

Name \_\_\_\_\_ Date \_\_\_\_\_ Section \_\_\_\_\_

## *Pathogen Investigation*

Now that you have learned the basics about how a healthy immune system works, as well as how a virus like HIV can impair the immune system, you are ready to do some of your own investigating. Your assignment is to select a pathogen that can infect humans, and to find out how it operates.

You will start by choosing your pathogen. Your topic must be approved (only one student per class per topic), so please let me know as soon as you have made a preliminary decision.

Once your topic has been approved, you will conduct research to find the answers to the questions listed below. You must gather information from at least three different sources. You may use any sources available to you (internet, encyclopedias, textbooks, etc.), but remember to keep track of where your information comes from. You will need to cite your sources for all information!!

After completing your research, you will compose a 2-3 page paper explaining the basics of the pathogen, and how it affects the human immune system. Your paper should be typed, double-spaced, include parenthetical citations, as well as a 'Works Cited' page, and should address the following questions:

- What is the pathogen (bacteria, virus, worm, etc.)?
- What is the basic structure of the pathogen?
- Can the pathogen be transferred from one person to another? If so, how? If not, how does a person "catch" it?
- How does the pathogen permeate the physical barriers of the human immune system?
- How does the immune system fight off the pathogen (Is the immune system able to fight the pathogen effectively? Is it usually "knocked out" by the innate immune system, or do T and B cells need to be activated? Will a person come down with the disease if they encounter the pathogen again? Etc.)
- How prevalent is the disease/sickness caused by the pathogen in the United States? Are there other parts of the world in which the pathogen is more prevalent? Are there precautions we can take to avoid the pathogen? Explain.

We will spend one day in the library to help get you started on your research, but most of the work will be done at home. Good luck!!!