

Summer 2022

GCSE Examinations

Advanced Information

English Language

Maths

Biology Foundation

Chemistry Foundation

Physics Foundation

Chemistry Higher

Physics Higher

Religious Studies

Computer Science

Geography

Sociology



English Language

GCSE English Language Advanced information

English sets 1-5 only

English Language Paper 2

- **Reading section:** the two texts for this exam will be an extract from a magazine article and an extract from a memoir (letters or diary entries).
- **Writing section:** you will be given the option of **either** writing an article or a letter.

Section A Reading	
Text 1	Text 2
20th century	21st century
Extract from a magazine article	Extract from a memoir

Section B Transactional Writing – a choice between:	
An article	A letter

English set 6 only

English Language Paper 2

- **Reading section:** the two texts for this exam will be an extracts from a newspaper article and a magazine article.
- **Writing section:** you will be given the option of **either** writing a speech or a letter.

Section A Reading	
Text 1	Text 2
19th century	19th century
Article from a newspaper	Article from a magazine
Section B Transactional Writing – a choice between:	
A speech	A letter

Section B Transactional Writing Task - Conventions

Below are tips and advice on how to successfully write and structure articles, letters and speeches.

For all types of transactional writing, you should use as many of the DAFOREST devices below as you can:

DAFOREST Devices

Direct Address

Alliteration/ anecdotes

Facts

Opinions

Repetition /Rhetorical questions

Emotive language/ exaggeration

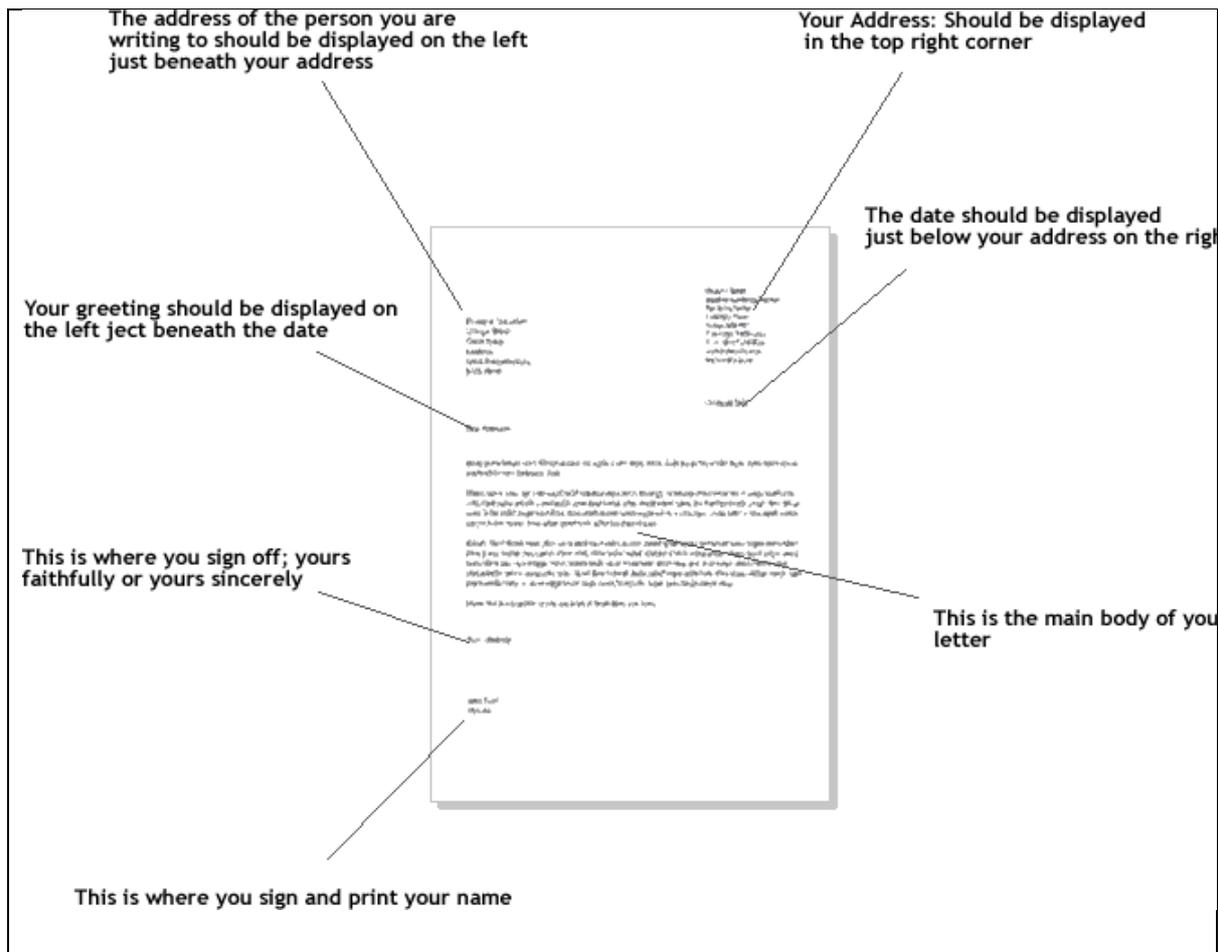
Statistics

Triplets /Rule of three

Conventions of Articles	Examples
<ul style="list-style-type: none"> ✓ a clear, original headline that is appropriate for the topic ✓ a strapline (heading beneath the main headline) ✓ subheadings ✓ an introductory (overview) paragraph 	<p>Article topic: Climate Change</p> <p>Headline: Exasperated Earth – our final chance</p> <p>Strapline: Unless we change our ways now, our planet will never be the same again</p> <p>First sentence: The world is dying and desperately needs our help.</p>

<p>✓ effectively/fluently sequenced paragraphs.</p> <p style="text-align: center;"></p> <p>Adding connectives, to add to your initial ideas:</p> <p>Moreover Furthermore In addition Additionally Similarly As well as this</p> <p>Contrasting connectives, to show a different perspective or idea:</p> <p>However On the other hand Alternatively Despite this In contrast Conversely In spite of this</p>	<p>Introduction: Sets out my opinions on climate change, lists areas to look at.</p> <p>Subheading #1: Changing our lifestyles Looks at how we can recycle, use paper not plastics and use less water.</p> <p>Subheading #2: Changing our attitudes Looks at how we can avoid littering, use public transport as much as possible, donate to green charities and invest in renewable resources.</p> <p>Subheading #3: Changing our politics Looks at how we can put pressure on political parties to make changes to the law and to how we generate energy in this country.</p> <p>Conclusion: Sum up about the three key areas looked at.</p> <p>Final sentence: Unless we do something about our environmental issues, the consequences could be dire.</p>
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<p>Conventions of a letter</p>
<ul style="list-style-type: none"> ✓ Addresses ✓ Date ✓ Opening salutation (Dear, To) ... ✓ First person narrative ✓ Formal tone ✓ Full sentences and paragraphs. ✓ Closing salutation – (Yours faithfully/sincerely)



Conventions of a Speech	Speech Sentence Starter examples
<p>Use DAFOREST devices especially direct address.</p> <p>Write formally</p> <p>Clearly structure your ideas</p>	<p><i>Ladies and gentlemen, today we meet because...</i></p> <p><i>We live in a world now where...</i></p> <p><i>This has to change. This has to stop.</i></p> <p><i>Today, we...</i></p> <p><i>Now, you may ask me how we...</i></p> <p><i>Well, we will...</i></p> <p><i>This can be done by...</i></p> <p><i>Moreover, we...</i></p> <p><i>As well as this, we...</i></p> <p><i>To conclude, let me say that...</i></p> <p><i>Thank you for listening.</i></p>

Maths - Higher

Topics in **bold** appear on both tiers - some of these may include the overlap questions that appear on both papers.

	Number	Ratio	Algebra	Geometry	Probability	Statistics
Paper 1	<ul style="list-style-type: none"> • Fraction of an amount • Fraction arithmetic • Recurring decimal to fraction • Product of prime factors • Negative and fractional indices • Simplification of surds • Standard Form conversion and calculation 	<ul style="list-style-type: none"> • Percentage of an amount • Write as a ratio, share in a ratio, use of ratio, ratio to fraction • Equations of proportion • Density 	<ul style="list-style-type: none"> • Simplification • Expansion of brackets • Algebraic fractions • Linear inequality • Form an equation • Quadratic equation • Equation of a tangent to a circle • Quadratic graph • Speed-time graph • Gradients of parallel and perpendicular lines • Gradient of a curve 	<ul style="list-style-type: none"> • Angles in a polygon • Area of a triangle • Volume of a cube • Surface area of a cuboid • Area of a sector • Pythagoras's Theorem • Exact trig. values • Vector geometry 	<ul style="list-style-type: none"> • Probability • Independent combined events 	<ul style="list-style-type: none"> • Cumulative frequency • Mean • Interquartile range
Paper 2	<ul style="list-style-type: none"> • Error interval • Calculator use 	<ul style="list-style-type: none"> • Area • Depreciation • Use of ratio • Direct proportion • Currency conversion • Inverse proportion • Pressure 	<ul style="list-style-type: none"> • Simplification • Expansion of bracket • Factorisation • Laws of indices • Linear equation • Equations of parallel lines • Form an equation • Quadratic inequality • Coordinates • Transformations of functions • Graphs of trigonometric functions • Inverse and composite functions 	<ul style="list-style-type: none"> • Transformations • Circle theorems • Area of a rectangle • Volume of composite solid • Sine and Cosine Rules 	<ul style="list-style-type: none"> • Venn diagram • Probability from a Venn diagram 	<ul style="list-style-type: none"> • Box plot • Lower and upper quartiles • Compare distributions • Capture-recapture method
Paper 3	<ul style="list-style-type: none"> • Negative number • Laws of indices • Bounds • Product rule for counting 	<ul style="list-style-type: none"> • Time • Percentage decrease • Depreciation • Reverse percentage • Write as a ratio • 1 : n form • Share in a ratio • Direct proportion • Average speed • General iterative processes 	<ul style="list-style-type: none"> • Simplification • Expansion of bracket • Substitute values • Difference of two squares • Expansion of brackets • Change subject of a formula • Forming an expression • Algebraic fractions • Set up and solve equation • Simultaneous equations linear/quadratic • Gradient of a straight line graph 	<ul style="list-style-type: none"> • Circle theorems • Area of a trapezium • Similar triangles • Pythagoras theorem • Trigonometry • Trigonometry in 3-D • Column vectors 	<ul style="list-style-type: none"> • Dependent combined events 	<ul style="list-style-type: none"> • Frequency polygon • Histogram

Maths - Foundation

	Number	Ratio	Algebra	Geometry	Probability	Statistics
Paper 1	<ul style="list-style-type: none"> • Money • Negative number • Order fractions, decimals, percentages • Fraction of an amount • Fraction arithmetic • Place value • Product of prime factors • Standard Form conversion and calculation • Estimation 	<ul style="list-style-type: none"> • Length conversion • Percentage of an amount • Percentage increase • Write as a ratio, share in a ratio • Direct proportion • Speed and density 	<ul style="list-style-type: none"> • Simplification • Substitute values • Linear inequality • Quadratic equation • Quadratic graph • Linear sequence 	<ul style="list-style-type: none"> • Reflection • Plan and elevation • Angles in a polygon • Volume of a cube and cylinder • Exact trig. values 	<ul style="list-style-type: none"> • Probability • Frequency tree 	<ul style="list-style-type: none"> • Pictogram • Bar chart • Stem and leaf diagram
Paper 2	<ul style="list-style-type: none"> • Money • Negative number • Fraction arithmetic • Order fractions, order integers • Multiples • Rounding • Error interval • Mathematical symbols 	<ul style="list-style-type: none"> • Mass, time, area • Scale drawing • Decimal to percentage • Percentage profit • Depreciation • Write as a ratio, use of ratio • Direct proportion • Currency conversion 	<ul style="list-style-type: none"> • Simplification • Expansion of bracket • Factorisation • Laws of indices • Linear simultaneous equations • Coordinates • Straight line graph • Functions: Number machines 	<ul style="list-style-type: none"> • Polygons • Circles • Parallel and perpendicular lines • Transformations • Angles in a triangle • Vertically opposite angles • Area of a rectangle 	<ul style="list-style-type: none"> • Tree diagram • Combined events 	<ul style="list-style-type: none"> • Interpret graph • Two-way table • Frequency table • Mode • Median • Mean
Paper 3	<ul style="list-style-type: none"> • Four operations • Negative number • Fraction of an amount • One amount as a fraction of another • Equivalent fractions • Factors • Lowest Common Multiple • Square root • Rounding • Calculator use 	<ul style="list-style-type: none"> • Time • Compound units • Scale drawing • Percentage to fraction • One quantity as a percentage of another • Percentage decrease • Reverse percentage • Write as a ratio • 1 : n form • Direct proportion • Average speed 	<ul style="list-style-type: none"> • Simplification • Expansion of bracket • Factorisation • Substitute values • Change subject of a formula • Forming an expression • Linear equation • Form an equation • Linear sequence 	<ul style="list-style-type: none"> • Triangle properties • Quadrilaterals • Triangular prism • Angle properties of parallel lines • Angles in a triangle • Vertically opposite angles • Bearings • Area of a triangle and trapezium • Pythagoras Theorem 	<ul style="list-style-type: none"> • Probability scale • Probability 	<ul style="list-style-type: none"> • Frequency polygon • Median • Range • Comparison of distributions

Biology - Foundation

Focus of the June 2022 exam

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

Chemistry - Foundation

Paper Chemistry 1F 8464/C/1F

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 2F 8464/C/2F

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_f values.

Topic **not assessed** in this paper:

- 5.9.2 Carbon dioxide and methane as greenhouse gases

Physics - Foundation

Paper Physics 1F 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 2F 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

Chemistry - Higher

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
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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

Physics - Higher

Paper Physics 1H 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 2H 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

Religious Studies

Christian Beliefs and Teachings

The 'nature' of God - the oneness of God and the Trinity: Father, Son and Holy Spirit.

The creation of the world - The role of The Father, The Word and the Spirit (must know John 1:1-3 and Genesis 1:1-3)

The crucifixion of Jesus

The resurrection and ascension of Jesus

Life after death - including: resurrection and life after death; judgement, heaven and hell, and their importance

Salvation (inc. law, grace and Spirit)

The role of Christ in salvation including the idea of atonement.

Christian Practices

(remember this links closely to Christian Beliefs and Teachings)

Role and meaning of sacraments

The sacrament of baptism and its significance for Christians

Infant Baptism and different beliefs about it

Believers Baptism

The role and importance of Christmas inc. the importance for Christians in Great Britain today

The role and importance of Easter inc. the importance for Christians in Great Britain today

Place of mission, evangelism and Church growth

Importance of the worldwide Church - working for reconciliation

Importance of the worldwide Church - response to persecution

Islamic Beliefs and Teachings

The nature of God - omnipotence, beneficence, mercy, fairness and justice/Adalat in Shi'a Islam
The nature of God - different ideas about God's relationship with the world: immanence and transcendence
Revelation and authority of holy books – Qur'an
Revelation and authority of holy books – Torah, Psalms, Gospels, Scrolls of Abraham
Nature and role of angels – Jibril and Mika'il
Risalah and Prophethood – role and importance of Adam, Ibrahim and Muhammad
The role and significance of the Imamate in Shi'a Islam

Islamic Practices

<p>Salah and its significance:</p> <ul style="list-style-type: none"> - how and why Muslims pray including times, directions, ablution (wudu), movements (rak'ahs) and recitations; - salah in the home and mosque and elsewhere; - Friday prayer: Jummah; key differences in the practice of salah in Sunni and Shi'a Islam, and different Muslim views about the importance of prayer
<p>Zakah:</p> <ul style="list-style-type: none"> - the role and significance of giving alms including origins, - how and why it is given, - benefits of receipt, - Khums in Shi'a Islam.
<p>Hajj:</p> <ul style="list-style-type: none"> - the role and significance of the pilgrimage to Makkah including origins, - how hajj is performed, - the actions pilgrims perform at sites including the Ka'aba at Makkah, Mina, Arafat, Muzdalifah and their significance.
<p>Jihad:</p> <ul style="list-style-type: none"> - different understandings of jihad: the meaning and significance of greater and lesser jihad; - origins, influence and conditions for the declaration of lesser jihad.
<p>Festivals and commemorations and their importance for Muslims in Great Britain today, including the origins and meanings of Id-ul-Adha, Id-ul-Fitr, Ashura.</p>

Computer Science

Paper 1

Only **1 Topic** has been dropped: **System Software**

Paper 2

- **No Changes in Paper 2 in terms of Content.** Topics remain the same.
- Structure has been changed (2 Sections A and B).
- Section B compensates for the Programming project (NEA). Students will have to answer questions related to programming in section B.

OCR GCSE Computer Science Revision Checklist	
OCR Component 01 Computing Systems 80 marks – 1 hour and 30 minutes, Written paper (no calculators allowed)	OCR Component 02 Computational Thinking, Algorithms & Programming 80 marks – 1 hour and 30 minutes, Written paper (no calculators allowed)
1.1 – Systems Architecture	2.1 – Algorithms
1.2 – Memory	2.2 – Programming Techniques
1.3 – Storage	2.3 – Producing Robust Programs
1.4 – Wired & Wireless Networks	2.4 – Computational Logic
1.5 – Network Topologies, Protocols & Layers	2.5 – Translators & Facilities of Languages
1.6 – Systems security	2.6 – Data Representation
1.7 – Systems Software	
1.8 – Ethical, Legal, Cultural & Environmental Concerns	

Geography

Paper 1

- no change (1 hour 30 mins)

Paper 2

- Optionality introduced (we answer section A and B – not C).
- Reduced duration (now 1 hour 15 mins)
- Reduced overall marks (now 63 for this paper)

Paper 3

- Reduced content so exam is based primarily on pre-release information booklet and theoretical understanding of the fieldwork enquiry process. Students will receive this on 22/3/22 to prepare.
- Reduced duration (now 1 hour paper)
- Reduced marks (overall marks 56 for this paper)

Sociology

- Full Knowledge Organisers shared with students in lesson and on google classroom with specific details and topics

Paper 1: The sociology of families and education

3.3 Families

3.3.2 Family forms

- How family forms differ in the UK and within a global context.

3.3.6 Divorce

- Changes in the pattern of divorce in Britain since 1945 and the consequences of divorce for family members and structures.

3.4 Education

3.4.1 Roles and functions of education

- Different views of the role and functions of education.

3.4.4 Processes within schools

- Processes within schools affecting educational achievement.

Paper 2: The sociology of crime and deviance and social stratification

3.5 Crime and deviance

3.5.1 The social construction of crime and deviance

- The social construction of concepts of crime and deviance and explanations of crime and deviance.

3.5.2 Social control

- Formal and informal methods of social control.

3.6 Social stratification

3.6.1 Functionalist theory of stratification

- Different views of the functionalist theory of social stratification.

3.6.4 Poverty as a social issue

- Different interpretations of poverty as a social issue.