious_Studies_B_1RB0_AN_Accessible_version.pdf)

Christianity (paper 1) is 1RB0/1B

Judaism (paper 2) is 1RB0/2F

In addition;

Students must revise all content for Marriage & the Family, Life after Death (paper1)

Students must revise all content for Crime & Punishment, Peace & Conflict (paper2)

**Subject: Science: Combined Biology**

**Qualification: AQA GCSE**

Advance Information for GCSEs summer 2022

**Biology**

Information

- The format/structure of the papers remains unchanged.
- This advance information covers all examined components.
- For each paper the list shows the major focus of the content of the exam.
- Each paper may cover some, or all, of the content in the listed topic.
- Another list shows which required practical activities will be assessed.

- Topics not assessed either directly or through 'linked' content have also been listed.
- The information is presented in specification order and not in question order.
- Assessment of practical skills, maths skills, and Working Scientifically skills will occur throughout all the papers.
- It is not permitted to take this advance information into the exam.

#### Advice

- It is advised that teaching and learning should still cover the entire subject content in the specification, so that students are as well prepared as possible for progression to the next stage of their education.
- Topics not explicitly given in any list may appear in low tariff questions or via 'linked' questions. Linked questions are those that bring together knowledge, skills and understanding from across the specification.
- Students will still be expected to apply their knowledge to unfamiliar contexts.

#### **Paper Biology 1F 8464/B/1F**

For this paper, the following list shows the major focus of the content of the exam:

- 4.1.2 Cell division
- 4.2.2 Animal tissues, organs and organ systems
- 4.3.1 Communicable diseases
- 4.4.1 Photosynthesis

Required practical activities that will be assessed:

- Required practical activity 1: use of a light microscope.
- Required practical activity 3: use qualitative reagents to test for a range of carbohydrates, lipids and proteins.
- Required practical activity 5: investigate the effect of light on the rate of photosynthesis of an aquatic plant such as pondweed.

Topics not assessed in this paper:

- 4.1.3.2 Osmosis
- 4.1.3.3 Active transport
- 4.2.2.4 Coronary heart disease: a non-communicable disease
- 4.4.1.3 Uses of glucose from photosynthesis
- 4.4.2 Respiration

#### **Paper Biology 1H 8464/B/1H**

For this paper, the following list shows the major focus of the content of the exam:

- 4.1.2 Cell division
- 4.2.2 Animal tissues, organs and organ systems
- 4.4.1 Photosynthesis

Required practical activities that will be assessed:

- Required practical activity 3: use qualitative reagents to test for a range of carbohydrates, lipids and proteins.
- Required practical activity 4: investigate the effect of pH on the rate of reaction of amylase enzyme.
- Required practical activity 5: investigate the effect of light on the rate of photosynthesis of an aquatic plant such as pondweed.

Topics not assessed in this paper:

- 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

### **Paper Biology 2F 8464/B/2F**

For this paper, the following list shows the major focus of the content of the exam:

- 4.5.3 Hormonal control in humans
- 4.6.1 Reproduction
- 4.7.1 Adaptations, interdependence and competition
- 4.7.2 Organisation of an ecosystem

Required practical activity that will be assessed:

- 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.

Topics not assessed in this paper:

- 4.5.2 The human nervous system
- 4.5.3.3 Hormones in human reproduction
- 4.5.3.4 Contraception
- 4.6.1.1 Sexual and asexual reproduction
- 4.6.1.2 Meiosis
- 4.6.1.6 Sex determination
- 4.6.2.1 Variation
- 4.6.2.2 Evolution
- 4.6.2.3 Selective breeding
- 4.6.3.3 Extinction
- 4.6.3.4 Resistant bacteria
- 4.7.1.4 Adaptations
- 4.7.3.1 Biodiversity
- 4.7.3.3 Land use
- 4.7.3.4 Deforestation
- 4.7.3.5 Global warming
- 4.7.3.6 Maintaining biodiversity

### **Paper Biology 2H 8464/B/2H**

For this paper, the following list shows the major focus of the content of the exam:

- 4.5.3 Hormonal control in humans

- 4.7.2 Organisation of an ecosystem
- 4.7.3 Biodiversity and the effect of human interaction on an ecosystem

Required practical activity that will be assessed:

- 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.

Topics not assessed in this paper:

- 4.5.2 The human nervous system
- 4.5.3.4 Contraception
- 4.6.1.1 Sexual and asexual reproduction
- 4.6.1.3 DNA and the genome
- 4.6.1.4 Genetic inheritance
- 4.6.1.5 Inherited disorders
- 4.6.1.6 Sex determination
- 4.6.2 Variation and evolution
- 4.6.3 The development of understanding of genetics and evolution
- 4.7.1.4 Adaptations
- 4.7.3.3 Land use
- 4.7.3.4 Deforestation

**Subject: Science: Combined Chemistry**

**Qualification: AQA GCSE**

Advance Information for GCSEs summer 2022

**Information.**

- The format/structure of the papers remains unchanged.
- This advance information covers all examined components.
- For each paper the list shows the major focus of the content of the exam.
- Each paper may cover some, or all, of the content in the listed topic.
- Another list shows which required practical activities will be assessed.
- Topics not assessed either directly or through 'linked' content have also been listed.
- The information is presented in specification order and not in question order.
- Assessment of practical skills, maths skills, and Working Scientifically skills will occur throughout all the papers.
- It is not permitted to take this advance information into the exam.

**Advice.**

- It is advised that teaching and learning should still cover the entire subject content in the specification, so that students are as well prepared as possible for progression to the next stage of their education.

- Topics not explicitly given in any list may appear in low tariff questions or via 'linked' questions. Linked questions are those that bring together knowledge, skills and understanding from across the specification.
- Students will still be expected to apply their knowledge to unfamiliar contexts.

### **Paper Chemistry 1F 8464/C/1 Foundation**

For this paper, the following list shows the major focus of the content of the exam:

- 5.1.2 The periodic table
- 5.2.2 How bonding and structure are related to the properties of substances
- 5.2.3 Structure and bonding of carbon
- 5.4.1 Reactivity of metals
- 5.4.2 Reactions of acids
- 5.4.3 Electrolysis

#### ***Required practical activities that will be assessed:***

- 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.
- Required practical activity 9: investigate what happens when aqueous solutions are electrolysed using inert electrodes. This should be an investigation involving developing a hypothesis.
- 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.

#### **Topics not assessed in this paper:**

- Not applicable

### **Paper Chemistry 1H 8464/C/1 Higher**

For this paper, the following list shows the major focus of the content of the exam:

- 5.2.2 How bonding and structure are related to the properties of substances
- 5.3.2 Use of amount of substance in relation to masses of pure substances
- 5.4.1 Reactivity of metals
- 5.4.2 Reactions of acids
- 5.4.3 Electrolysis
- 5.5.1 Exothermic and endothermic reactions

#### ***Required practical activities that will be assessed:***

- 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.
- Required practical activity 9: investigate what happens when aqueous solutions are electrolysed using inert electrodes. This should be an investigation involving developing a hypothesis.
- 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.

**Topics not assessed in this paper:**

- Not applicable

**Paper Chemistry 2F 8464/C/2Foundation.**

For this paper, the following list shows the major focus of the content of the exam:

- 5.6.1 Rate of reaction
- 5.6.2 Reversible reactions and dynamic equilibrium
- 5.7.1 Carbon compounds as fuels and feedstock
- 5.8.1 Purity, formulations and chromatography
- 5.9.1 The composition and evolution of the Earth's atmosphere
- 5.9.3 Common atmospheric pollutants and their sources
- 5.10.1 Using the Earth's resources and obtaining potable water

***Required practical activities that will be assessed:***

- 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.
- 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.

**Topic not assessed in this paper:**

- 5.9.2 Carbon dioxide and methane as greenhouse gases

**Paper Chemistry 2H 8464/C/2Higher**

For this paper, the following list shows the major focus of the content of the exam:

- 5.6.1 Rate of reaction
- 5.6.2 Reversible reactions and dynamic equilibrium
- 5.7.1 Carbon compounds as fuels and feedstock
- 5.8.1 Purity, formulations and chromatography
- 5.9.1 The composition and evolution of the Earth's atmosphere
- 5.10.1 Using the Earth's resources and obtaining potable water

***Required practical activities that will be assessed:***

- 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.
- 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.

**Topic not assessed in this paper:**

- 5.8.2 Identification of common gases

**Subject: Science: Combined Physics****Qualification: AQA GCSE**

Advance Information for GCSEs summer 2022

**Information**

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- Another list shows which required practical activities will be assessed.
- Topics not assessed either directly or through 'linked' content have also been listed.
- The information is presented in specification order and not in question order.
- Assessment of practical skills, maths skills, and Working Scientifically skills will occur throughout all the papers.
- It is not permitted to take this advance information into the exam

**Advice**

- It is advised that teaching and learning should still cover the entire subject content in the specification, so that students are as well prepared as possible for progression to the next stage of their education.
- Topics not explicitly given in any list may appear in low tariff questions or via 'linked' questions. Linked questions are those that bring together knowledge, skills and understanding from across the specification.
- Students will still be expected to apply their knowledge to unfamiliar contexts.

**Focus of the June 2022 exam****Paper Physics 1 Foundation (8464/P/1F)****For this paper, the following list shows the major focus of the content of the exam:**

- 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
- 6.2.1 Current, potential difference and resistance
- 6.3.1 Changes of state and the particle model
- 6.4.2 Atoms and nuclear radiation

**Required practical activities that will be assessed:**



- 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.
- 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.

**Topics not assessed in this paper:**

- 6.2.3 Domestic uses and safety
- 6.3.3 Particle model and pressure
- 6.4.1 Atoms and isotopes

**Paper Physics 1 Higher (8464/P/1H)**

**For this paper, the following list shows the major focus of the content of the exam:**

- 6.1.1 Energy changes in a system, and the ways energy is stored before and after such changes
- 6.2.4 Energy transfers
- 6.3.1 Changes of state and the particle model
- 6.3.3 Particle model and pressure
- 6.4.1 Atoms and isotopes
- 6.4.2 Atoms and nuclear radiation

**Required practical activities that will be assessed:**

- 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.
- 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.

Topics not assessed in this paper:

- 6.2.2 Series and parallel circuits
- 6.2.3 Domestic uses and safety
- 6.3.2 Internal energy and energy transfers

**Paper Physics 2 Foundation (8464/P/2F)**

**For this paper, the following list shows the major focus of the content of the exam:**

- 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
- 6.6.2 Electromagnetic waves
- 6.7.1 Permanent and induced magnetism, magnetic forces and fields
- 6.7.2 The motor effect

**Required practical activity that will be assessed:**

- Required practical activity 21: investigate how the amount of infrared radiation absorbed or radiated by a surface depends on the nature of that surface.

**Topic not assessed in this paper:**

- 6.5.3 Forces and elasticity

**Paper Physics 2 Higher (8464/P/2H)**

**For this paper, the following list shows the major focus of the content of the exam:**

- 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
- 6.5.5 Momentum
- 6.6.2 Electromagnetic waves
- 6.7.2 The motor effect

**Required practical activity that will be assessed:**

- Required practical activity 21: investigate how the amount of infrared radiation absorbed or radiated by a surface depends on the nature of that surface.

**Topics not assessed in this paper:**

- 6.5.3 Forces and elasticity
- 6.5.4.3 Forces and braking
- 6.7.1 Permanent and induced magnetism, magnetic forces and fields

**Subject: Separate Science: Biology**

**Qualification: AQA GCSE**

Advance Information for GCSEs summer 2022

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- It is not permitted to take this advance information into the exam.

Advice

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### **Focus of the June 2022 exam**

#### **Paper 1 – Foundation (Paper 1F 8461/1F)**

For this paper, the following list shows the major focus of the content of the exam:

- 4.1.1 Cell structure
- 4.1.3 Transport in cells
- 4.2.2 Animal tissues, organs and organ systems
- 4.3.1 Communicable diseases
- 4.4.1 Photosynthesis

Required practical activities that will be assessed:

- Required practical activity 1: how a light microscope is used to observe plant cells.
- Required practical activity 3: investigate the effect of a range of concentrations of salt solution on the mass of plant tissue.
- Required practical activity 4: use qualitative reagents to test for a range of carbohydrates, lipids and proteins.
- Required practical activity 6: investigate the effect of light intensity on the rate of photosynthesis using an aquatic organism such as pondweed.

Topics not assessed in this paper:

- 4.1.1.4 Cell differentiation
- 4.2.1 Principles of organisation
- 4.2.2.3 Blood
- 4.2.2.7 Cancer
- 4.3.1.5 Protist diseases
- 4.4.1.3 Uses of glucose from photosynthesis
- 4.4.2.1 Aerobic and anaerobic respiration
- 4.4.2.2 Response to exercise
- 4.4.2.3 Metabolism

#### **Paper 1 Higher – (Paper 1H 8461/1H)**

For this paper, the following list shows the major focus of the content of the exam:

- 4.1.1 Cell structure
- 4.1.3 Transport in cells
- 4.2.2 Animal tissues, organs and organ systems
- 4.2.3 Plant tissues, organs and systems

- 4.3.1 Communicable diseases
- 4.3.2 Monoclonal antibodies

Required practical activities that will be assessed:

- Required practical activity 1: use a light microscope to observe plant cells.
- Required practical activity 3: investigate the effect of a range of concentrations of salt solution on the mass of plant tissue.
- Required practical activity 4: use qualitative reagents to test for a range of carbohydrates, lipids and proteins.

Topics not assessed in this paper:

- 4.2.2.3 Blood
- 4.2.2.7 Cancer
- 4.3.1.8 Antibiotics and pain killers
- 4.3.1.9 Discovery and development of drugs
- 4.4.2.2 Response to exercise

## **Paper 2 – Foundation (Paper 2F 8461/2F)**

For this paper, the following list shows the major focus of the content of the exam:

- 4.5.2 The human nervous system
- 4.5.3 Hormonal control in humans
- 4.5.4 Plant hormones
- 4.6.1 Reproduction
- 4.6.3 The development of understanding of genetics and evolution

Required practical activities that will be assessed:

- Required practical activity 7: carry out an investigation into human reaction times.
- Required practical activity 8: investigate the effect of light on the growth of newly germinated seedlings.
- Required practical activity 9: measure the population size of a common species in a habitat.

Topics not assessed in this paper:

- 4.5.2.2 The brain
- 4.5.2.3 The eye
- 4.5.3.3 Maintaining water and nitrogen balance in the body
- 4.6.1.3 Advantages and disadvantages of sexual and asexual reproduction
- 4.6.1.5 DNA structure
- 4.6.1.8 Sex determination
- 4.6.2 Variation and evolution
- 4.6.3.1 Theory of evolution
- 4.6.3.2 Speciation
- 4.6.3.3 The understanding of genetics
- 4.6.3.7 Resistant bacteria
- 4.7.1.4 Adaptations
- 4.7.2.2 How materials are cycled

- 4.7.2.3 Decomposition
- 4.7.3.1 Biodiversity
- 4.7.3.3 Land use
- 4.7.3.4 Deforestation
- 4.7.3.5 Global warming
- 4.7.3.6 Maintaining biodiversity
- 4.7.4 Trophic levels in an ecosystem
- 4.7.5 Food production

### **Paper 2 – Higher (Paper 2H 8461/2H)**

For this paper, the following list shows the major focus of the content of the exam:

- 4.5.2 The human nervous system
- 4.5.3 Hormonal control in humans
- 4.5.4 Plant hormones
- 4.6.1 Reproduction
- 4.7.2 Organisation of an ecosystem

Required practical activities that will be assessed:

- Required practical activity 8: investigate the effect of light on the growth of newly germinated seedlings.
- Required practical activity 9: measure the population size of a common species in a habitat.

Topics not assessed in this paper:

- 4.5.2.1 Structure and function
- 4.5.2.2 The brain
- 4.5.2.3 The eye
- 4.5.3.4 Hormones in human reproduction
- 4.5.3.5 Contraception
- 4.5.3.6 The use of hormones to treat infertility
- 4.5.3.7 Negative feedback
- 4.5.4.2 Use of plant hormones
- 4.6.1.3 Advantages and disadvantages of sexual and asexual reproduction
- 4.6.1.8 Sex determination
- 4.6.2 Variation and evolution
- 4.6.3 The development of understanding of genetics and evolution
- 4.6.4 Classification of living organisms
- 4.7.1.4 Adaptations
- 4.7.2.4 Impact of environmental change
- 4.7.3.1 Biodiversity
- 4.7.3.4 Deforestation
- 4.7.3.6 Maintaining biodiversity
- 4.7.4.1 Trophic levels

- 4.7.4.2 Pyramids of biomass
- 4.7.5.3 Sustainable fisheries
- 4.7.5.4 Role of biotechnology

**Subject: Separate Science: Chemistry**

**Qualification: AQA GCSE**

Advance Information for GCSEs summer 2022

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### **Paper 1H 8462/1H**

For this paper, the following list shows the major focus of the content of the exam:

- 4.1.2 The periodic table
- 4.2.1 Chemical bonds, ionic, covalent and metallic
- 4.2.2 How bonding and structure are related to the properties of substances
- 4.2.3 Structure and bonding of carbon
- 4.3.2 Use of amount of substance in relation to masses of pure substances
- 4.4.1 Reactivity of metals
- 4.4.2 Reactions of acids
- 4.4.3 Electrolysis
- 4.5.1 Exothermic and endothermic reactions

Required practical activities that will be assessed:

- 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.
- Required practical activity 2: determination of the reacting volumes of solutions of a strong acid and a strong alkali by titration.
- 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.

**Topic not assessed in this paper:**

- 4.2.4 Bulk and surface properties of matter including nanoparticles.

**Paper 2H 8462/2H**

For this paper, the following list shows the major focus of the content of the exam:

- 4.6.1 Rate of reaction
- 4.6.2 Reversible reactions and dynamic equilibrium
- 4.7.1 Carbon compounds as fuels and feedstock
- 4.9.1 The composition and evolution of the Earth's atmosphere
- 4.10.1 Using the Earth's resources and obtaining potable water
- 4.10.4 The Haber process and the use of NPK fertilisers

Required practical activities that will be assessed:

- 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.
- 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.

**Topic not assessed in this paper:**

- 4.9.2 Carbon dioxide and methane as greenhouse gases.

**Subject: Separate Science: Physics**

**Qualification: AQA GCSE**

Advance Information for GCSEs summer 2022

**Information**

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### **Advice**

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### **Focus of the June 2022 exam**

#### **Paper 1 Foundation (8463/1F)**

**For this paper, the following list shows the major focus of the content of the exam:**

- 4.1.1 Energy changes in a system, and the ways energy is stored before and after such changes
- 4.1.2 Conservation and dissipation of energy
- 4.2.1 Current, potential difference and resistance
- 4.2.5 Static electricity
- 4.3.1 Changes of state and the particle model
- 4.3.2 Internal energy and energy transfers
- 4.4.2 Atoms and nuclear radiation

**Required practical activities that will be assessed:**

- 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.
- 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.

**Topics not assessed in this paper:**

- 4.2.3 Domestic uses and safety
- 4.3.3 Particle model and pressure
- 4.4.1 Atoms and isotopes
- 4.4.4 Nuclear fission and fusion

#### **Paper 1 Higher (8463/1H)**

**For this paper, the following list shows the major focus of the content of the exam:**

- 4.1.1 Energy changes in a system, and the ways energy is stored before and after such changes



- 4.1.2 Conservation and dissipation of energy
- 4.2.4 Energy transfers
- 4.3.1 Changes of state and the particle model
- 4.3.2 Internal energy and energy transfers

**Required practical activities that will be assessed:**

- 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.
- 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.

**Topics not assessed in this paper:**

- 4.2.1 Current, potential difference and resistance
- 4.2.2 Series and parallel circuits
- 4.2.3 Domestic uses and safety
- 4.3.3 Particle model and pressure
- 4.4.1 Atoms and isotopes
- 4.4.3 Hazards and uses of radioactive emissions and of background radiation
- 4.4.4 Nuclear fission and fusion

**Paper 2F 8463/2F**

**For this paper, the following list shows the major focus of the content of the exam:**

- 4.5.1 Forces and their interactions
- 4.5.2 Work done and energy transfer
- 4.5.6.1 Describing motion along a line
- 4.6.1 Waves in air, fluids and solids
- 4.6.2 Electromagnetic waves
- 4.8.1 Solar system; stability of orbital motions; satellites

**Required practical activity that will be assessed:**

- Required practical activity 9: investigate the reflection of light by different types of surface and the refraction of light by different substances.

**Topics not assessed in this paper:**

- 4.5.4 Moments, levers and gears
- 4.5.6.2 Forces, accelerations and Newton's Laws of motion
- 4.5.6.3 Forces and braking
- 4.6.3 Black body radiation
- 4.8.2 Red-shift

**Paper 2H 8463/2H**

**For this paper, the following list shows the major focus of the content of the exam:**

- 4.5.1 Forces and their interactions
- 4.5.2 Work done and energy transfer
- 4.5.3 Forces and elasticity
- 4.5.5 Pressure and pressure differences in fluids
- 4.5.6.1 Describing motion along a line
- 4.5.7 Momentum
- 4.6.1 Waves in air, fluids and solids
- 4.8.1 Solar system; stability of orbital motions; satellites
- 4.8.2 Red-shift

**Required practical activity that will be assessed:**

- Required practical activity 9: investigate the reflection of light by different types of surface and the refraction of light by different substances.

**Topics not assessed in this paper:**

- 4.5.4 Moments, levers and gears
- 4.6.2 Electromagnetic waves
- 4.6.3 Black body radiation
- 4.7.1 Permanent and induced magnetism, magnetic forces and fields

**Subject: Sports Studies**

**Qualification: OCR Cambridge National Level 2**

Advance Information for GCSEs summer 2022

No advance information.

Full details of the advance information can be found via the following link:

<https://www.jcq.org.uk/summer-2022-arrangements/advance-information/>