**Essential Standards: – Viruses, bacteria, epidemics and pandemics - 2nd quarter**  
  
**8.L.1:** Understand the hazards caused by agents of diseases that affect living organisms.

**Essential Understandings.**

Certain organisms can cause and/or spread diseases.

**Essential Question:**

1. How do diseases spread?
2. How can diseases harm living organisms?

**8.L.1.1:** Summarize the basic characteristics of viruses, bacteria, fungi and parasites relating to the spread, treatment and prevention of disease.

**Essential Understandings**:

* Microbiology as a basic science explores microscopic organisms including viruses, bacteria, protozoa, parasites and some fungi and algae
* Viruses, bacteria, fungi and parasites may infect the human body and interfere with normal body functions.

**Essential Question**:

1. How do the basic characteristics of viruses, bacteria, fungi and parasites influence the treatment and/or prevention of disease?
2. In what ways do the basic characteristics of viruses, bacteria, fungi and parasites affect the spread of disease?

**8L.1.2**: Explain the difference between epidemic and pandemic as it relates to the spread, treatment and prevention of disease.

**Essential Understandings**:

* Terms epidemic and pandemic usually refer to the rate of infection, the area that is affected or both
* Epidemic and pandemic are similar terms that refer to the spread of infectious diseases among a population
* A disease outbreak happens when a disease occurs in greater numbers than expected in a community or region, or during a season
* In the case of a pandemic, even more of the population is affected than in an epidemic.
* Influenza pandemics have occurred more than once.

**Essential Questions**:

1. How would you treat an epidemic differently than a pandemic?
2. What could cause a disease to shift from an epidemic to a pandemic?