



GCSE BIOLOGY (COMBINED)

Paper 1 8464/1 – H/F	Topics 1 –4 Cell biology Organisation Infection and response Bioenergetics.
Paper 2 8464/2 – H/F	Topics 5–7: Homeostasis and response Inheritance, variation and evolution Ecology
Exam Board	AQA GCSE combined biology (8464)



Useful Links/Resources

Malmesbury Education GCSE Biology Required Practicals

<https://www.youtube.com/playlist?list=PLAd0MSIZBSsHv1pioWRdg-pZCWTo84cdP>

BBC Bitesize

<https://www.bbc.co.uk/bitesize/topics/zthssrd>

GCSE AQA Biology 9-1 / Freesciencelessons Compilation

Paper 1

<https://www.youtube.com/playlist?list=PL2HrnZel5wZwl-OJJN3kpZp-2uVQgHkm>

Paper 2

https://www.youtube.com/results?search_query=freesciencelessons+biology+paper+2+

[physicsandmathstutor.com](https://www.physicsandmathstutor.com)

Biology Paper 1

<https://www.physicsandmathstutor.com/past-papers/gcse-science/aqa-biology-1/>

Biology Paper 2

<https://www.physicsandmathstutor.com/past-papers/gcse-science/aqa-biology-2/>

Useful Information

Calculate

Students should use numbers given in the question to work out the answer.

Compare

This requires the student to describe the similarities and/or differences between things, not just write about one.

Describe

Students may be asked to recall some facts, events or process in an accurate way.

Design

Set out how something will be.

Determine

Use given data or information to obtain an answer.

Evaluate

Students should use the information supplied, as well as their knowledge and understanding, to consider evidence for and against when making a judgement.

Explain

Students should make something clear, or state the reasons for something happening.

Plan

Write a method.

Suggest

This term is used in questions where students need to apply their knowledge to a new situation.



GCSE BIOLOGY (COMBINED)

Year 10

Term 1

BIOLOGY TOPIC 1: CELL BIOLOGY

- B1.1: Cell structure and transport
- B1.2: Cell division

BIOLOGY TOPIC 2 - ORGANISATION

- B2.1: Organisation and the digestive system
- B2.2: Organising animals and plants.

Term 2

BIOLOGY TOPIC 3: INFECTION AND RESPONSE

- B3.1: Communicable diseases
- B3.2: Preventing and treating disease.
- B3.3: non-communicable diseases

BIOLOGY TOPIC 4 - BIOENERGETICS

- B4.1: Photosynthesis
- B4.2: Respiration

Term 3

BIOLOGY TOPIC 5 - HOMEOSTASIS AND RESPONSE

- B5.1: The human nervous system
- B5.2: Hormonal coordination

Year 11

Term 1

BIOLOGY TOPIC 6: INHERITANCE, VARIATION AND EVOLUTION

- B6.1: Reproduction
- B6.2: Variation and evolution
- B6.3: Genetics and evolution

Term 2

BIOLOGY TOPIC 7: ECOLOGY

- B7.1: Adaptations, interdependence, and competition
- B7.2: Organising an ecosystem.
- B7.3: Biodiversity and ecosystems


Term 3

Exam practice and revision





GCSE BIOLOGY (TRIPLE)

Paper 1 50% 8461/1 – H/F	Topics 1 –4 Cell biology Organisation Infection and response Bioenergetics.
Paper 2 50% 8461/2 – H/F	Topics 5–7: Homeostasis and response Inheritance, variation and evolution Ecology
Exam Board	AQA GCSE biology (8461) 

Useful Links/Resources

Malmesbury Education GCSE Biology Required Practicals

<https://www.youtube.com/playlist?list=PLAd0MSIZBSsHv1pioWRdg-pZCWTo84cdP>

BBC Bitesize

<https://www.bbc.co.uk/bitesize/examspecs/zpgcbk7>

GCSE AQA Biology 9-1 / Freesciencelessons Compilation

Paper 1

https://www.youtube.com/playlist?list=PL2HrnZel5wZwl-OJJN3kpZp-2uVQgHkm_

Paper 2

https://www.youtube.com/results?search_query=freesciencelessons+biology+paper+2+

[physicsandmathstutor.com](https://www.physicsandmathstutor.com)

Biology Paper 1

<https://www.physicsandmathstutor.com/past-papers/gcse-biology/aqa-paper-1/>

Biology Paper 2

<https://www.physicsandmathstutor.com/past-papers/gcse-biology/aqa-paper-2/>

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Plan

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Suggest

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GCSE BIOLOGY (TRIPLE)

Year 10

Term 1

BIOLOGY TOPIC 1: CELL BIOLOGY

- B1.1: Cell structure and transport
- B1.2: Cell division

BIOLOGY TOPIC 2 - ORGANISATION

- B2.1: Organisation and the digestive system
- B2.2: Organising animals and plants.

Term 2

BIOLOGY TOPIC 3: INFECTION AND RESPONSE

- B3.1: Communicable diseases
- B3.2: Preventing and treating disease.
- B3.3: non-communicable diseases

BIOLOGY TOPIC 4 - BIOENERGETICS

- B4.1: Photosynthesis
- B4.2: Respiration

Term 3

BIOLOGY TOPIC 5 - HOMEOSTASIS AND RESPONSE

- B5.1: The human nervous system
- B5.2: Hormonal coordination
- B5.3: Homeostasis in action (TS)

Year 11

Term 1

BIOLOGY TOPIC 6: INHERITANCE, VARIATION AND EVOLUTION

- B6.1: Reproduction
- B6.2: Variation and evolution
- B6.3: Genetics and evolution

Term 2

BIOLOGY TOPIC 7: ECOLOGY

- B7.1: Adaptations, interdependence, and competition
- B7.2: Organising an ecosystem.
- B7.3: Biodiversity and ecosystems

Term 3

Exam practice and revision





GCSE CHEMISTRY (COMBINED)

Paper 1 16.7% 8464/C/1 – H/F	Topics 1 -5: Atomic structure and the periodic table Bonding, structure, and the properties of matter Quantitative chemistry Chemical changes Energy changes
Paper 2 16.7% 8464/C/2 – H/F	Topics 6-10: The rate and extent of chemical change Organic chemistry Chemical analysis Chemistry of the atmosphere Using resources
Exam Board	AQA Combined science: Trilogy (8464)



Useful Links/Resources

Malmesbury Education GCSE Chemistry Practicals

<https://www.youtube.com/playlist?list=PLAd0MSIZBSsEvgAZyDRkK0PgQZ6uiC98F>

BBC Bitesize

<https://www.bbc.co.uk/bitesize/topics/z88jjty>

Freesciencelessons

Chemistry Paper 1

<https://www.youtube.com/@Freesciencelessons/playlists>

Chemistry Paper 2

<https://www.youtube.com/@Freesciencelessons/playlists>

[revisionscience.com](https://www.revisionscience.com) - Chemistry

<https://www.revisionscience.com/gcse-revision/chemistry>

Useful Information

Periodic Table

<https://filestore.aqa.org.uk/sample-papers-and-mark-schemes/2021/november/AQA-8462-PT-NOV21.PDF>

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Suggest

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GCSE CHEMISTRY (COMBINED)

Year 10

Term 1

Unit 1 - Periodic table

The periodic table provides chemists with a structured organisation of the known chemical elements from which they can make sense of their physical and chemical properties.

Unit 2 – Bonding, structure and the properties of matter

Chemists use theories of structure and bonding to explain the physical and chemical properties of materials. Theories of bonding explain how atoms are held together in these structures.

Term 2

Unit 3 – Quantitative chemistry

Chemists use quantitative analysis to determine the formulae of compounds and the equations for reactions. Analysts can then use quantitative methods to determine the purity of chemical samples and to monitor the yield from chemical reactions.

Unit 4 – chemical changes – part 1 reactivity of metals

Knowing about different chemical changes has meant that scientists could begin to predict exactly what new substances would be formed and use this knowledge to develop a wide range of different materials and processes.

Term 3

Unit 4 – chemical changes – part 2 Reactions of acids and part 3 Electrolysis

Knowing about different chemical changes has meant that scientists could begin to predict exactly what new substances would be formed and use this knowledge to develop a wide range of different materials and processes.

Unit 5 - Energy changes

The interaction of particles often involves transfers of energy due to the breaking and formation of bonds. Reactions in which energy is released to the surroundings are exothermic reactions, while those that take in thermal energy are endothermic.

Year 11

Term 1 & 2

Unit 6 – The rate and extent of chemical change

Whilst the reactivity of chemicals is a significant factor in how fast chemical reactions proceed, there are many variables that can be manipulated in order to speed them up or slow them down. Chemical reactions may also be reversible and therefore the effect of different variables needs to be established in order to identify how to maximise the yield of desired product.

Unit 7 – Organic chemistry

The chemistry of carbon compounds is so important that it forms a separate branch of chemistry. This branch of chemistry gets its name from the fact that the main sources of organic compounds are living, or once-living materials from plants and animals.

Term 2

Unit 8 - Chemical analysis

Analysts have developed a range of qualitative tests to detect specific chemicals. The tests are based on reactions that produce a gas with distinctive properties.

Unit 9 – Chemistry of the atmosphere

The Earth's atmosphere is dynamic and forever changing. The causes of these changes are sometimes man-made and sometimes part of many natural cycles.

Unit 10 - Using resources

Industries use the Earth's natural resources to manufacture useful products. In order to operate sustainably, chemists seek to minimise the use of limited resources, use of energy, waste and environmental impact in the manufacture of these products.

Term 3

Exam practice and revision





GCSE CHEMISTRY (TRIPLE)

Paper 1 50% 8462/1 – H/F	Topics 1 -5: Atomic structure and the periodic table Bonding, structure, and the properties of matter Quantitative chemistry Chemical changes Energy changes
Paper 2 50% 8462/2 – H/F	Topics 6-10: The rate and extent of chemical change Organic chemistry Chemical analysis Chemistry of the atmosphere Using resources
Exam Board	AQA GCSE chemistry (8462)



Useful Links/Resources

Malmesbury Education GCSE Chemistry Practicals

<https://www.youtube.com/playlist?list=PLAd0MSIZBSsEygAZyDRkK0PgQZ6uiC98F>

BBC Bitesize

<https://www.bbc.co.uk/bitesize/examspecs/z8xtmnb>

Freesciencelessons

Chemistry Paper 1

<https://www.youtube.com/@Freesciencelessons/playlists>

Chemistry Paper 2

<https://www.youtube.com/@Freesciencelessons/playlists>

[revisionscience.com](https://www.revisionscience.com) - Chemistry

<https://www.revisionscience.com/gcse-revision/chemistry/chemistry-gcse-past-papers/aqa-gcse-chemistry-past-papers>

Useful Information

Periodic Table

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GCSE CHEMISTRY (TRIPLE)

Year 10

Term 1

Unit 1 - Periodic table

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Term 2

Unit 3 – Quantitative chemistry

Chemists use quantitative analysis to determine the formulae of compounds and the equations for reactions. Analysts can then use quantitative methods to determine the purity of chemical samples and to monitor the yield from chemical reactions.

Unit 4 – chemical changes – part 1 reactivity of metals

Knowing about different chemical changes has meant that scientists could begin to predict exactly what new substances would be formed and use this knowledge to develop a wide range of different materials and processes.

Term 3

Unit 4 – chemical changes – part 2 Reactions of acids and part 3 Electrolysis

Knowing about different chemical changes has meant that scientists could begin to predict exactly what new substances would be formed and use this knowledge to develop a wide range of different materials and processes.

Unit 5 - Energy changes

The interaction of particles often involves transfers of energy due to the breaking and formation of bonds. Reactions in which energy is released to the surroundings are exothermic reactions, while those that take in thermal energy are endothermic.

Year 11

Term 1

Unit 6 – The rate and extent of chemical change

Whilst the reactivity of chemicals is a significant factor in how fast chemical reactions proceed, there are many variables that can be manipulated in order to speed them up or slow them down. Chemical reactions may also be reversible and therefore the effect of different variables needs to be established in order to identify how to maximise the yield of desired product.

Unit 7 – Organic chemistry

The chemistry of carbon compounds is so important that it forms a separate branch of chemistry. This branch of chemistry gets its name from the fact that the main sources of organic compounds are living, or once-living materials from plants and animals.

Term 2

Unit 8 - Chemical analysis

Analysts have developed a range of qualitative tests to detect specific chemicals. The tests are based on reactions that produce a gas with distinctive properties, or an insoluble solid that appears as a precipitate.

Unit 9 – Chemistry of the atmosphere

The Earth's atmosphere is dynamic and forever changing. The causes of these changes are sometimes man-made and sometimes part of many natural cycles.

Unit 10 - Using resources

Industries use the Earth's natural resources to manufacture useful products. In order to operate sustainably, chemists seek to minimise the use of limited resources, use of energy, waste and environmental impact in the manufacture of these products.

Term 3

Exam practice and revision





GCSE PHYSICS (COMBINED)

Paper 1 Weighting Exam/NEA	Energy; Electricity; Particle model of matter; and Atomic structure How it's assessed <ul style="list-style-type: none">• Written exam: 1 hour 15 minutes• Foundation and Higher Tier• 70 marks• 16.7% of GCSE
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Paper 2 Weighting Exam/NEA	Forces; Waves; and Magnetism and electromagnetism How it's assessed <ul style="list-style-type: none">• Written exam: 1 hour 15 minutes• Foundation and Higher Tier• 70 marks• 16.7% of GCSE
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Exam Board	AQA GCSE Combined Science: Trilogy (8464)
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Useful Links/Resources

Kerboodle
<https://www.kerboodle.com>

BBC bitesize
Physics (Combined Science) - GCSE Combined Science Revision - AQA Trilogy - BBC Bitesize
<https://www.bbc.co.uk/bitesize/topics/zqw77p3>

Malsbury Science examined practicals, for example:
Insulation - GCSE Science Required Practical
<https://www.youtube.com/watch?v=MUY1o4ogCww&list=PLAd0MSIZBSsGNWkdHJdQYIndKl3HZUrSB>

SENECA
<https://senecalearning.com/en-GB/parents>

DR Science
<https://sciencedoctor.school.blog/physics-ks4/energy/>

Wider Reading
LabXchange

Useful Information

Physics Equations Sheet

<https://filestore.aqa.org.uk/resources/science/AQA-8464-ES-INS-JUN23.PDF>



GCSE PHYSICS (COMBINED)

Year 10

Term 1

Energy

The concept of energy, energy transfers and conservation of energy. Limits to the use of fossil fuels and global warming make it necessary to identify ways to reduce our energy usage.

Electricity

Electric charge is a fundamental property of matter everywhere. Understanding the difference in the microstructure of conductors, semiconductors and insulators makes it possible to design components and build electric circuits. Many circuits are powered with mains electricity, but portable electrical devices must use batteries of some kind.

Term 2

Particle Model

The particle model is widely used to predict the behaviour of solids, liquids and gases and this has many applications in everyday life.

Atomic structure

Ionising radiation is hazardous but can be very useful. Although radioactivity was discovered over a century ago, it took many nuclear physicists several decades to understand the structure of atoms, nuclear forces and stability.

Term 3

Forces 1

Engineers analyse forces when designing a great variety of machines and instruments, from road bridges and fairground rides to atomic force microscopes. Anything mechanical can be analysed in this way.

Year 11

Term 1

Forces 2

Calculating mechanical value as acceleration and velocity, understanding forces and motion, alongside concepts such as Newton's Laws of motion.

Term 2

Waves

Wave behaviour is common in both natural and man-made systems. Waves carry energy from one place to another and can also carry information. Designing comfortable and safe structures such as bridges, houses and music performance halls requires an understanding of mechanical waves. Modern technologies such as imaging and communication systems show how we can make the most of electromagnetic waves.

Magnets and Electromagnetism

Electromagnetic effects are used in a wide variety of devices. Engineers make use of the fact that a magnet moving in a coil can produce electric current and also that when current flows around a magnet it can produce movement.

Term 3


Practical Skills and revision

This specification encourages the development of knowledge and understanding in science through opportunities for working scientifically. Working scientifically is the sum of all the activities that scientists do.





GCSE PHYSICS (TRIPLE)

Paper 1 Weighting Exam/NEA	Energy; Electricity; Particle model of matter; and Atomic structure. How it's assessed <ul style="list-style-type: none">• Written exam: 1 hour 45 minutes• Foundation and Higher Tier• 100 marks• 50% of GCSE
Paper 2 Weighting Exam/NEA	Forces; Waves; Magnetism and electromagnetism; and Space physics. How it's assessed <ul style="list-style-type: none">• Written exam: 1 hour 45 minutes• Foundation and Higher Tier• 100 marks• 50% of GCSE
Exam Board	AQA GCSE Physics: (8463) 

Useful Links/Resources

Kerboodle

<https://www.kerboodle.com>

BBC bitesize

<https://www.bbc.co.uk/bitesize/examspecs/zsc9rdm>

Malsbury Science examined practicals, for example:

Insulation - GCSE Science Required Practical

<https://www.youtube.com/watch?v=MUy1o4ogCww&list=PLAd0MSIZBSsGNWkdHJdQYIndKI3HZUrSB>

Quick summary (prior to GCSE exam)

Paper 1

<https://www.youtube.com/watch?v=xtw-Z0nIIA4>

Paper 2

<https://www.youtube.com/watch?v=X1aMXCr75Kw>

SENECA

<https://senecalearning.com/en-GB/parents>

DR Science

<https://sciencedoctor.school.blog/physics-ks4/energy/>

Useful Information

Insert (Foundation; Higher) : equations sheet - June 2023 ([aqa.org.uk](https://www.aqa.org.uk))

Past Paper link

<https://filestore.aqa.org.uk/resources/science/AQA-8464-ES-INS-JUN23.PDF>

AQA GCSE Physics Past Papers - Revision Science

<https://revisionscience.com/gcse-revision/physics/physics-gcse-past-papers/aqa-gcse-physics-past-papers>

Wider reading

LabXchange



GCSE PHYSICS (TRIPLE)

Year 10

Term 1

Energy

The concept of energy, energy transfers and conservation of energy. Limits to the use of fossil fuels and global warming make it necessary to identify ways to reduce our energy usage.

Electricity

Electric charge is a fundamental property of matter everywhere. Understanding the difference in the microstructure of conductors, semiconductors and insulators makes it possible to design components and build electric circuits. Many circuits are powered with mains electricity, but portable electrical devices must use batteries of some kind.

Term 2

Particle Model

The particle model is widely used to predict the behaviour of solids, liquids and gases and this has many applications in everyday life. Engineers use these principles when designing vessels to withstand high pressures and temperatures.

Atomic structure

Ionising radiation is hazardous but can be very useful. Although radioactivity was discovered over a century ago, it took many nuclear physicists several decades to understand the structure of atoms, nuclear forces and stability.

Term 3

Forces

Engineers analyse forces when designing a great variety of machines and instruments, from road bridges and fairground rides to atomic force microscopes.

Forces 2

Calculating mechanical value as acceleration and velocity, understanding forces and motion, alongside concepts such as Newton's Laws of motion.

Year 11

Term 1 and 2

Waves

Wave behaviour is common in both natural and man-made systems. Waves carry energy from one place to another and can also carry information. Modern technologies show how we can make the most of electromagnetic waves.

Magnets and electromagnetism

Electromagnetic effects are used in a wide variety of devices. Engineers make use of the fact that a magnet moving in a coil can produce electric current and also that when current flows around a magnet it can produce movement.

Term 3

Space Physics

In the past century, astronomers and astrophysicists have made remarkable progress in understanding the scale and structure of the universe, its evolution and ours. New questions have emerged such as 'Dark matter' and forming theories on evolution of the Universe.

Throughout Year 10 and 11

Practical Skills and revision

This specification encourages the development of knowledge and understanding in science through opportunities for working scientifically. Working scientifically is the sum of all the activities that scientists do.

