



PLTW Virtual Learning

Medical Detectives

Lesson 12

April 21, 2020



7 & 8 Grade Medical Detectives

Lesson: April 21, 2020

Objective/Learning Target:
Lesson 12, Part 7

Students will be able to understand the difference between a bacterial and a viral disease and how to keep the immune system healthy.

Warm-Ups:

So what's the difference between bacteria and viruses?

Watch the video and let's find out ...



The Difference Between Bacteria and a Virus

After watching the video, list 3 things you learned about how bacteria are different from viruses.

1. _____
2. _____
3. _____

Lesson Introduction/Background Information:

Below are a few of the diseases caused by either a virus or a bacteria. How many of these diseases have you heard of before?

Viruses Can Cause:

Covid 19

Influenza

Mumps

Chickenpox

Smallpox

Polio

Rabies

German Measles

Bacteria Can Cause:

Food Poisoning

Sore Throats

Tuberculosis

Tetanus

Cholera

Typhoid

Whooping Cough

Practice:



Now that we've looked at the difference between bacterial diseases and viral diseases and what they are, let's learn how the body's immune system works.

While watching the video [How Does Your Immune System Work?](#), answer the following questions:

1. Your immune system is your body's best safeguard against a) _____, b) _____, and c) _____.
2. What is another name for white blood cells? _____
3. Leukocytes are classified into two main groups: a) _____ b) _____
4. Does our immune system help to develop the body's long-term immunity? T or F
5. What are antibodies? _____

Practice:



What are five ways we can boost our immune system to make it stronger and able to withstand different bacteria and viruses?

1. _____
2. _____
3. _____
4. _____
5. _____

Self Assessment:

Watch the video and list the foods that are healthy to eat that will boost your immune system and how they can make it stronger.

Tips to Build a Strong Immune System

1. _____
2. _____
3. _____
4. _____
5. _____

Answer Key:



Practice Page 1:

1. a) Infection b) Illness c) Disease
2. Leukocytes
3. 1) Phagocyte 2) Lymphocyte
4. True
5. Blood proteins used by the immune system to neutralize Pathogens such as bacteria and viruses.

Practice Page 2:

1. Eating healthy foods
2. Getting plenty of rest
3. Regular exercise
4. Getting outside
5. Drinking plenty of liquids
6. Reduce stress

Self Assessment

1. Always eat a rainbow color of foods
2. Red peppers full of antioxidants, vitamin C & B6
3. Blueberries an antioxidant superfood
4. Lemons have vitamin C
5. Leafy green vegetables

Extend Your Learning/Continued Practice:

Play the [Human Homeostasis Game](#) and see how well you do maintaining the health of your individual.