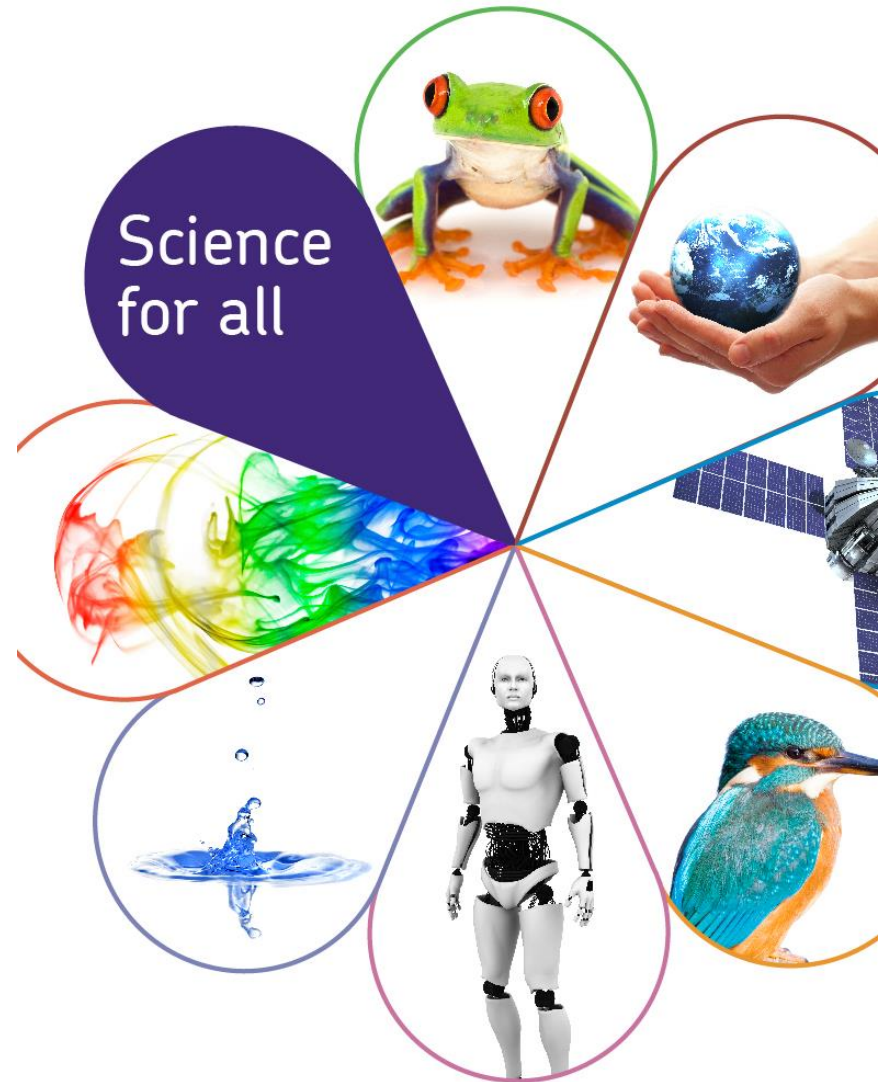


GCSE Science (9-1)

Nicholas Latham
Head of Science

Exam board - AQA



New grading structure



New GCSE grading structure

| New grading structure | Current grading structure |
|-----------------------|---------------------------|
| 9 | |
| 8 | A* |
| 7 | A |
| 6 | B |
| 5 | |
| 4 | C |
| 3 | D |
| 2 | E |
| 1 | F |
| | G |
| U | U |

GOOD PASS (DfE)
5 and above = top of C and above

AWARDING
4 and above = bottom of C and above

Either two numbers the same:

9-9, 8-8, 7-7, 6-6,
5-5, 4-4, 3-3,
2-2, 1-1

Or one number different:

9-8, 8-7, 7-6, 6-5,
5-4, 4-3, 3-2, 2-1

No zero, so no 1-0
or 1-U

No other grades

Ofqual

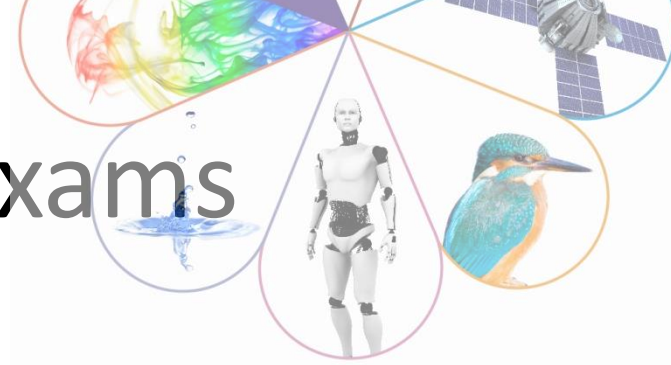
New GCSE grading structure

| New grading structure | Current grading structure |
|-----------------------|---------------------------|
| 9 | A* |
| 8 | |
| 7 | |
| 6 | B |
| 5 | C |
| 4 | |
| 3 | D |
| 2 | E |
| 1 | F |
| U | G |
| U | U |

GOOD PASS (DfE)
5 and above = top of C and above

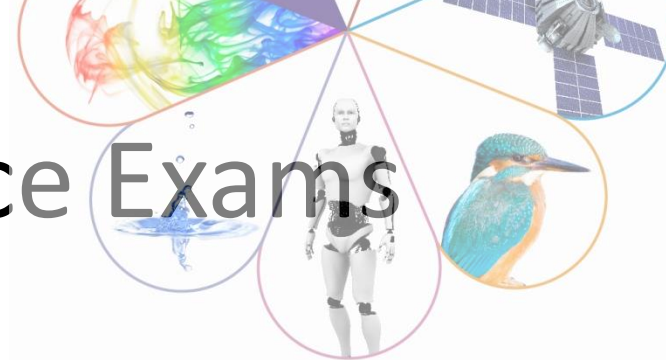
AWARDING
4 and above = bottom of C and above

Triple Science Exams



| Qualification | Papers | Content | Length |
|---------------|--------------------------------|---|-----------------------------|
| Biology | 2 papers equal weighting | Topics 1-4 Topics 5-7 Under arching principles | 1 hour 45 mins 100 marks |
| Chemistry | 2 papers equal weighting | Topics 1-5 Topics 6-10 (topics 1-3 on both common content) | 1 hour 45 mins 100 marks |
| Physics | 2 papers equal weighting | Topics 1-4 Topics 5-8 (understanding of energy changes due to heating, mechanical and electrical work and the concept of energy conservation from energy and electricity) | 1 hour 45 mins 100 marks |

Combined Science Exams

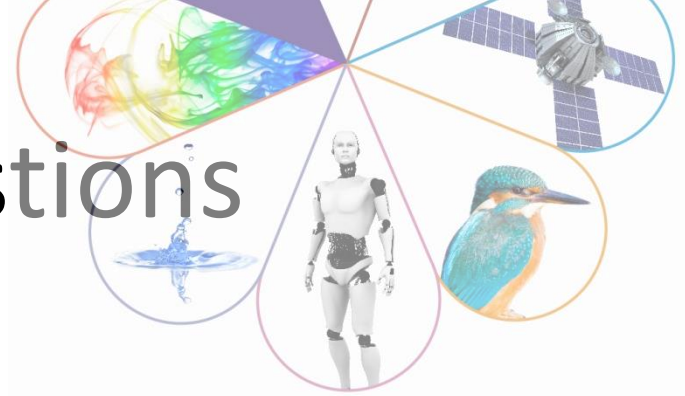


| Qualification | Papers | Content | Length |
|---------------|--------------------------------|---|----------------------------|
| Biology | 2 papers equal weighting | Topics 1-4 Topics 5-7 Under arching principles | 1 hour 15 mins 70 marks |
| Chemistry | 2 papers equal weighting | Topics 1-5 Topics 6-10 (topics 1-3 on both common content) | 1 hour 15 mins 70 marks |
| Physics | 2 papers equal weighting | Topics 1-4 Topics 5-8 (understanding of energy changes due to heating, mechanical and electrical work and the concept of energy conservation from energy and electricity) | 1 hour 15 mins 70 marks |

Exam Dates

- Biology Paper 1 15th May
- Biology paper 2 11th June
- Chemistry Paper 1 17th May
- Chemistry Paper 2 13th June
- Physics Paper 1 23rd May
- Physics Paper 2 15th June

Types of questions



| | Assessment Objectives | Weighting |
|-----|--|-----------|
| AO1 | Demonstrate knowledge and understanding of: <ul style="list-style-type: none">• scientific ideas• scientific techniques and procedures. | 40% |
| AO2 | Apply knowledge and understanding of: <ul style="list-style-type: none">• scientific ideas• scientific enquiry, techniques and procedures. | 40% |
| AO3 | Analyse information and ideas to: <ul style="list-style-type: none">• interpret and evaluate• make judgements and draw conclusions• develop and improve experimental procedures. | 20% |

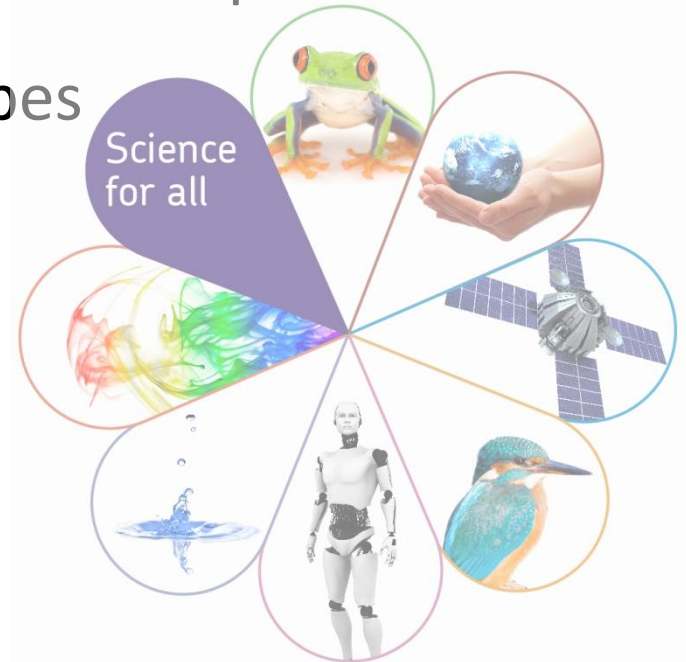
Topics covered



| Biology | Chemistry | Physics |
|---|--|--|
| <ul style="list-style-type: none">4.1. Cell biology4.2. Organisation4.3. Infection and response4.4. Bioenergetics4.5. Homeostasis and response4.6. Inheritance, variation and evolution4.7. Ecology | <ul style="list-style-type: none">5.1. Atomic structure and the periodic table5.2 Bonding, structure, and the properties of matter5.3 Quantitative chemistry5.4 Chemical changes5.5 Energy changes5.6 The rate and extent of chemical change5.7 Organic chemistry5.8 Chemical analysis5.9 Chemistry of the atmosphere5.10 Using resources | <ul style="list-style-type: none">6.1 Energy6.2 Electricity6.3 Particle model of matter6.4 Atomic structure6.5 Forces6.6 Waves6.7 Magnetism and electromagnetism6.8 Space Physics (triple only) |

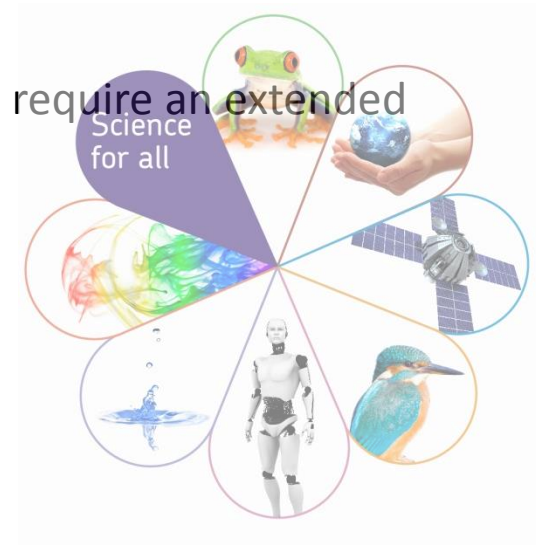
Accessibility principles

- Assessment of Science, not English comprehension
- Consistent range of question types
- Consistent command words
- Standard wording/instructions
- Simple, direct wording
- Layout/spacing
- Straightforward diagrams, graphs and tables



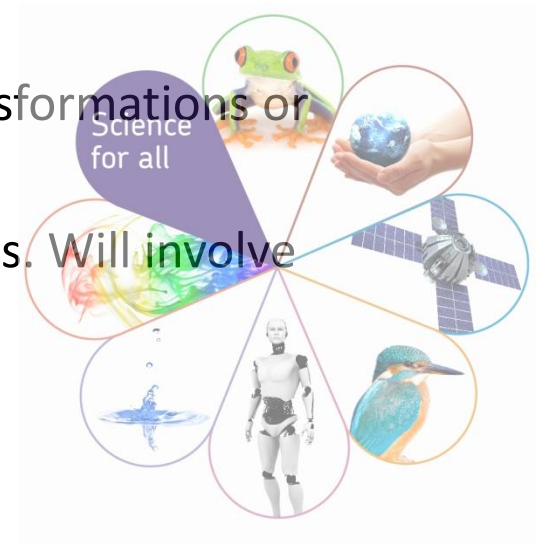
Extended response questions

- 'A question that requires a response of sufficient length to demonstrate the ability to construct and develop a sustained line of reasoning which is coherent, relevant, substantiated and logically structured'
- Means an extended answer in prose or a multi-step calculation
- Students may need to bring together knowledge and understanding from different areas of the specification
- Questions worth 4 or 6 marks
- Marked by levels of response mark scheme
- On the front of each paper we indicate which questions require an extended written response
- Minimum marks per paper:
 - Foundation 10% of marks
 - Higher 15%



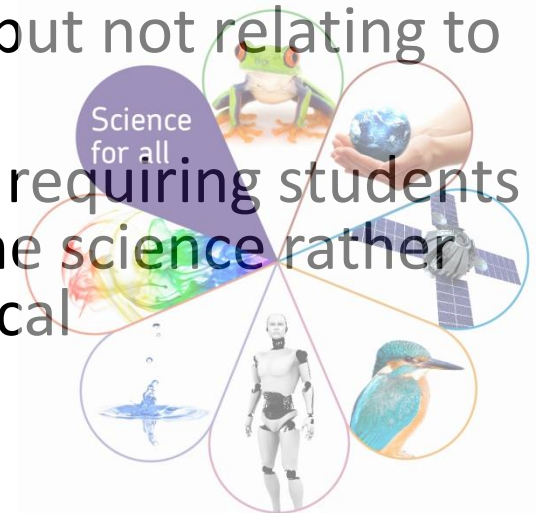
Physics equations

- 23 equations students need to know and be able to apply (21 in combined science)
- 12 equations students must be able to select and apply (7 in combined science)
- Grades 1-3 will be given equation to apply. Simple equations with substitution of two numbers, no transformations
- Grades 4-5 will be given prompt 'Write down the equation that links...' Calculation will involve something 'extra'
- Grades 6-7 no prompt. Questions will involve transformations or 'something extra'
- Grades 8-9 no prompts. Include complex equations. Will involve transformations and multiple steps



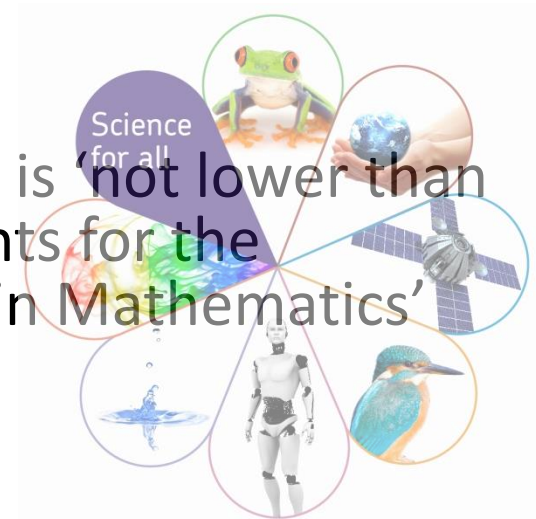
Practicals in exam papers

- At least 15% of the overall marks will cover practical work
- Three main types of question:
 - questions assessing knowledge and understanding of the required practical activities
 - questions assessing knowledge and understanding of specific apparatus and techniques, but not relating to a specific required practical activity
 - questions set in a practical context, requiring students to demonstrate understanding of the science rather than direct experience of the practical



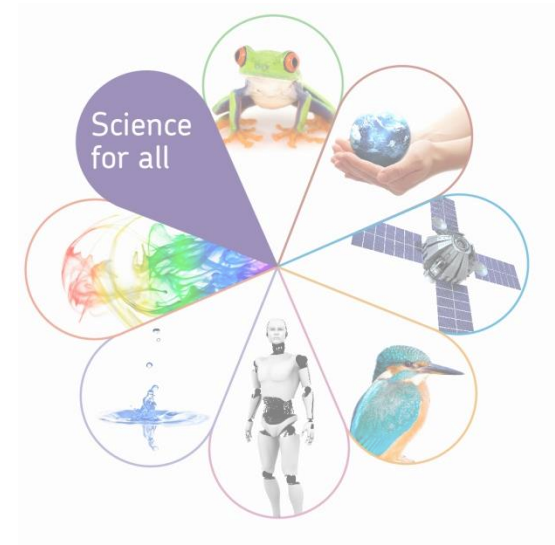
Maths in science – requirements

- Combined: at least 20% of the marks must be for mathematical skills
- Ratio approximately 1:2:3 (in Biology:Chemistry:Physics)
- Separates: Biology 10%, Chemistry 20%, Physics 30%
- In Foundation Tier papers, the level of maths is 'not lower than that expected at Key Stage 3'
- In Higher Tier papers, the level of maths is 'not lower than that of questions and tasks in assessments for the Foundation Tier in a GCSE Qualification in Mathematics'



What can students do

- Attend **EVERY** single lesson
- Arrive with the correct equipment including a working **CALCULATOR**
Have a positive attitude – get involved – ask and answer questions
- Learn physics equations
- Avoid silly immature behaviours (boys)
- Give every task 100%
- Attend revision classes
- Don't 'blame' anyone else
- Make sure they know the basics
- Ask!



At Home

- Complete homework to the very best of their ability find the answer if they don't know it.
- Start revising now! There is a lot of content to learn remember 40% is for recall they just need to know it.
- Extra work at home – the more your child does at home the best chance they have of reaching their full potential
- Ensure they have a revision guide/revision book
- Check SMHW



Revision materials

- CGP Revision guides are a must have.
- Educake – Website used for homework tasks students can choose extra topics
- YouTube
- BBC Bitesize (must know the topic)

