Essays for science subjects

Hi. Imagine it’s your first week at Oxford and you’ve just met your tutor for the first time and they’ve set you your first essay. You’ve got a piece of paper in your hand with a title and a list of books to read, your reading list. What do you do next? Well, don’t panic! Your tutors know that this will be your first attempt at writing an undergraduate essay, so give it your best shot and be prepared to learn from their feedback.

1. Background reading and research

The first thing to do is to make sure that you understand the title and in particular try to write concise definitions for each of the key terms.

Make a start on your reading list, tackling the more general textbooks first then moving on to the more specialised material later. Make notes as you read, but don’t try and copy large chunks of text.

1. Preparation

Good planning is key for essay-writing and this is when you draw all your research together into one argument directly that addresses the essay question. Your reading should cover a much broader scope than the essay title. So, the skill in planning is in deciding which information to leave in and which to leave out. Here are some things you might want to consider when planning your essay:

* Which keywords and concepts do I need to define in my introduction?
* What experimental evidence am I going to include?
* What’s my paragraph structure?
* What level of detail am I going to need in each section?
* Which diagrams am I going to draw and how am I going to link them with my argument?
* What am I going to say in my conclusion?
1. Writing about experimental evidence

As a first-year you should aim to include information about two or three major experiments in your essay. When you’re writing about experimental evidence the key is to focus on the data that has been produced and its interpretation, rather than detailed description of the method. Make sure that each paragraph directly relates to and helps to answer the essay title.

1. Writing style

The best scientific writing is concise and straightforward, so you need to develop a scientific writing style that is:

* clear and unambiguous
* logical, analytical, and critical
* not overly historical
* and that correctly uses scientific conventions

Here are some tips to help you write concisely:

* avoid using clichés
* but always use a word with a narrow scientific definition in preference to a word with a broad meaning
* if it’s possible to cut a word out, cut it out
1. Your audience

There’s a distinction between writing for non-specialists and the style that you will need in your tutorial essay. You should aim to:

* present complex concepts clearly, but not simplifying
* focus on the scientific detail and not the historical context of the discovery
* draw annotated diagrams to illustrate your argument
* be quantitative and use precise mathematical descriptions

Your tutor doesn't need to be entertained!

1. Setting out your essay

Textbooks are divided into sections with subheadings and are illustrated with relevant diagrams. It’s a good idea to try to emulate this layout for your writing. By using subheadings to separate sections you help yourself to structure your writing, which makes it easier to follow your argument.

Diagrams should be included and are very helpful when it comes to presenting experimental data and will often communicate the ideas more efficiently than a paragraph of writing. Diagrams should be clear, have a title be correctly labelled, and remember to cite them in the text of your essay.

1. Presentation

When deciding whether to handwrite or use a computer you should consider the main pros and cons. Word process essays look more professional and are easier to redraft, but handwriting forces you to think about essay structure before you start writing so can be good preparation for exams. Remember that your essay will be judged purely on content and not on presentation. If you do decide to type your work, do leave generous margins and line spacing for your tutors to write comments. However you decide to write, don’t forget to acknowledge your sources.

1. Checking your work

Because the pace of Oxford courses is so hectic, you won’t have time to draft and re-draft your essay before you hand it in for marking. Make sure, however, that you give yourself a chance to read through your essay before the tutorial.

So well done, you’ve now come to the end of the video. You can find a summary of everything in this video together with additional information about writing science essays in the download.