Microbiology Midterm Research Project

Bacterial and Viral Diseases

Learning Objectives:

- To identify some of the viral diseases prevalent in animals and humans.
- To describe some diseases caused by bacteria that affect organisms.

Bacteria and viruses play a significant role as pathogens, which are disease-causing agents. However, just as the structure of these two agents differs greatly so does the method by which they cause disease. Most pathogenic bacteria cause harm to other organisms through the secretion of poisons or toxins. The effects of the toxins can vary depending on the type and location of the bacteria. Viruses, on the other hand, cause harm to organisms when they enter a host cell, produce copies of themselves inside the cell and then break out of the host cell to infect more cells and produce more copies of them. Through this process, viruses often disrupt normal activity and/or kill the host cell.

You will be assigned one bacterial or viral disease. Work with your partner to research all the information and make PowerPoint presentation. In order to earn extra credit, you must add some other media to enhance your presentation. For example; students have interviewed patients and presented the video or audio recording. You can make a public service announcement or any other creative idea you have.

Assignment: Disease - Research Report

Research and prepare a report on one of the bacterial or viral diseases assigned to your group. Information should be researched and reported under the following headings.

Only one group of the class will report on each disease.

History: Include information on when this disease was first identified and information on any epidemics that have occurred.

Distribution: Include information on target victims or areas of the worlds that are most susceptible to the disease.

Transmission: Describe how this disease is spread and how it is acquired.

Harm to the Host: Describe the parts or organs of the organism that are infected or damaged by the virus or bacteria. What are the symptoms and complications that result from the disease? Be sure to describe the severity of the disease.

Cure: Once the disease is acquired, what can be done to combat it or help reduce the affects if it cannot be destroyed? Describe some of the medications and treatments available for the disease. (Be sure to use current information for this.)

Prevention: Explain what can be done to prevent catching or becoming exposed to the disease. Are there applications in the form of vaccines or technologies that work towards the eradication of the disease?
Additional Information: Research

You must use a minimum of three different references for your research. Your references must be from a variety of research formats. You may use web sites, encyclopedias, medical reference books, magazine articles etc. The information must be presented in your own words. Simply copying and pasting information from the website is plagiarism and will end with zero. Understand the information well so that you are able to answer any questions related to your topic.

Bibliography

A list of the references used in preparing your report is required. For information about proper reference documentation, see:

http://library.usask.ca/education/apa.html (Go to the "Reference List" link.)

http://library.usask.ca/ustudy/writing/citation.html (Go to the "U-Study crib sheet" link.)

Presentation

Presentation of your report can be in a format of your choice such as a formal written report, web page or newsletter etc. The format that you choose to use to present your report must be a format that you can share with other members of the class. All of your information must be presented in proper, well-organized sentences.

Assignment Guidelines

For this project you will research a bacterial or viral disease. When you have researched your disorder/disease type, you will produce a Powerpoint or Publisher presentation with the information you have collected. The Powerpoint or Publisher presentation must include 10 slides:

• 1 Title Slide  (page one publisher)
  o Name of the Microbial Disease.
  o Your name and period.
  o Picture

• 9 Information Slides
  o Title: 1 of the 9 questions to answer (see the half sheet)
  o Answer: answer to the question (bullet points, not sentences)
  o Picture

• Reference Slide, all website addresses you used.

You will then present your PowerPoint before the class. You must also provide a printed copy of your PowerPoint slides to your teacher at the time of presentation.

Presentation days will be assigned at random. Presentation Day: _____________________

You may do this assignment alone or in a group of two students. Only one person or group may research a specific disorder. Students who do not choose a topic will be assigned one.

Chosen Topic: ____________________________________________

Questions to be Answered by Presentation

These questions are to be researched for your disease/disorder. Each question should be thoroughly answered in the presentation.

If you absolutely cannot find answers to these questions, ask your teacher for substitute questions.
Rubric

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Total out of 100 points = _________________