Epidemiology: The study of Disease, injury, and death in a community

WebQuest Description: To gain a better understanding of disease, how it effects communities, and uncover things we can do prevent the spread of disease.

Grade Level: 9-12

Curriculum: Health / PE

Keywords: Epidemiology, epidemic, endemic, pandemic, communicable disease, primary prevention, secondary prevention, and tertiary prevention

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Introduction

What will you do when the zombie outbreak occurs? Although this is a fictitious scenario that has captured a growing number of audiences eyes in the United States today because of popular television shows like “The Walking Dead” and films like “Zombieland”, it does have some educational purpose. These television shows and movies give insight to real world problems like the spreading of diseases to epidemic and even pandemic sizes. There are government agencies in place for disease prevention and outbreak; do you know what they are? Where would you go and how would you prevent the spread of disease in your home and community? Are you prepared to take charge of your personal health and prevent yourself from obtaining a communicable disease?

Tasks

Your task will be to research a disease, identify how the disease is spread, and develop a prevention plan. To start you will need to define some key terms when talking about disease. You will then look at the history of the disease and determine what the cause of the disease is this can be human to human, animal to human, animal to animal, or from the environment (through air, water, food, etc..) to man. Finally, you will develop a prevention plan. This will include a primary, secondary, and tertiary plan of prevention. After, you have collected this information you will apply your findings and format them into a research paper. You will give a brief 2-3 minute presentation to the class about the disease and the prevention plan you develop.

Process

1. For the first activity you will need to fill out the Disease Terms handout. This handout will aid you later on when writing your research paper. Open a web browser Google Chrome, Firefox, or Internet Explore. Use the two web links available below to fill in the terms. Use the Medical Dictionary to located below the Health Topics on the Medline Plus website to fill in the first 6 terms. You will use the second link to the CDC to fill in the last 3.

2. I have provided a link to web page with a list of infectious diseases. You will choose one disease from this list to conduct your research on. You will also watch a brief YouTube video and fill out the video guide.

3. Now you will conduct some research. You will use the websites provided to uncover the information below about your specific disease. For your research paper you will need:

   - The name of the disease you are researching. Some diseases names originate from other languages like Latin be sure to include this somewhere in your paper.
   - For example the video in your paper please remember to properly cite the source.
   - The origins of the disease*not all disease start in the US. You may also include anything else you may find that is interesting.
activities, you will format 2-3 page paper explaining your findings. The criterion for the paper can be found under the evaluation tab along with a rubric on how you will be scored. Finally, with the paper you have constructed, you will give a talk to present it to your peers. The presentation will need to be 3-5 minutes in length. The presentation should cover the following:

- The name of your disease
- The origins of the disease
- When and where it was discovered
- Effects of the disease
- How the disease is transmitted
- Cures and treatments available to treat the disease
- Ways to prevent outbreaks
- The prevention plan you developed for your community

Anything else you find interesting: This can include facts and statistics.

Guidelines for writing the infectious disease paper:

- This paper should be 2-3 pages in length and include a works cited page and in-text citations. If you are unsure of how to do this, I have provided you with a link to an online source to help answer questions. Format the header, write your last name. This should be on the right-hand side of the page. Do not use any other heading. At the top of the paper, state the name of the infectious disease you researched. You will need an introduction that may include:
  - A type of hook to gain the readers attention
  - The name of the disease you are researching
  - Why you chose that disease to research
  - Why disease prevention is important

- The body of the paper will include:
  - History of the disease
  - Whodiscovered the disease?
  - When was the disease discovered?
  - How the disease effects people
  - How the disease is transmitted
  - Cures and treatments if any are or were available
  - Who is susceptible to contracting the disease
  - How to prevent outbreaks
  - Other facts and statistics - mortality rates etc.
  - Your plan of action to prevent the spread of disease within your community
  - Primary, Secondary, and tertiary prevention

Conclusion: This should summarize your findings and explain why disease prevention is important.

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Although the fictitious scenario of the Zombie apocalypse will never come, the spread of infectious disease is a real scenario that is very serious. You have been introduced, researched, and heard from your peers about a number of infectious diseases. You even developed a plan of action to prevent spread of disease. You even took a look at the historical impact of disease. Hopefully by doing this, you will gain a better appreciation for disease prevention, and take measures to prevent the spread of infectious diseases.

Teacher Page

This webquest allows students to take a look at infectious diseases and analyze them. Students will then build from their findings to develop a plan of prevention using higher order thinking skills. This is a brief segment that covers overall health. The webquest should take about 2-3 hours or two to three class periods depending on length. The webquest is designed for individual work, however it may also be used in group settings.

Standards

- Demonstrate functional health literacy skills to obtain, interpret, understand and use basic health concepts to enhance personal, family, and community health
- Describe the historical impact of disease and other health problems on contemporary health practices
- Understand preventive physical and mental health measures, including proper diet, nutrition, exercise, risk avoidance and stress reduction
- Apply critical literacy/thinking skills related to personal, family and community wellness
- Demonstrate goal-setting skills
- Evaluate health status and develop goals to enhance health

Credits
