

Exam Technique Tips - Science

For GCSE and A level



When you first open the exam paper, scan through all the pages and either mark with a pen or dog-ear questions that you feel you will be best at. Complete these questions first to secure these 'easier' marks, then go back and answer the rest. You don't have to answer questions in order from start to finish!

Timing: as a rough guide, spend as many minutes on a question as there are marks for it. For example, if 4 marks are available, aim to spend 4 minutes answering the question i.e. **a mark a minute**.

If you are spending a lot of time on a question and you are conscious that time is running out, dog-ear or mark with a pen the problem question, and then move on and complete other questions. Return later.

Read all questions fully before you begin to answer them. Pay attention to diagrams and illustrations provided in the question. Slightly misreading the question or missing a small piece of information could make answering a question much more difficult than it needs to be. You can use the **BUG** approach to help with this:

Box the command word of the question (by literally drawing a box around it).

Underline key words in the question which give an indication of what topic or theme the question relates to (e.g. whether it relates to osmosis, infection, cell structure or something else)

Glance over the question one last time before you answer it to make sure you've not missed any essential information.

Be familiar with “**command words**”. These words indicate exactly how you should answer a question. The most commonly used ones are below.

Command Word	Explanation
Calculate	Work out a number. You might need to use a calculator and/or an equation that you’ll either find on the formula sheet given with the exam, or that you’ve learnt by heart.
Compare	Write about the similarities and differences between two things.
Describe	Give detail about something that happens, where it happens and when it happens. When referring to a graph, give numbers and data from the graph. (Don’t confuse with “explain”!)
Evaluate	You will be given some facts, data, or other kind of information. Write about these data or facts and provide your own conclusion or opinions i.e. analyse and interpret.
Explain	Give detail about the how and why. Requires interpretation and analysis of data tables, graphs and/or other information provided. (Don’t confuse with “describe”!)
Justify	Give examples or quote data that align with/back an answer you’ve given. You are giving an explanation to the examiner for why you gave a particular answer.
Predict	Look at some data/graphs and suggest a realistic value or outcome. Use your knowledge of science. Might want to use a calculator. (Don’t confuse with “calculate” or “estimate”).
State	Give a simple answer e.g. term or name of something
Suggest	Think about what you’ve learnt and apply it to a new situation or context. Use what you have learnt to suggest sensible answers to the question.
Discuss	State and describe any factors that are relevant, give the weaknesses and strengths of each factor / explain how much influence each factor has in the context, quote data if it’s provided to justify your ideas and assertions, provide a conclusion.

Some additional words often used by examiners that are worth understanding are below.

Word	Meaning
Appropriate	Reasonably acceptable or correct for a situation or occasion.
Complex	Consists of many different and connected parts.
Criteria	Standard or principle by which a decision will be based. Might take the form of a list of requirements.
Data	A set of values or variables that are individually pieces of information.
Estimate	Value calculated using non-exact values to give an idea of the size, value, amount etc of something.
Factors	A circumstance or fact.

Negligible	An amount so small it is not worth considering.
Objective	Something that is planned to be achieved.
Proportional to	When two variables change at the same rate e.g. if the sunlight intensity doubles, the rate of plant growth doubles.
Rate	Speed of change / the number of times a change or occurrence happens in a particular time period.
Relatively	In comparison to something else but not necessarily absolutely/as a general rule.
Relevant	Connected and appropriate to the context.
Specifically	For a particular purpose. Or in a way that is exact and clear.
Terms	Word or phrase that describes a thing/object/concept.
Valid	Logical and justifiable using data or other information.
Variable	An element, feature or factor that can change or vary.

With calculations, show all your working. You will get credit for correct working even if you don't arrive at the correct answer. Also, double check all your calculations if you have time.

Before you attempt a question, look at how many marks it is worth. The number of marks indicates the number of points you need to make e.g. if 3 marks are up for grabs, ensure to make 3 points. Do not write more than is needed as this will waste time and not gain you further marks.

Questions worth up to 4-5 marks can be answered with merely bullet points.

Use key words and phrases in your exam answers. By the time of your exams, you should know these as they should have been pointed out to you by teachers, tutors and textbooks. You'll also find them pointed out in mark schemes for past exam papers. For example, "concentration gradient".

If you cross out a correct answer with a single line so it can still be read (and don't write a wrong answer in its place) the examiner can give you credit for it even though it's crossed out!

Never leave a question blank. It's better to guess as best as you can than not write anything at all!

Leave at least 5-10 minutes at the end of the exam to scan back through your answers for obvious mistakes and to finish off any incomplete questions you previously left for later.

Long answer questions

These questions are the most challenging to score full marks in, but it's perfectly possible. Firstly, please don't panic and don't skip these. Secondly, use the BUG method (above) to make sure you know what's being asked. Then, ensure to answer the question fully and with good structure (try using the useful phrases

in the table below to help structure your answer). As usual, use relevant technical phrases and words as much as possible.

What you want to convey or signpost	Phrases or words to use
A comparison between two things	However... On the one hand... On the other hand... Having said that... In comparison... Yet... Despite this... Nonetheless.. Nevertheless..
An explanation of the how or why of something	In order to... So... Therefore... To that/this end...
A similarity between two things	Similarly... Likewise...
Extra information that links and agrees with what you just mentioned	Moreover... Furthermore... Also... As well as... Additionally...
Facts one after the other	Firstly... Secondly... Thirdly... Lastly...
An example / evidence / justification that backs a point	For instance... For example... Such as...
Emphasis of a point	Significantly... Importantly... Notably...
Concluding remarks	In conclusion... In summary... All things considered...