

Welcome to:
GCSE Combined Science
(Trilogy)



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Specification Information

- Specification details: AQA GCSE COMBINED SCIENCE: TRILOGY (8464)
- There are six exam papers: two biology, two chemistry and two physics. Each of the papers will assess knowledge and understanding from distinct topic areas.
- The study of Science is important. It contributes to ensuring a longer and healthier life, monitors our health, provides medicine to cure our diseases, alleviates aches and pains, helps us to provide water for our basic needs – including our food, provides energy and makes life more fun, including sports, music, entertainment and the latest communication technology. Last but not least, it nourishes our spirit. Science generates solutions for everyday life and helps us to answer the great mysteries of the universe. In other words, science is one of the most important channels of knowledge. It has a specific role, as well as a variety of functions for the benefit of our society: creating new knowledge, improving education, and increasing the quality of our lives.



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What you will learn

Biology

1. Cell biology
2. Organisation
3. Infection and response
4. Bioenergetics
5. Homeostasis and response
6. Inheritance, variation and evolution
7. Ecology

Chemistry

8. Atomic structure and the periodic table
9. Bonding, structure, and the properties of matter
10. Quantitative chemistry
11. Chemical changes
12. Energy changes
13. The rate and extent of chemical change
14. Organic chemistry
15. Chemical analysis
16. Chemistry of the atmosphere
17. Using resources

Physics

18. Energy
19. Electricity
20. Particle model of matter
21. Atomic structure
22. Forces
23. Waves
24. Magnetism and electromagnetism



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How you will be assessed?

Biology Paper 1

What's assessed

Biology topics 1–4: Cell Biology; Organisation; Infection and response; and Bioenergetics.

How it's assessed

- Written exam: 1 hour 15 minutes
- Foundation and Higher Tier
- 70 marks
- 16.7% of GCSE

Questions

Multiple choice, structured, closed short answer, and open response.



Biology Paper 2

What's assessed

Biology topics 5–7: Homeostasis and response; Inheritance, variation and evolution; and Ecology.

How it's assessed

- Written exam: 1 hour 15 minutes
- Foundation and Higher Tier
- 70 marks
- 16.7% of GCSE

Questions

Multiple choice, structured, closed short answer, and open response.



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How you will be assessed?

Chemistry Paper 1

What's assessed

Chemistry topics 8–12: Atomic structure and the periodic table; Bonding, structure, and the properties of matter; Quantitative chemistry; Chemical changes; and Energy changes.

How it's assessed

- Written exam: 1 hour 15 minutes
- Foundation and Higher Tier
- 70 marks
- 16.7% of GCSE

Questions

Multiple choice, structured, closed short answer, and open response.



Chemistry Paper 2

What's assessed

Chemistry topics 13–17: The rate and extent of chemical change; Organic chemistry; Chemical analysis; Chemistry of the atmosphere; and Using resources.

Questions in Paper 2 may draw on fundamental concepts and principles from Sections 5.1 to 5.3.

How it's assessed

- Written exam: 1 hour 15 minutes
- Foundation and Higher Tier
- 70 marks
- 16.7% of GCSE

Questions

Multiple choice, structured, closed short answer, and open response.



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How you will be assessed?

Physics Paper 1

What's assessed

Physics topics 18–21: Energy; Electricity; Particle model of matter; and Atomic structure.

How it's assessed

- Written exam: 1 hour 15 minutes
- Foundation and Higher Tier
- 70 marks
- 16.7% of GCSE

Questions

Multiple choice, structured, closed short answer, and open response.



Physics Paper 2

What's assessed

Physics topics 22–24: Forces; Waves; and Magnetism and electromagnetism

How it's assessed

- Written exam: 1 hour 15 minutes
- Foundation and Higher Tier
- 70 marks
- 16.7% of GCSE

Questions

Multiple choice, structured, closed short answer, and open response.



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Skills developed

- The students studying the Combined Science (Trilogy) course will study each of the three Sciences during Years 10 and 11. This is a double award and is equivalent to two GCSEs. In addition to the topics listed below, students will be required to undertake 16 specific practical scientific experiments.
- The topics met through KS4 further develop recall, application and investigative skills. The required practical element of the courses allows students to become familiar with common scientific apparatus, methods and laboratory techniques.
- ‘How science works’ is an important element of GCSE Science. Through scientific inquiry, students are able to formulate methods, collect measurements and observations to investigate their own hypotheses. Recording, presenting and evaluating both secondary and primary data to draw conclusions.
- The curriculum sparks the imagination and passion in our students by allowing them to formulate their own understanding of the world around them, this underpins and develops their own thought processes and opinions on matters relating to industry, their own personal well-being and their impact on the environment.



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Careers/Next steps

- **Grade 6-6 and above (Higher Tier) provides the opportunity for students to progress onto A-level Science courses.**
- **A GCSE in Science opens the door to many career paths. Here are just a few areas that require you to study Sciences to A-Level and beyond.**
 - Analytical Chemist
 - Accountant/ Auditor
 - Chemical Engineer
 - Chemical Development Engineer
 - Environmental Chemist
 - Forensic Researcher
 - Forensic Scientist
 - Purification Scientist
 - Toxicologist
 - Biotechnologist
 - Marine biologist
 - Microbiologist
 - Nanotechnologist
 - Doctor of medicine
 - Pharmacologist
 - Animal physiotherapist
 - Dentist
 - Zoologist
 - Engineering
 - Renewable energy scientist and engineer
 - Robotics and AI
 - VFX and game development engineer
 - Climate science and meteorologist
 - Astronomy and space scientist



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Where can you find more information

- Twitter: [@westhillscience](https://twitter.com/westhillscience)
- Email (Head of Science): carty@westhillschool.co.uk
- School website: <https://www.westhillschool.co.uk/page/?title=Science&pid=116>
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- Examples of the past exam papers can be found here:
<https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464/assessment-resources?f.Resource+type%7C6=Question+papers>



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