

A GUIDE TO: Passing [1A] Earth Sciences exams

Terrifying, isn't it? The thought of failure, of defeat, of letting down your family, friends, and worst of all, yourself.

We have produced a totally fool-proof guide to passing your exams, especially if you're a keen Part 1A student who has never taken a Cambridge exam at all. As this publication is a) not endorsed by the University of Cambridge in any way and b) edited by people who have managed to successfully skedaddle their way through to third year, you can be sure that we will give you our totally honest, heartfelt advice on how to battle your way through your (1A) Earth Sciences Written and Practical Exams.

The Practical Exam

Grab a key from accounts to get lab access out-of-hours.

For a £10 deposit, you can break into the lab in the dead of night to study. Revision, whenever you want, with all the appropriate resources available.

Ok, that sounded much cooler in my head, but you get the gist.

If it looks like an igneous rock, it probably has plagioclase in it.

Most of the time it'll probably have plagioclase in it regardless of what rock it is (unless it's a carbonate rock, in which case enjoy your high-birefringence light show). Plagioclase is very much the promiscuous lady-of-the-night of the minerals.

Lick the rock at your own risk.

Whilst saltiness could suggest halite (known for its saline taste), it could also be a thin veneer of students' exam sweat collected on the sample over the course of several decades.

Even if you decide to ignore the previous line of advice, please restrain from eating the rock.

Although grinding a sedimentary rock sample between your teeth is a method of differentiating grain size (silt is crunchy, clay is not), you will be sharing your samples during the practical exam, hence having a quick snack in the middle of the exam isn't the best idea.

But if you do sample it and it's something chewy, it most definitely isn't halite, or any mineral that's known to geology, and you should probably see a doctor sometime in the following 48 hours.

Scratching is fine though.

Provided that the crystal/sedimentary rock isn't reduced to a fine powder on your desk, of course (you are sharing samples with the other people). Use your fingernail, or something else that can scratch the difference between quartz, calcite, and any other random white crystal in your reference guide.

No one is an artist when time is not on your side and there's a thin section in front of you. (Applicable to this 'publication'. ~ Ed.)

The moment you get that section, start drawing. No need to capture every intricate detail unless you need to – rectangles are great substitutes for plagioclases, and a particularly hairy circle will make a great olivine.

Use smaller diagrams to highlight certain intricacies you think are important.

Don't forget a scale as well! Don't want to mix up a granular microgranite with a pegmatitic monstrosity. Scales are best acquired by sticking a ruler under the lens and praying to God that nothing gets scratched.

Practice the maps.

If you're a Part 1A, have fun! This year is possibly the only year you'll get nice, straightforward maps that make sense and don't have 20 different kinds of lava on them like someone melted a whole packet of Crayolas over the paper. Enjoy them. Savour them.

There are several years' worth of map practicals to attempt in past papers available online. Unfortunately, the other bits of the practical can't

be revised in the same way unless you have a vivid imagination and psychic abilities.

Finally, don't forget the map workbooks that Nigel 'the Woodcock' Woodcock has made for you, which are excellent practice.



Igneous geologist mapping a portion of the North Atlantic Tertiary Igneous Province, 1955, colourised.

Know your fossils, roughly what their shapes and bits do, and how they ended up as a feature in a rock.

If you're looking at fossils, it's best to recognize at least which phylum it's from. Don't go over the top and start babbling about species or something silly like that.

A lot can be said about the functional morphology of a fossil – if it's shaped like you can drink soup out of it, it probably won't be spending too much time swimming around. In a similar way, everyone knows that ammonites got those amazing whorls from seabed breakdancing. The taphonomic history of a fossil requires some thinking too. If the shell is shattered to little pieces, then a quiet seaside funeral is probably out of the question.

The Written Exam

Read the question (RTFQ).

RTFQ. RTFQ again, design your plan, then RTFQ again again.

The questions are important parts of the exam. It is crucial that you understand what the question wants. Last thing you want is to get horribly off topic and waste words and time talking around a subject.

Mention Arran in everything. Even the 'non-Arran' questions.

Not only do you have the question that prompts you ('using examples seen in the field', using your own observations'), but you can slot Arran anywhere you want, which is great as it basically represents everything Britain has undergone in the past 550Ma or so. Examples include:

- *'...an example of aeolian sedimentology is the Permo-Triassic New Red Sandstone of Arran...'*
- *'...the effects of the Caledonian orogeny are observed on Arran...'*
- *'...light colours reflect solar energy into space through albedo, much like the beautiful snow-capped hills of Arran...' (Pushing it just a little.)*

Examples are good if you have any.

Take examples from home, use Ketton quarry if you can still remember it, use that one high-school geography trip where you weren't watching your footing and cracked your skull open on that limestone pavement, use that one Nature paper from last week that got its own article on the BBC website with a clickbait title and no link to the original article.

If you're super interested in Earth Sciences (of course you are, you're reading this guide), check out books on the reading list.

The book thoroughly recommended to IAs is How to Build a Habitable Planet (Langmuir and Broecker, 2012). This covers all the course in a decent amount of detail.

"[How to Build a Habitable Planet] covers a lot of the whole 1st year, is similar in philosophy to our approach, and is very readable."

~ James Jackson

Other recommended books can be found as references to your lecture notes or in the course guide. Failing that, you could always visit Sarah at the Earth Sciences Library, who can suggest half a dozen books for whatever you're interested in (if she isn't busy being an absolute legend).

Don't ignore a part of the course you don't like. Yes, even palaeo.

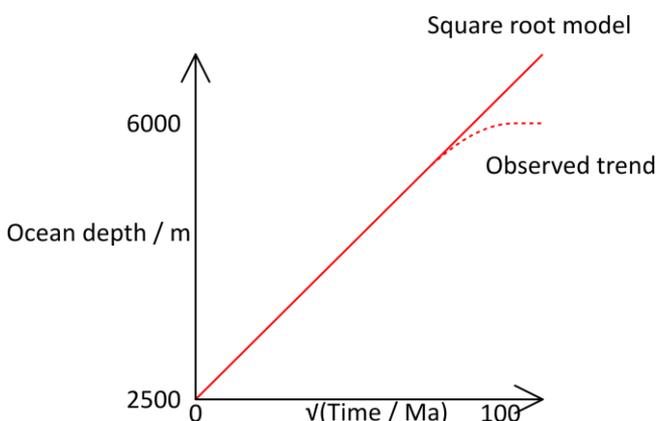
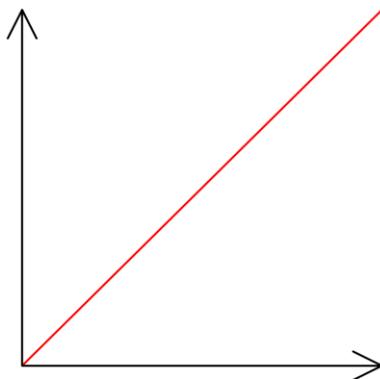
Not everyone is fond of certain parts of the course, but try to make sure you have a basic understanding of everything. You're just going to limit the questions you can answer if you don't.

Be independent. Organise your revision support structures.

Supervisors are happy to help anyone who needs it. It's also worth messaging upper years in your colleges to ask their advice. They have a wealth of knowledge that they would love to offer you. This guide is an example of that. (I'm talking to you, Corpus IAs.)

(Big) diagrams help everyone.

Oh no! You have 5 minutes to answer a full essay question! An annotated diagram can be effectively used to scoop up as many points as possible if you haven't the time to write a full essay, so get sketching. Even a straight-line graph can be modified to give different meanings.



A case of adding annotations to improve a straight-line graph.

Keep in mind also that massive diagrams mean more room to annotate, and more importantly more room on the page taken up so it looks like

you've actually written an enormous answer. Don't forget figure captions.

Put that 1A mandatory maths course to good use.

Whilst nothing is super technical in Earth Sciences (same order of magnitude is often close enough to the answer), show off by learning random equations for gravity, thermal cooling, etc. Back-of-envelope calculations are a great way to let the examiner know that you can count.

Afterwards...

Leave the exam nodding and saying it was alright, not talking about how the exam went at all.

It's never alright. You're dead inside. The only alternative to the suggestion is to burst into tears and run away screaming from the exam hall. Just try not to disturb anyone – they still have futures to aspire towards.

It is also perfectly fine to beat the ever-loving crap out of that one cocky guy who won't shut up about 'how easy the paper was'.

Pray to your deity of choice and await results.

It's almost certain that you've done fine and all the terrible stuff has just gone straight to your head, and you can celebrate May Week without any issue at all.

In the impossible event in which you bomb horribly, you'll probably be firmly escorted to the nearest A-road leading out of the City of Cambridge, angrily pursued by your DoS wielding a sharpened rowing blade as a glaive.

Well done! You've successfully acquired all you need to flawlessly scrape your way through a 1A Earth Sciences exam. Of course, nothing really matters until 3rd year. To quote Charlie, 'A 2.2 will do.'

Maybe you want to continue doing Earth Sciences rather than whatever Natural Science you wanted to do when you were an innocent sixth-former. How do you ditch past aspirations for new geological dreams? Tune in next time...