

MYP: Reflecting on the Impacts of Science Essay – Chemicals in our Food

Something to ponder: In today's society the word "chemical" generally has a negative connotation, meaning that most people think of chemicals as inherently bad. While in many cases this is true, be aware that chemicals added to foods can also have many positive effects. Your job while completing the following assignment is to be a ***critical consumer!*** Conduct research to determine the impact of your chosen chemical as a food additive.

Choose a Chemical (food additive): _____ **Chemical Formula:** _____

1. **Science involved** – why is your chemical used in food (what problem does it solve), what food is it used in, how does your chemical work to solve the problem?
2. What are the **implications** (both positive and negative) of using this chemical?
 - a. **Advantages** of using the chemical
 - b. **Problems/limitations** of using the chemical
3. For both the **positive and negative implications**- relate to one of the following factors: Make sure to **name the factor** in your explanation:
 - Moral - Personal view of what is right or wrong
 - Ethical - Society's rules or code of conduct
 - Social - Related to people, groups
 - Economic - Related to profitability (the ability to make money)
 - Political - Relate to government
 - Cultural - Ideas, customs and behaviours of a society
 - Environmental - Human impact on the natural world
4. **Evaluation** – give your opinion about whether or not this chemical should be used in food - based on your research

At home: Find the answers to the questions above – by researching online. Write a 500-word essay to explain what you learned. Make sure to refer to criteria below, as this is how you will be assessed.

The structure of the essay should follow the following format:

- a. An introductory paragraph that eases the reader into your topic. Explaining the science involved with your chemical and its use in food.
- b. One to three body paragraph(s) that expand and/or explain the implications (positive and negative) of using this chemical in food. This is the "meat" of the essays, and therefore should reflect the majority of the 500 words.
- c. A conclusion (your overall evaluation). This is where you wrap everything up with a neat little bow!
- d. The essay should be double spaces, and typed in a 12 pt font of your choice.
- e. You must include a bibliography in APA format referencing all of the online sources you use. Please go to the Rockridge Library website for directions on citing sources

Note: In science, writing should be concise and to the point. While proper grammar and sentence structure is essential, your essay should focus on the facts while making direct connections to the major points you are trying to convey.

Criterion D: Reflecting on the Impacts of Science				
(0)	Beginning (1-2)	Developing (3-4)	Accomplished (5-6)	Exemplary (7-8)
<i>I have not achieved a standard described by any of the descriptors to the right..</i>	<p><i>I am able to:</i> outline the ways in which science is used to address a specific problem or issue</p> <p>outline the implications of using science to solve a specific problem or issue, interacting with a factor</p> <p>apply scientific language to communicate understanding but does so with limited success</p> <p>document sources, with limited success.</p>	<p><i>I am able to:</i> summarize the ways in which science is applied and used to address a specific problem or issue</p> <p>describe the implications of using science and its application to solve a specific problem or issue, interacting with a factor</p> <p>sometimes apply scientific language to communicate understanding</p> <p>sometimes document sources correctly.</p>	<p><i>I am able to:</i> describe the ways in which science is applied and used to address a specific problem or issue</p> <p>discuss the implications of using science and its application to solve a specific problem or issue, interacting with a factor</p> <p>usually apply scientific language to communicate understanding clearly and precisely</p> <p>usually document sources correctly.</p>	<p><i>I am able to:</i> explain the ways in which science is applied and used to address a specific problem or issue</p> <p>discuss and evaluate the implications of using science and its application to solve a specific problem or issue, interacting with a factor</p> <p>consistently apply scientific language to communicate understanding clearly and precisely</p> <p>document sources completely.</p>

Command Terms for Sciences

Apply - Use knowledge and understanding in response to a given situation or real circumstances

Describe - Give an account or picture of a situation, event, pattern or process

Discuss - Offer a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence

Evaluate - Make an appraisal by weighing up the strengths and limitations

Explain - Give a detailed account or picture of a situation, event, pattern or process

Outline - Give a brief account

Summarize - Abstract a general theme or major point(s)