

Epidemiology Introduction

Science Olympiad Disease Detectives

Name _____

This year's emphasis: **FOODBORNE ILLNESS.**

To prepare for this event, a number of current events, basic epidemiological concepts, and specific diseases and illnesses will be studied. Current events will be presented in some form of media, whether it be a graph, an article, a public health statement, or something similar. Basic epidemiological concepts will be addressed as outlined in the training handout, with some consistent practice and elaboration being used to fully explore and understand each. Specific diseases and illnesses will be given with resources to be studied before a ten-question, multiple choice quiz evaluating details about each is administered for each. Topics to be covered under each of these categories are listed below.

Current Events

- Zika Virus Epidemic
- West African Ebola Virus Epidemic
- Norovirus on College Campuses
- *Elizabethkingia anophelis* Infections
- Lassa Fever Outbreak
- Bacteria "Achilles Heel"
- Scarlet Fever in Britain
- The Threat of Superbugs
- Seasonal Influenza
- Middle East Respiratory Syndrome Outbreak

Epidemiological Concepts

- General Causes for Health Concerns
- Types of Pathogens
- Epidemiological Triads
- Steps of an Outbreak Investigation
- Basic Epidemiological Terminology
- Types of Studies
- Epidemic Curves
- Odds Ratio, Attack Rate, and Relative Risk
- Types of Error
- Basic Statistics

Diseases and Illnesses

- Zika Virus Disease
- Ebola
- Influenza
- Dengue Fever
- Chikungunya
- Yellow Fever
- *E. coli*
- Salmonella
- Hepatitis
- West Nile Virus
- Mad Cow Disease
- Cholera
- HIV/AIDS

Integrated into all of these, where applicable, will be this year's emphasis. Foodborne illness will be explored thoroughly throughout the season. In addition, there will be a good bit of overlap with microbiology in exploring infectious agents, so Microbe Mission might also be of interest.