



How to write a science essay

Descriptive title

Make sure the title is descriptive for the topic of the essay. So if you write an essay on Genetic Diseases for example don't use a title like: 'Genetic diseases', 'Haemophilia' or 'ALD'. A descriptive title would be: 'Gene transfer as a solution to ALD' or 'Embryo selection to prevent Haemophilia in new-born babies'.

Introduction (with sign posting)

Sign posting refers to the words and phrases that tell your reader the purpose, structure, your position, main points, direction of the argument and signal your conclusion.

- Writing a really strong clear introduction is very helpful. This is where you have a chance to identify the key themes of your discussion, your main argument and focus. You can also indicate the order of the subject matter to be covered.
- In your introduction you explain:

- *What* you are investigating
- *Why* it is important
- How you will discuss it in the essay, so briefly describe the structure your essay will have. Use phrases like:
 - The aim of this study is to ...*
 - The purpose of this essay is to ...*
 - This essay argues that ...*
 - The main questions addressed in this paper are ...*
 - This essay critically examines ...*
 - The above discussion raises some interesting questions.*
 - This paper begins by ... It will then go on to ... Finally, ...*
- Show evidence that you have carried out some research by making a reference to at least one of your key sources.
- State to which MYP key and related concept you will relate your work (so it can be focussed properly). The key concepts mark the general focus of your essay. The key concepts for Sciences are **Change, Relationships and Systems**. When you have chosen your key concept you choose one or two of the related concepts below and show throughout the essay how your topic relates to them. Later in the conclusion you refer to them again.



The related concepts in biology		
Balance	Environment	Transformation
Consequences	Energy	Evidence
Form	Function	Interaction
Models	Movement	Patterns

The related concepts in chemistry		
Balance	Conditions	Transfer
Consequences	Energy	Evidence
Form	Function	Interaction
Models	Movement	Patterns

Body

In the body of your essay you describe how science came to the solutions for the problem, you describe the solution in detail and assess the benefits and limitations.

Make sure to cover the following points:

- Introduce the scientific solution in more detail than you did in the introduction.
- Describe how the process works with scientific reasoning and vocabulary.
- Assess the benefits and limitation. That means you don't only state them but analyse to what extent they influence the application of science you have chosen.

Conclusion

A conclusion should:

- stress the importance of the essay's statement,
- give the essay a sense of completeness, and
- leave a final impression on the reader.

Suggestions

- *Answer the question "So what?"*

Show your readers why this paper was important. Show them that your paper was meaningful and useful.



Colegio de
San Francisco de Paula
NATURAL SCIENCES
DEPARTMENT

- Synthesize, don't summarize

Don't simply repeat things that were in your paper. They have read it! Show them how the points you made and the support and examples you used were not random, but fit together.

- Redirect your readers

Give your reader something to think about, perhaps a way to use your paper in the "real" world. If your introduction went from general to specific, make your conclusion go from specific to general. Think globally.

- Create a new meaning

You don't have to give new information to create a new meaning. By demonstrating how your ideas work together, you can create a new picture. Often the sum of the paper is worth more than its parts.

References

Your essay has to be written by you after having done research and read your sources carefully. This means that copying and pasting is not allowed. You can add a quote if you add the quotation marks and cite the source. Our school uses the APA format for its references. In the text, where you use information obtained from a certain course, you add in-text references. At the end of the work you add a list of references with the complete references. Instruction to using APA references can be found on the Science website: www.sciencesfp.com/how-to-reference.html

Example:

Hi-Tech Spaghetti – APA Style

What happens if you mix chemistry with cooking? The new science of molecular gastronomy is really taking off. Molecular gastronomy is a scientific discipline involving the study of physical and chemical processes that occur in cooking (This, 2006). It deals with the transformation of ingredients in cooking, from a technical, social and artistic point of view ("Molecular gastronomy - Wikipedia," 2008). Famous chef Heston Blumenthal uses molecular gastronomy in his recipes to recreate modern classics like spaghetti bolognese and fish & chips (Blumenthal, 2006).

References

Blumenthal, H. (2006). *In Search of Perfection*. London: Bloomsbury Publishing PLC.

Molecular gastronomy - Wikipedia. (2008, 21-3-2008). Retrieved 26-3-2008, 2008, from http://en.wikipedia.org/wiki/Molecular_gastronomy

This, H. (2006). Food for tomorrow? How the scientific discipline of molecular gastronomy could change the way we eat. *EMBO reports*, 7(11), 1062-1066.