

## ■ Background

There are a great number of microorganisms that can cause disease in humans. Any organism that can cause a disease is called a pathogen. As is true with virtually all plants and animals, human pathogens come in a variety of types. There are human pathogens in each of the following categories:

**virus, fungus, bacteria, protozoan, and roundworm**

In order to understand how a particular pathogen causes a disease, a person must study a number of related topics. These topics range from the life cycle and biology of the organism to the way the organism infects you to the harm it causes your cells, tissues, and/or organs.

## ■ Project Description

The work of collecting and presenting information for a typical human pathogen in one of the categories listed above will be your responsibility. Groups will be assigned a particular disease and will produce a PowerPoint™ presentation that they will use to teach the rest of the class. Class time will be reserved for students to work on their PowerPoint file. This time is being provided for the purpose of research, and production of the PowerPoint presentation. Be prepared to work outside of class time to ensure your project is thorough and completed on time. A deadline for the PowerPoint file, and the days and times for the presentations, will be announced. It is the responsibility of each group to work together to meet both of these deadlines. PowerPoint files will be saved on the school network: **log-on to your account (USERS) → Common folder → Teachers folder → Lovelady folder → Disease PPT Files folder → your period's folder. Name your file with each person's first name followed by .pptx (NO SPACES ANYWHERE IN THE NAME OF THE FILE - Example: RaoulJulie.ppt).** For the actual presentation to the class each group member must share the responsibilities equally. Each group should plan on presenting their research within 5-7 minutes. The instructions for completing this project and producing your PowerPoint presentation are listed below.

## ■ What Each Group Will Produce

- 8-Slide PowerPoint file to be presented to the class
  - a group grade will be earned on the content and thoroughness of the PowerPoint file
  - individual grades will be earned for the presentation

## ■ Directions

- groups and/or individual disease assignments may be randomly assigned or assigned by your teacher
- once your group has been assigned a disease, meet and review the research topics, the due dates, and begin to work out a plan for the work to be divided
- DO NOT add music or video files, or Internet links, to your PowerPoint file
- Required pictures and graphics are listed with the instructions for individual slides – additional graphics and pictures are acceptable but must be in support of the specific research topics required
- use the following list as a guide for your research, and for the way in which slides in your PowerPoint file must be organized

### SLIDE 1

- Title (the name of your disease), the type of pathogen, scientific and common name of the pathogen that causes the disease

### SLIDE 2

#### ■ Biology of Pathogen

- life cycle
- natural habitat(s)
- physical structure

Graphic(s) or Picture(s) of the Pathogen

#### **Special Note:**

Label each sub-section on each slide.

For example, on slide 2 the title of the slide is **Biology of Pathogen**, with sub-topics of **life cycle**, **natural habitat**, and **physical structure**.

### **SLIDE 3**

#### ■ High Risk Groups

- how does the initial infection occur (if there are multiple ways, describe them all)
- who is most likely to develop this disease, e.g. regional, gender, age group, prior illness, etc.
- statistics: to include worldwide infection numbers, and deaths per year if applicable

### **SLIDE 4**

#### ■ Symptoms

- list and describe all symptoms of the disease (if applicable, list and describe early, mid, and late symptoms)

Picture(s) that represent one or more of the symptoms

### **SLIDE 5**

#### ■ Pathology

- what is the host or target cell(s) = *what cells get infected?*
- exactly how does the pathogen cause the symptoms of this disease
  - to include how cell damage and death, tissue damage, organ damage or failure, etc. occurs
- discuss the way (including how easily) in which the pathogen can be spread from one person to another

### **SLIDE 6**

#### ■ Treatment

- how are individuals diagnosed with this disease (if there is a test involved, name and describe the test)
- full description of one treatment available
  - discuss how well the treatment works, how long the treatment takes, and any side effects
- long-term prognosis

### **SLIDE 7**

#### ■ Additional Information

- list and describe any additional aspects of this disease or pathogen you found interesting [there is always something else to say]

### **SLIDE 8**

#### ■ Bibliography and Works Cited

- a minimum of three sources are required – they may all be electronic – but the information must be reliable and current
- list sources according to your bibliography handout
- each source must be annotated
  - annotate each source by writing a brief description of the source and the information it provided

Total Points = 100 PowerPoint File = 75 points; Presentation = 25 points
---