


**Year 10  
GCSE Science  
Parent Information  
Evening**



# What does the exam structure look like?

General information: Exam board is AQA

## Triple science

Three separate GCSEs

Biology - 8461

Chemistry - 8462

Physics - 8463

Each subject is broken down and assessed over two papers, worth 100 marks each.

Paper 1 and paper 2 are both 1 hour and 45 mins long.

## Trilogy science - known as double award

Two GCSEs - 8464


Biology

Chemistry

Physics

Each subject is broken down and assessed over two papers, worth 70 marks each.

Paper 1 and paper 2 are both 1 hour 15 mins long.



# What does the exam structure look like?

## Assessment objectives

The exams will measure how students have achieved the following assessment objectives<sup>†</sup>.

**AO1:** Demonstrate knowledge and understanding of:

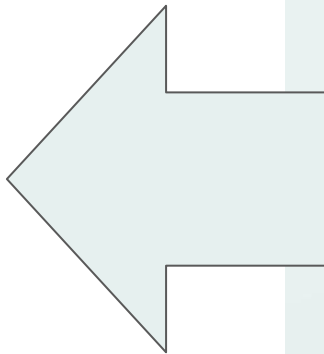
- 40% 1) scientific ideas
- 2) scientific techniques and procedures.

**AO2:** Apply knowledge and understanding of:

- 40% 1) scientific ideas
- 2) scientific enquiry, techniques and procedures.

**AO3:** Analyse information and ideas to:

- 20% 1a) interpret
- 1b) evaluate
- 2a) make judgements
- 2b) draw conclusions
- 3a) develop experimental procedures
- 3b) improve experimental procedures.

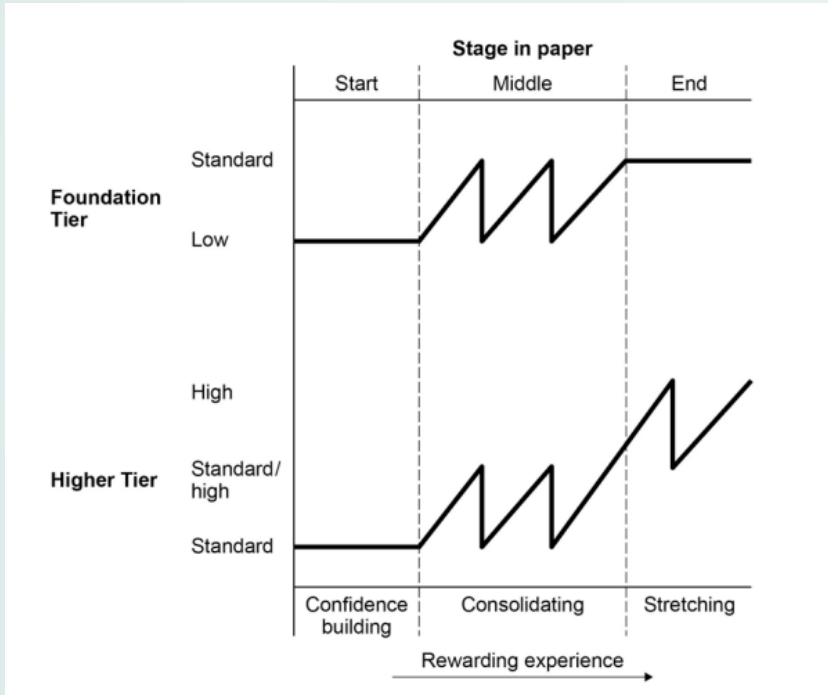


The different scientific skills are broken down across each assessment.

Teachers, alongside students and parents, make decisions about Higher and Foundation Tiers of entry by February 2025.

Foundation - grade 1-5  
Higher - grade 4-9

# What does the exam structure look like?



Exams are designed to increase in challenge as you move through the paper.

The first questions are there to build confidence in the process. Every questions gets harder and then the next questions starts at a more accessible level.

# What assessment do students do in preparation for the exams?

Students complete regular end of topic tests and they are provided with feedback to help them move forward in their learning.

Mock exams take place in year 10, April (P1), year 11 November (P1) and in April (P2).

The learning journey is in the front of your child's books and shows the order of topics and assessments.



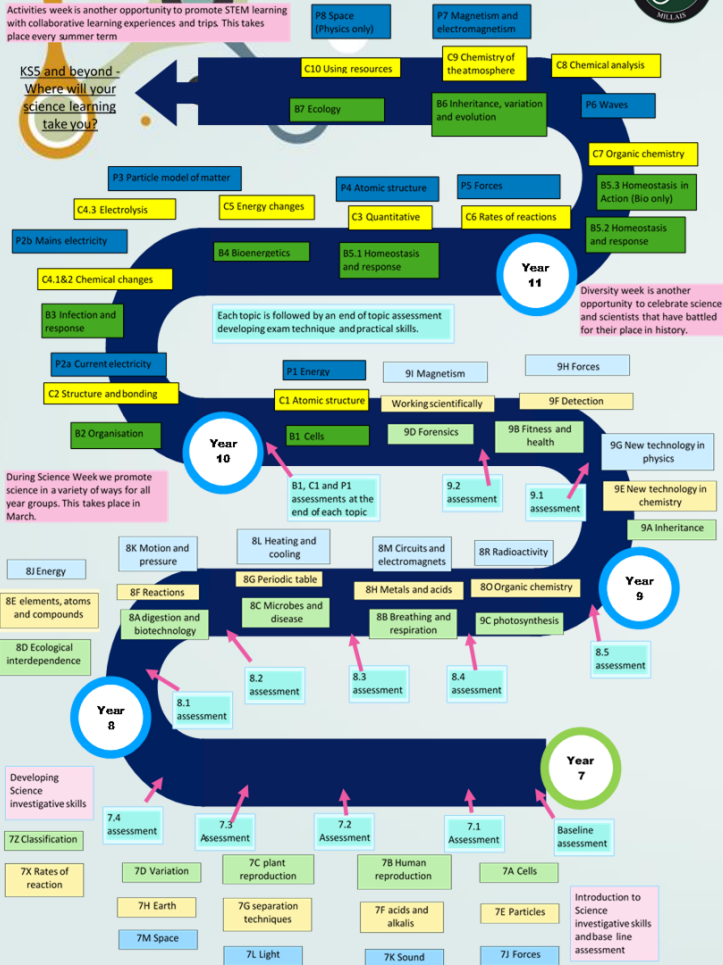
## Millais School Science Department KS3 and KS4 Curriculum Road Map



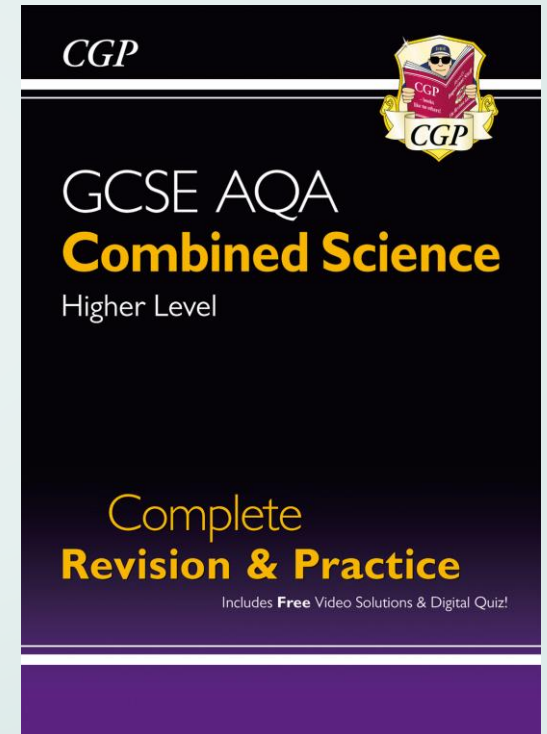
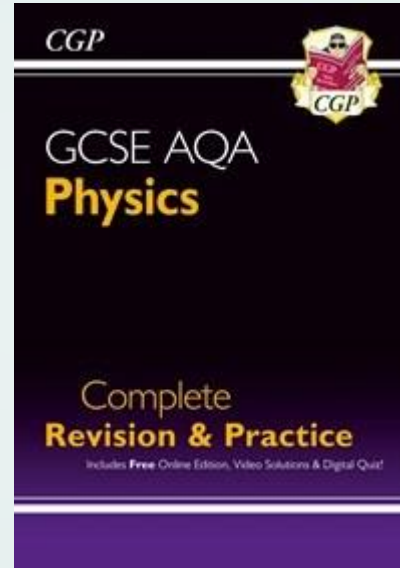
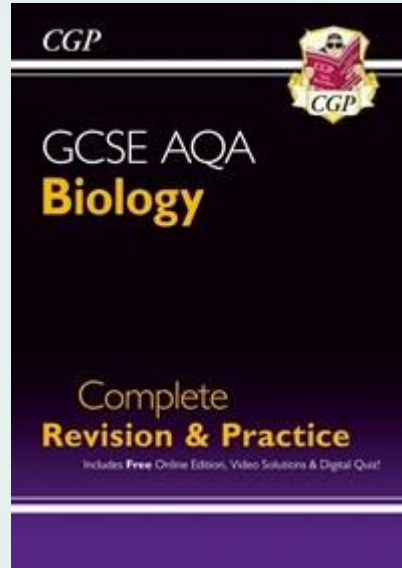
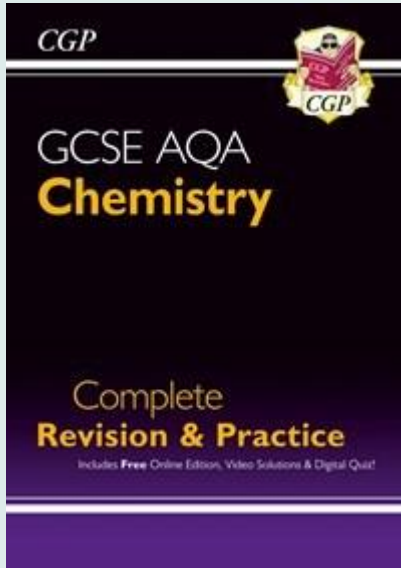
KS4. We run both triple and trilogy courses. Trilogy have 10 lessons a fortnight and triple have 15.

Activities week is another opportunity to promote STEM learning with collaborative learning experiences and trips. This takes place every summer term

KS5 and beyond - Where will your science learning take you?



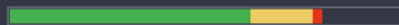
# Revision strategies



We recommend these revision guides, but any guide will be helpful as long as it is AQA and the right course.



PROGRESS:



RESET

REVISION CHECKLIST

EQUATION SHEET

REQUIRED PRACTICALS



## Chemistry

AQA

### Paper 1

#### 1. Atomic structure

<input checked="" type="checkbox"/> Atoms, elements, compounds, mixtures →	🕒 13:05
<input type="checkbox"/> Separating mixtures →	🕒 07:41
<input checked="" type="checkbox"/> Scientific models of the atom →	🕒 04:24
<input checked="" type="checkbox"/> Atomic Structure →	🕒 08:17
<input checked="" type="checkbox"/> Relative Atomic Mass →	🕒 07:03
<input type="checkbox"/> Electronic Structure →	🕒 05:40
<input checked="" type="checkbox"/> The Periodic Table →	🕒 06:16
<input type="checkbox"/> Group 0 - The Noble Gases →	🕒 02:08

### Paper 2

#### 6. Rate and extent of chemical change

<input checked="" type="checkbox"/> Measuring rates of reaction →	🕒 11:53
<input checked="" type="checkbox"/> Interpreting rate graphs →	🕒 09:04
<input checked="" type="checkbox"/> Factors affecting rates of reaction →	🕒 14:06
<input checked="" type="checkbox"/> Collision theory and activation energy (including catalysts) →	🕒 05:36
<input checked="" type="checkbox"/> Reversible reactions and equilibrium →	🕒 05:01
<input checked="" type="checkbox"/> Factors affecting equilibrium →	🕒 08:11



# AQA Chemistry Checklist

## Triple Award

VIDEO

EXAM Q&A



### Topic 1. Atomic structure

#### Video: Atoms, elements, compounds, mixtures

- Use the names and symbols of the first 20 elements in the periodic table, the elements in Groups 1 and 7, and other elements in this specification.
- Name compounds of these elements from given formulae or symbol equations.
- Define an atom, an element, a compound and a mixture.



#### Video: Separating mixtures

- Describe, explain and give examples of the specified processes of separation.
- Suggest suitable separation and purification techniques for mixtures when given appropriate information.



#### Video: Scientific models of the atom

- Describe how and why the atomic model has changed over time.
- Describe the difference between the plum-pudding model of the atom and the nuclear model of the atom.
- Describe why the new evidence from the scattering experiment led to a change in the atomic model.



#### Video: Atomic Structure

- Recall the different charges of the particles that make up an atom.
- Describe why atoms have no overall charge.
- Use the periodic table to identify the number of protons in different elements.



#### Video: Relative Atomic Mass

- Calculate the relative atomic mass of an element given the percentage abundance of its isotopes.



#### Video: Electronic Structure

- Represent the electronic structures of the first twenty elements of the periodic table in both forms.
- Describe how many electrons there can be in the first, second and third energy shells.
- Answer questions in terms of either energy levels or shells.



#### Video: The Periodic Table

- Explain how the position of an element in the periodic table is related to the arrangement of electrons in its atoms and hence to its atomic number.
- Describe the key steps in the development of the periodic table.
- Explain the differences between metals and non-metals on the basis of their characteristic physical and chemical properties.
- Explain how the atomic structure of metals and non-metals relates to their position in the periodic table.



# Atoms, elements, compounds, mixtures



## Atomic structure and the periodic table: Atoms, elements, compounds and mixtures



13:05

FLASHCARD AI

REVISION PLUS

NEXT →

### Revision Plus

NOTE SHEET

### Multiple Choice Quiz

Answer these questions to show you've understood the topic. The result is linked to the Progress Tracker. Score an amber for most questions correct, or a green for all correct.

- Which of the following statements is not true?
  - A compound contains two or more elements chemically combined in fixed proportions
  - An element is a substance that is made from more than one type of atom
  - A mixture consists of two or more chemicals or compounds not chemically combined together
  - An atom is the smallest part of an element that can exist
- Hydrogen chloride is:
  - A compound

### Exam-style Questions

This is the type of question you will see in the exam itself. Print it out for serious exam practice. Try it yourself first, before you check the mark scheme!





# What are the advantages of my GCSE science?

My GCSE science empowers students to be independent learners. It allows student to self regulate their learning by identifying their strengths and weaknesses.

It is an active process that students find difficult at times but it is the most effective way to revise.

## Triple-8 and Double-8 Guarantees

We're 100% confident in the transformational power of our learning and revision platform.

**Triple Science students:** if you achieve a green in the multiple-choice quiz for every Triple Award topic, we *guarantee* you will achieve three 8s or better in your Science GCSEs.

**Combined Science students:** if you get a green in the multiple-choice quiz for every Double Award topic, we *guarantee* you will get 8-8 or better in the Combined Science GCSE.

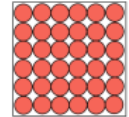
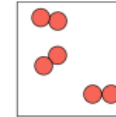
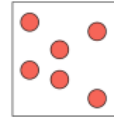
Or your money back.

## Atoms, elements, compounds, mixtures

### Atoms and elements

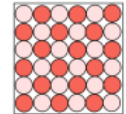
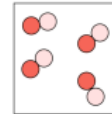
An **atom** is the smallest part of an element that can exist.


An **element** is a substance that is made from only one type of atom.




### Compounds

A **compound** contains two or more elements chemically combined in fixed proportions.





# What other revision resources are available?



Educake: An online quizzing platform that is available to all students. They can self set questions for basic retrieval practice to consolidate the key facts.

Seneca: A free online platform that gives students information and then quizzes them as they go through. A very good starting point for students.

BBC bitesize: Useful source of information, has quizzes for retrieval and checking understanding.

Past paper questions: Past papers and mark schemes are available on the AQA website. These are one of the best ways of taking your revision to the next level.




# Why science?




- Whether you have chosen triple or trilogy, science is an important subject for your future.
- The skills you learn support many careers not directly linked to science such as catering, cosmetics and aesthetics, caring for people, animals and children and any role that required health and safety, risk assessment.
- More directly if you want to study any of these subjects at A level you will need at least a 6 at GCSE.
- Biology
- Chemistry
- Medical sciences
- Psychology
- Physics

A grade 4 is needed for many other courses such as BTEC engineering and applied science. Lots of university courses also require a grade 4 in science.



# What can parents do to support?



- Encourage your child to complete homework, and help them track their progress on my GCSE science.
- Check they have the correct equipment for lessons and assessments (green pen for feedback, calculator and a whiteboard pen).
- Encourage them to attend SPAs or ask their teacher for help if they need it.