

How To Revise A Level Maths Effectively

Picture the scene; you've just underperformed on your latest A Level Maths test and you are sat with your rather stern-looking and agitated-sounding teacher rather abruptly telling you that "you should be doing more work outside of lessons". You want to respond with "but what work is it **exactly** I need to do?", however, because it seems like a stupid question to ask, you say nothing. I myself as a maths teacher have been guilty of initiating such unproductive monologues. Having learnt from my own mistakes, I aim to make good my wrongdoings; the aim of this discussion is to actually spell out **exactly** what you as a student should be doing to revise for A Level Maths, so here goes:

1. When To Revise

There are two main types/phases of revision:

1. Consolidation of knowledge gained immediately after a lesson.

In my opinion this is the most important type of revision and one you should work hard to keep on top of. If you do, everything will seem easier come exam season. Revision should start as soon as a lesson has finished. You should take any worksheet/textbook exercise home with you and finish it in full. Yes it may take a long time, yes it may seem difficult and sometimes boring, however, this is exactly what the best students do to get the top grades (often in secret and with no fuss).

2. Exam paper practice.

In my opinion, this is the type of revision that students try to attempt too early, before they have attempted the consolidation of learning in lesson. To attempt past papers in full before having fully grasped what has been learnt in class is simply demoralising. It reminds you of what you are not good at rather than help you celebrate the things you are good at. Attempting **full** past papers should be left until near the end of a particular subsection of the course (i.e. Pure, Stats or Mechanics) otherwise you will typically end up only attempting the questions you know how to do which, of course, is of limited benefit.

2. What To Revise

Before we look at exactly how to revise, an important skill is identifying exactly **what** to revise. You may have an idea of what topics are your weakest in the syllabus but seldom do students seek to improve topics which they are just "OK" at. In this section we will have an in-depth look at exactly how you should identify topics in which you are weak and should work harder on.

1. Get a past paper and attempt each question in full checking each answer as you go against the mark scheme. As soon as you hit a question which you got wrong or can't attempt, STOP. You now need to revise this topic.
2. This is the current topic that you need to revise. Put the exam paper to one side and do not go back to it until this topic is sorted. Do not create endless revision lists. It is demoralising and only acts as a constant reminder of what you cannot do.

Now you have found a topic that you need to revise, you are ready to move to the next stage of the process: the act of actually revising.



3. How To Revise

We teachers are very helpful at pointing out topics you need to revise; Logarithms, Trig Identities, Integration are all good guesses of topics in which students need work. But being told to just “go and work on this topic” can be quite an unhelpful thing to be told. “What does work on mean?”. “How much work should I do?”. “Do I do it from textbooks or past papers?”. All of these are valid questions which I am about to answer.

So, if you have followed my instructions so far, you should have now identified a topic in which you need more practice. What you do next depends on how you think you learn best. But my recommendations, in the order I think you should attempt them are as follows:

1. YouTube Videos

YouTube is a fantastic place to find tutorials across all topics in the syllabus. I myself have covered the syllabus in its entirety. You can find a catalogue of all of my A Level Maths and A Level Further Maths videos at AlevelMathsRevision.com. Aim to use these videos to learn the various steps of a method. To make the most of online tutorial videos you should:

- Have a question you are trying to attempt alongside you when watching the video.
- Pause the video after key steps and try to reproduce those steps on the question you are attempting.

2. Textbook Examples

Look at textbook examples of the type of question you are stuck on and do the textbook exercise. **Do not** stop or move on when you simply think you understand a particular topic. Keep practising. When you start to find the textbook questions repetitive and easy, then move on to exam questions.

3. Exam Questions by Category

Look for exam questions similar to the one you are stuck on and do as many of those as you possibly can. I have collated a load of exam questions from different exam boards that I think are applicable to all exam boards on the Linear A Level Specification. You can find them all at AlevelMathsRevision.com. Be careful to check for the Further Maths Statistics and Mechanics questions whether they apply to your particular exam board.

Once you have done enough of these questions to convince yourself that you have mastered that particular topic (i.e. you should get to the point where you are bored of getting the questions right), you are ready to go back to the exam paper you originally attempted and move on to the next question. Doing things this way, it may take you a full week or even more to get through a paper, but you will leave no stone unturned. This is how the best students get top grades.

So, the moral of the story: the more revision you do soon after the lesson, the less pressured you will feel when preparing for exams later. Last minute revision is effective, but nowhere near as effective as the revision that should take place soon after the material was delivered in lesson. The key to success is repetition, repetition, repetition.

Easter Revision Courses

Should you want to book onto one of my Easter Revision Courses at the University of York where I will help you practise these skills, fill gaps in knowledge and help you to improve your grades, please visit my Revision Course Webpage at AlevelMathsRevision.com/easter-revision-course-information.