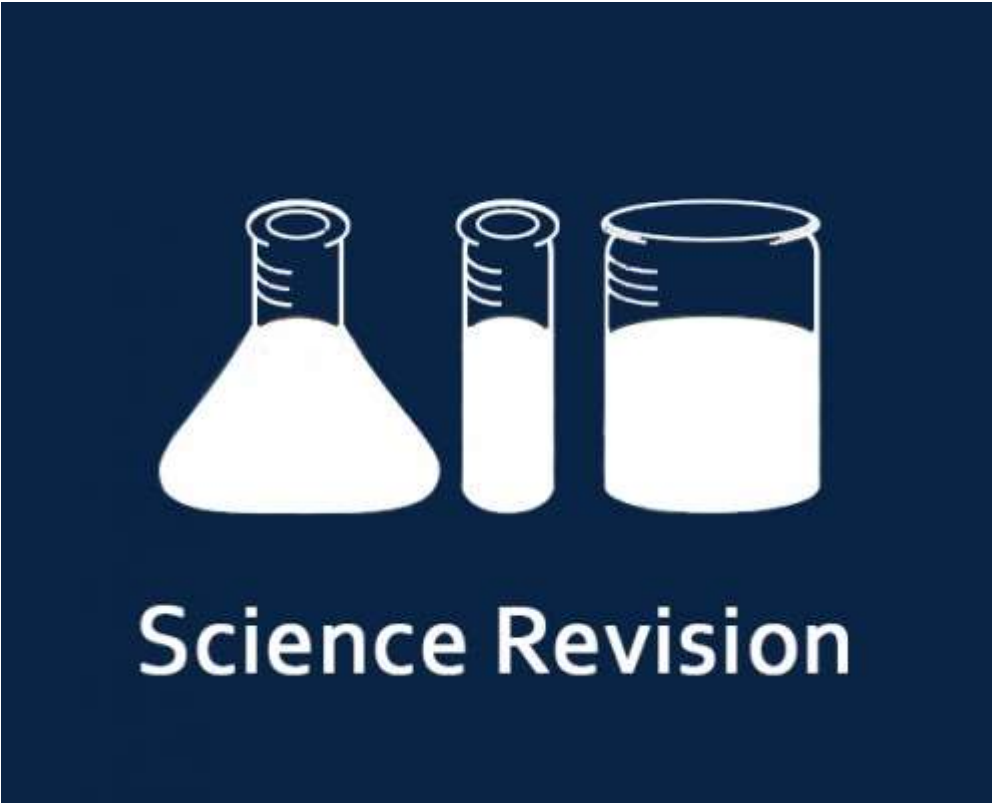


Revision Guidance



**Bishop
Perowne**
Church of England College
Endeavour Forever

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Course Details

Key Stage 3

Online revision books: http://www.cgpbooks.co.uk/pages/interactive_ks3_science.asp For revision mind maps on all topics: <http://www.ntscience.co.uk/science-mindmaps/> For online tutorials: <http://lgfl.skool.co.uk/keystage3.aspx?id=80>

Key Stage 4

Board and specification:

- AQA GCSE Combined Science: Trilogy (8464)
- AQA GCSE Biology (8461)
- AQA GCSE Chemistry (8462)
- AQA GCSE Physics (8463)

Most students will be entered for GCSE combined science and will achieve a double GCSE grade (from 1-1 to 9-9). Some students will be put onto the separate science pathway and will achieve three GCSEs in biology, chemistry and physics.

Exam structure:

- Trilogy – 6 x 75 minute terminal papers (16.7% of course per paper)
- Biology – 2 x 105 minute terminal papers (50% of course per paper)
- Chemistry – 2 x 105 minute terminal papers (50% of course per paper)
- Physics – 2 x 105 minute terminal papers (50% of course per paper)

11P2, 11P3, 11Q1, 11Q2 or 11Q3 - COMBINED SCIENCE

(exams in **BOLD** – 6 in total)

- AQA Trilogy (Biology Paper 1 (**B1**) & Paper 2 (**B2**), Chemistry Paper 1 (**C1**) and Paper 2 (**C2**) and Physics Paper 1 (**P1**) and Paper 2 (**P2**))

Length of each exam – 1 hr 15 minutes. 70 marks per paper.

For GCSE Combined Science, you'll sit six exam papers at the end of your course. →

You're expected to know the basic concepts in each of the sciences for both exams. So, for example, in Biology Paper 2 you could be expected to know some of the basics from B1, B2, B3 or B4.

Paper	Time	No. of marks	Topics Assessed
Biology 1	1 hr 15 mins	70	B1, B2, B3 and B4
Biology 2	1 hr 15 mins	70	B5, B6 and B7
Chemistry 1	1 hr 15 mins	70	C1, C2, C3, C4 and C5
Chemistry 2	1 hr 15 mins	70	C6, C7, C8, C9 and C10
Physics 1	1 hr 15 mins	70	P1, P2, P3 and P4
Physics 2	1 hr 15 mins	70	P5, P6 and P7

11P1 only - TRIPLE AWARD

- Biology Paper 1 (**B1**) & Paper 2 (**B2**)

For GCSE Biology, you'll sit two exam papers at the end of your course. →

You're expected to know the basic concepts of biology in both papers.

Paper	Time	No. of marks	Topics Assessed
1	1 hr 45 mins	100	1, 2, 3 and 4
2	1 hr 45 mins	100	5, 6 and 7

- Chemistry Paper 1 (**C1**) and Paper 2 (**C2**)

For GCSE Chemistry, you'll sit two exam papers at the end of your course. →

You're expected to know the basic concepts of chemistry in both papers.

Paper	Time	No. of marks	Topics Assessed
1	1 hr 45 mins	100	1, 2, 3, 4 and 5
2	1 hr 45 mins	100	6, 7, 8, 9 and 10

- Physics Paper 1 (**P1**) and Paper 2 (**P2**)

For GCSE Physics, you'll sit two exam papers at the end of your course. →

Paper	Time	No. of Marks	Topics Assessed
1	1 hr 45 mins	100	1, 2, 3 and 4
2	1 hr 45 mins	100	5, 6, 7 and 8

Length of each exam – 1 hr 45 mins each. 100 marks per paper.

Links to exam board specification and past papers:

www.aqa.org.uk/subjects/science/gcse

Staff Contacts:

aitkenc@bishopperowne.co.uk

elmougyo@bishopperowne.co.uk

biddles@bishopperowne.co.uk

olseeng@bishopperowne.co.uk

pricej@bishopperowne.co.uk

williamsa@bishopperowne.co.uk

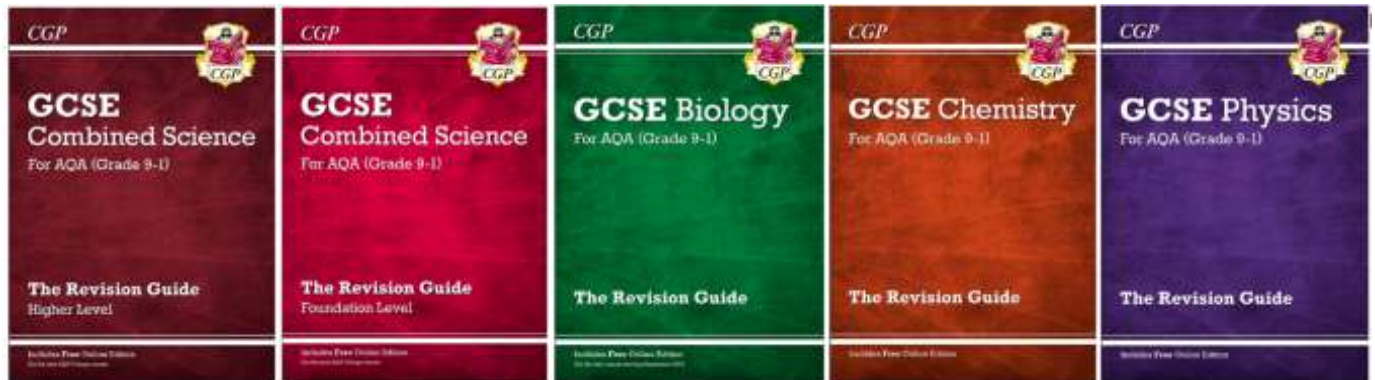
Kirkhamk@bishopperowne.co.uk

smithka@bishopperowne.co.uk

spurginl@bishopperowne.co.uk

Revision Guides

In the first instance, we would encourage students to utilise their CGP revision guides which they have purchased. Please contact a science teacher if you would like further details on other resources.



Further course content

Tier of entry

A student's teacher will decide which tier of entry students are entered for in examinations. It is not possible to mix tiers of entry. We will make this decision based on the tier we think will give the student the highest grades.

Students on the foundation tier can be awarded grades of **1-1 to 5-5**.

Students on higher tier can be awarded grades of **3-4 to 9-9**. Students who do not achieve enough marks to achieve 3-4 will be recorded as U (unclassified).

Required practical work

The GCSE is 100% examination based BUT students will have completed twenty one required practical activities throughout the course. The examinations will test students' knowledge and understanding of these activities and their ability:

To support and consolidate scientific concepts (knowledge and understanding).

This is done by applying and developing what is known and understood of abstract ideas and models. Through practical work we are able to make sense of new information and observations, and provide insights into the development of scientific thinking.

To develop investigative skills. These transferable skills include:

- devising and investigating testable questions
- identifying and controlling variables
- analysing, interpreting and evaluating data.

To build and master practical skills such as:

- using specialist equipment to take measurements
- handling and manipulating equipment with confidence and fluency
- recognising hazards and planning how to minimise risk.

GCSE biology, GCSE chemistry and GCSE physics

Students on this pathway achieve three GCSEs – a separate GCSE for each science discipline. They also take six examinations but are examined on extra content. The format for these examinations, and topic lists, is found on the following pages. Most on this pathway will be entered for the higher tier examination papers.

Paper 1**What's assessed**

Topics 1–4: Cell biology; Organisation; Infection and response; and Bioenergetics.

How it's assessed

- Written exam: 1 hour 45 minutes
- Foundation and Higher Tier
- 100 marks
- 50 % of GCSE

Questions

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

+ Paper 2**What's assessed**

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

How it's assessed

- Written exam: 1 hour 45 minutes
- Foundation and Higher Tier
- 100 marks
- 50 % of GCSE

Questions

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

Paper 1:**What's assessed**

Topics 1–5: 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 45 minutes
- Foundation and Higher Tier
- 100 marks
- 50 % of GCSE

Questions

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

+ Paper 2:**What's assessed**

Topics 6–10: The rate and extent of chemical change; Organic chemistry; Chemical analysis, Chemistry of the atmosphere; and Using resources.

How it's assessed

- Written exam: 1 hour 45 minutes
- Foundation and Higher Tier
- 100 marks
- 50 % of GCSE

Questions

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

Paper 1:**What's assessed**

Topics 1–4: Energy; Electricity; Particle model of matter; and Atomic structure.

How it's assessed

- Written exam: 1 hour 45 minutes
- Foundation and Higher Tier
- 100 marks
- 50 % of GCSE

Questions

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

+ Paper 2:**What's assessed**

Topics 5–8: Forces; Waves; Magnetism and electromagnetism; and Space physics.

Questions in Paper 2 may draw on an understanding of energy changes and transfers due to heating, mechanical and electrical work and the concept of energy conservation from [Energy](#) and [Electricity](#).

How it's assessed

- Written exam: 1 hour 45 minutes
- Foundation and Higher Tier
- 100 marks
- 50 % of GCSE

Questions

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

Combined science

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

Separate sciences

Biology

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

Chemistry

1. Atomic structure and the periodic table
2. Bonding, structure, and the properties of matter
3. Quantitative chemistry
4. Chemical changes
5. Energy changes
6. The rate and extent of chemical change
7. Organic chemistry
8. Chemical analysis
9. Chemistry of the atmosphere
10. Using resources

Physics

1. Energy
2. Electricity
3. Particle model of matter
4. Atomic structure
5. Forces
6. Waves
7. Magnetism and electromagnetism
8. Space physics (physics only)

Note: the depth and breadth of content in science is huge. Use a revision guide to check the exact knowledge and understanding required.

Revision:

Organise yourself.

- Be **SMART** – use your time effectively. Each revision session needs an element of planning – what do you want to cover, how long etc.
- **S** -specific -know what you want to get out of the session
- **M**- measurable -how will you know if you've been successful?
- **A** –achievable – small tasks – completed
- **R** - realistic -don't timetable it when GBBO or football or whatever you are interested in is on etc.)
- **T**- time -needs a timescale - achieved by this session, day, week, term
- Make yourself a revision timetable and stick to it. (<http://www.dayjob.com/content/revision-timetable-771.htm>)
- Don't let yourself be distracted. Put your phone somewhere you can't hear it!
There are apps that temporarily block social media – worth a try?
- Make your snack/cup of tea beforehand.
- Plan revision around other commitments e.g. sporting fixtures/social arrangements/good TV etc.

The exams you are sitting - AQA Trilogy **OR** Biology, Chemistry and Physics

see what the exam board has to offer – www.aqa.org.uk/subjects/science/gcse

download the app – gojimo

<http://www.docbrown.info/page20/AQAScience2.htm>

<http://www.s-cool.co.uk/gcse>

<http://www.revisionworld.com/gcse-revision> - need to register – its free.

<http://www.biology-resources.com/biology-questions.html>

<http://www.creative-chemistry.org.uk/gcse/revision/>

<http://www.bbc.co.uk/schools/gcsebitesize/science/>

<http://lgfl.skool.co.uk/examcentre.aspx?id=846>

www.youtube.com – type 'AQA' and the topic you want to learn

Answering 6 mark questions

Underline/Circle

Underline the key words and circle the command words in the information and the question



Structure

How many paragraphs will be needed, what will go into each paragraph? Do you have a start, middle and end?



Key words

Which key words will be needed in order to answer the question? Perhaps write a list?



Proofread

Double check your answer checking for SPAG and have you answered the question - Command words done?



AQA required practicals:

https://www.youtube.com/c/MalmesburyEducation/playlists?view=50&sort=dd&shelf_id=1

Youtube science videos: https://www.youtube.com/channel/UCqbOeHaAUXw9II7sBVG3_bw

Your exam is based on the following skills:

1. Knowledge
2. understanding
3. Practical & scientific skills

Revision strategies that help with these skills:

Knowledge & understanding (remembering facts!)	<ul style="list-style-type: none">• Flashcards• Testing a partner• Post-it notes• Using the question and answers in this booklet and getting your parent or carer to test you!• Make a 3D Model• Make up a comical rhyme or mnemonic
Understanding	<ul style="list-style-type: none">• Re-visit yellow exit passes and the hti's you were given in your exercise book. Don't make the same mistakes twice.• Analyse your PPE's. ensure you have worked on your weaknesses in your answers from the QLA you did in the lesson after the PPE• Read the examiners reports for the exams available on the AQA website. These show common mistakes made by students.
Practical & scientific skills	<ul style="list-style-type: none">• Make sure you understand the skills we developed in the lessons where we complete the orange skills sheets• Make sure you have not ignored the first 10 or so pages of your revision guide. This part is full of key words such as uncertainty, accuracy, precision etc. which you must be able to use and define.