

Inquiry Question

What is the science behind vaccination and herd immunity?

Vaccinations protect you from specific diseases that can make you very sick, maim or even kill you. They help provide your body with a defense against infection by exposing you to a weakened or killed version of the pathogen which your body will produce antibodies against. Antibodies are one of the ways your body protects itself from infection, these are made when you are exposed, and made sick, to a virus the first time. Vaccines do the same thing without actually causing the suffering of the disease itself.



The benefits of vaccines are readily apparent but are there also risks? Why are there people opposed to vaccination? There is a lot of misinformation that is being spread regarding this topic. What is the actual science behind vaccinations, considering all of the pros and cons? It is important to recognize the scientific merit of your source. What misinformation is being spread?

How are you also protecting others by being vaccinated? Herd immunity can result in a population being protected from certain diseases. Even those who may not be able to be vaccinated, such as the very young or those with compromised immunity, can be protected. How does herd immunity work and why is it so important?

In this project, you will analyze the information in the media about vaccinations with a critical eye. You could create an advertisement or brochure to stop the spread of misinformation or do an analysis report refuting the misinformation claims with science to back up your arguments.

General Instructions

The goal of this project is to gain a better understanding of the effects of vaccination.

Materials:

- Access to internet
- Online presentation software or design software (Google Slides, PowerPoint, Canva, etc.) – you may also choose to share what you’ve learned through a video or audio recording.
- - or – A word processor (Word, Google Docs etc.)

Science 8/9 – Mr. Perl

Ideas and Hints:

1. Research the science behind vaccination, focusing on the pros and cons. Make sure to include your sources and consider the scientific merit of your sources.
2. What arguments are being used by those opposed to vaccination? What misinformation is being spread?
3. What is herd immunity and why is it so important? Include this information in your assignment.
4. Create an advertisement or brochure aimed at stopping the spread of misinformation or an analysis document refuting anti-vaccine misinformation with science to back up your arguments?

Project Submission:

Send your completed submission to aperl@sd74.bc.ca

A completed submission will contain the following:

- Evidence of research such as a work cited/references page (consider using MLA, APA or CMA citation styles if you're feeling up to it, if you don't know how to use them, contact me [Mr. Perl])
- A completed advertisement, pamphlet or argumentative essay

You will be assessed using the following rubric:

4	Student has handed in a complete, properly formatted assignment that fully meets expectations in terms of comprehension and a willingness to engage with the work being studied. Response is easy to read and contains few, if any, errors.
3	Student has handed in a complete, properly formatted assignment, but it only shows a surface reading of the work. It may appear to have been hastily executed for the sake of completion rather than to achieve an understanding of the work or works being studied. This response may contain some basic errors, but none that interfere with meaning.
1 or 2	Student has submitted the assignment, but it shows little understanding of the reading and is clearly insufficient in terms of effort. This assignment may be incomplete and may include errors that interfere with meaning.