

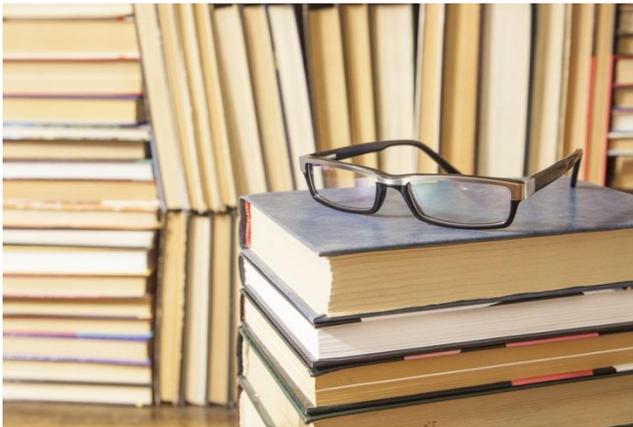
## Revision techniques that could make all the difference

The examination season is upon us again and students all over the UK (and indeed, the world) will be sitting GCSEs and A levels in a wide range of subjects. This article's focus is on revision techniques for science students, but many of the concepts are applicable and relevant to the social sciences and humanities. The main point that I wish to make is that poor examination technique can prevent a student from securing top grades, which intellectually and through their own hard work they may be quite capable of securing. What can happen, however, is that A and B grade students can end up with C, D and E grades simply through poor examination technique. This is a great pity as with a little discipline and focus on detail, students can make real improvements. Exams are about following instructions and all too often students ignore or misread the instructions.

So what are examinations really about – what exactly are they testing?

In essence, examinations test the following:

- Knowledge and understanding/comprehension of a subject – definitions and key conceptual frames and understanding
- Application of the knowledge to unfamiliar situations as presented in an examination question
- Ability to present a logical and reasoned argument based on facts and data available
- Ability to make inferences from data and information/facts provided i.e. to extrapolate and interpolate based on given information
- Ability to organise and present information in a manner that suggests the candidate understands the topic under consideration and can communicate this in an effective mathematical or prose format



## What should students do?

Examination technique is often not formally taught in schools and tends to be assimilated into the general teaching. It is important for students to follow some basic “rules” as following these rules could make the difference between a C and an A grade – it is that important!

The following are general “rules” that I feel will help students based on my 25 years of teaching experience. It is very important, however, to highlight that students may find that such “rules” do not suit their style of approach to examinations. This I totally get; there is no absolute approach in attempting examination questions as each student must do what works for them. That said, the following “rules” are generally agreed forms of good practice, which if considered may help reduce errors and misunderstandings, especially under the pressure of the examination environment and mindset. In effect, if followed these “rules” help provide structure and guidance and may reduce anxiety, which is always helpful.



## The “Rules”

When a student first gets into the examination hall they are naturally a little anxious and nervous. There is a tendency to flip quickly through the paper to see what is contained within it; in my opinion, this is a mistake – why?

By looking through the whole paper, the student may notice or perceive that there are difficult questions or areas of the specification covered in the paper that they may not have given enough attention to during revision. This perception, which is exactly what it is, can create unconscious anxiety or worse, direct panic. It is generally unjustified as when the student actually looks properly at the questions during the exam, they usually find that they are not as onerous or difficult as they thought – hence no need to panic. Therefore, **rule one** – do not look through the whole paper at the start of the exam as it can create unnecessary panic or, equally dangerous, over-confidence.

When you get the paper, read carefully the instructions on the front and be aware of the time allowed for the exam, if this is not already obvious. **Poor timing management is one of the principal reasons why you fail to gain marks in exams.**

Try and attempt questions in the order that they are arranged (essay questions in history and other-essay based subjects are of course different).

**Rule two:** read the question carefully first and try and understand what it is asking you to do and which topic or topics it is covering. In essence, what type of response is the examiner trying to elicit from me and which parts or areas of the specification does this cover or relate to?

**Rule three:** underline the command words or phrases in the question, for example: describe, explain, suggest or name, etc. Remember that there may be more than one command in a question – e.g. “describe and explain”. During your revision, review from past papers all the different types of command words or phrases that are generally found in your specification. Ensure that you understand what exactly is meant by “compare” or “suggest” as many students keep making silly mistakes in relation to these elementary terms.

**Rule four:** read the complete question first before you attempt it. Do not make the common mistake of just reading the first part of the question, say question 2a, and not realising that some of the logical explanation in answering and solving the question might quite clearly be inferred when reading part “d” of the same question. Remember, as Alexander Pope said, “only fools rush in where angels fear to tread” - this is so true of examinations. Yes, be aware of your time management, but head down and charge is buffalo logic, and look what happened to them! By reading the complete question before attempting it you also may prevent yourself from including material that otherwise is required for a latter part of the same question; in effect it amounts to unnecessary duplication or repetition.

**Rule five:** note the number of marks allocated for a question and roughly work out what is being asked for. For example, a one mark question can just require a single word, or short sentence. Clearly a five mark question requires a number of key points as reflected in the mark scheme. Make yourself familiar with the mark schemes from previous examination papers and note how the examiners awards marks. One needs to highlight some degree of caution at this point because a six mark question does not necessarily require six separate points. Get advice from your teacher on how marks are allocated – but the important point is to take note. When asked to give two reasons, for a two mark question, how many students end up just giving one answer and lose marks.

**Rule six:** does the question demand any specific terminology – key words or definitions? In science, the use of key words is important for accuracy and the communication of meaning. Note that a describing a problem is not the same as providing an explanation for it and “explain why” is not the same as “explain how.” Terminology is very important. For example, if asked in biology what is understood by the term genetic variation– a candidate would be expected to include key terms and words, such as the “variation in the alleles of genes of a species or population”. Equally, you need to use appropriate and accurate terminology when describing trends in graphs and data. Terms such as “inverse relationship”; or “positive correlation between the two variables” need to be understood and correctly used.

Understand that the independent variable is plotted on the x axis and it makes sense to provide a general description of the data trend and what two variables may have in common, then describing their differences.

**Rule seven:** do not be intimidated or daunted by seemingly complex data questions. It is standard practice of examiners to provide candidates with more information than they actually need to answer the question, thereby seeing if candidates can select out the relevant data from the given data set. This is a very important skill in science. You must learn to notice trends and patterns and to understand their significance from within the raw data. You must also notice anomalies.

**Rule eight:** never forget to be precise and accurate when handling numerical questions. For example, 2 should always be written as 2.0. Equally as important are the correct units. So many marks are lost by students giving a correct numerical answer, but then failing to attach the appropriate units.

**Rule nine:** wherever possible show your working out. Even if the final answer is wrong, it is still possible to gain marks from showing the examiner the logic of your approach.

**Rule ten:** never leave a question blank. Always try and attempt some part of it, even it is based on an educated guess.

**Rule eleven:** never be fazed by the unfamiliar. When you explore the real import of a question and what it is seeking to extract in terms of application and understanding, you are likely to connect with the context. Just because a question is presented or phrased in a manner that you have not seen before, say for example in chemistry, it does not mean that you are not familiar with the relevant context and the topic.

**Rule twelve:** be concise and cogent in your answers, remembering that marks are allocated for spelling, punctuation, grammar and syntax. Also, never include irrelevant information or provide more information than the question and marks allocate suggest. Remember QWC – quality of written communication in certain questions.

### **Preparation for Examinations**

**Get a good night sleep** – even if that means going to bed earlier than normal. Owing to natural moderate anxiety, it may take an extra hour to fall asleep. A good night's sleep is critical for examination success. Clarity of thought and expression as well as your ability to problem-solve are all enhanced after a good night's sleep.

**Eat breakfast or have a light snack.** You cannot go into an exam room on an empty stomach – your brain needs glucose more than any other organ! Do not eat too much, however. For example, cereal and a banana in the morning with some water/juice, plus some coffee should do the trick. For PM exams, always have a good snack about two hours beforehand.

**Do not consume energy drinks;** if you overdose on caffeine it can have serious effects on your body. Do not forget, your natural adrenaline will already be increasing as you witness some perfectly natural and

healthy anxiety/stress before an exam. If you add Red Bull or other similar energy caffeine-based drinks, it could increase your already raised heart rate and make you feel very uncomfortable, which could affect your ability to think straight. Too much caffeine is a big no, no.

**Do not conduct an examination *post mortem* with friends immediately after the exam;** this is common and understandable, but can be very unnecessarily unsettling. Your friends may have got it wrong and worrying about whether you got it right or not is not going to help. You may have another examination the next day or that afternoon – remember – the most important thing to worry about is the next exam. Look forwards, not backwards and keep a positive sense of achievement and a positive attitude. Once you have finished, leave the room and go home.

Finally, remember that you probably know significantly more than you realise. Your problem is not ability or knowledge – it is generally getting access to that knowledge and linking it to application and problem solving under the stress conditions of an examination. Exams are not meant to be easy and this is why they are also a test of character. You're not a quitter – remember you're a winner – so relax, breathe deeply, and show the examiner what you're made of. Good luck.

**John Dalton**