



PLTW Virtual Learning

Medical Detectives

Lesson 13

April 22, 2020



7 & 8 Grade Medical Detectives Lesson: April 22, 2020

**Objective/Learning Target:
Lesson 13, Part 8**

Students will be able to understand infectious diseases, how they are spread, and what precautions can be taken to prevent their spread.

Warm-Ups:

Review the previous lesson explaining the difference between bacteria and viruses. Watch the video again

[The Difference Between Bacteria and a Virus](#)

if you would like to refresh your memory.



Lesson Introduction/Background Information:

- ** How do bacterial and viral diseases spread?
- ** How easy is it for them to infect other individuals?
- ** What are actions we can take to prevent these diseases from spreading?
- ** How are different infectious diseases spread?

These are a few of the questions we're going to be answering as we work through this lesson on infectious diseases and how they are spread.

Check out what happens when you sneeze. [The normal sneeze](#)

Now check out a [sneeze in slow motion](#).



Practice:



Watch the video [How do Germs Spread](#) and answer the following questions about the video.

1. How were the germs spread to Goldilocks?
2. How many germs could have been shared?
3. What happens when the virus has a “just right” replication?
4. Can you be a carrier of the virus without knowing it? How?
5. How could this have been prevented?
6. What are some ways to prevent the spread of different diseases?





Practice:

Infectious diseases are caused by microscopic germs (such as bacteria or viruses) that get into the body and cause problems. Some – but not all – infectious diseases spread directly from one person to another. Infectious diseases that spread from person to person are said to be contagious.

Some infections spread to people from an animal or insect, but are not contagious from another human. Lyme disease is an example: You can't catch it from someone you're hanging out with or pass in the street. It comes from the bite of an infected tick.

Contagious diseases (such as the flu, colds, or strep throat) spread from person to person in several ways. One way is through direct physical contact, like touching or kissing a person who has the infection. Another way is when an infectious microbe travels through the air after someone nearby sneezes or coughs.

Self Assessment:

Research 5 out of the 10 infectious diseases below and determine:

1. Whether or not they are infectious or contagious.
2. How are they spread?
3. What can be done to prevent the spread of the disease?

Infection Diseases

- | | |
|---------------------------|------------------|
| 1. Malaria | 7. Zika Virus |
| 2. Rhinovirus | 8. Measles |
| 3. Coronavirus (Covid-19) | 9. Hantavirus |
| 4. Lyme Disease | 10. Yellow Fever |
| 5. Influenza | |
| 6. Rabies | |



Answer Key:



Practice Page 1:

1. By a sneeze.
2. 1,000 or millions landing on her skin, clothes, and hair.
3. The host will not be sick, or show signs, but will be a carrier of the disease and spread it to others.
4. Yes, by not having the disease severe enough to be sick or show symptoms but still be a carrier of the microscopic organisms and contaminating others.
5. Take precautions to stay away from others through social distancing, limiting the number of people you are around, wearing face masks to protect others, washing your hands, maintaining good hygiene and keeping a strong immune system.
6. Maintaining good hygiene, staying home when you are sick, keeping a strong immune system, being immunized, wearing protective mosquito clothing and mosquito proofing your home, drinking clean water and eating healthy foods.

Extend Your Learning/Continued Practice:

Continue to research 2 more of the 10 infectious diseases listed on the Self Assessment page and determine:

1. Whether or not they are infectious or contagious.
2. How they are spread.
3. What can be done to prevent the spread of the disease.