

# **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.

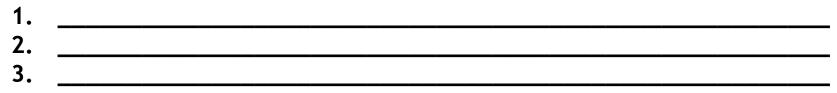
## Warm-Ups:

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.





#### 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:	Bacteria Can Cause:		
Covid 19	Food Poisoning		
Influenza	Sore Throats		
Mumps	Tuberculosis		
Chickenpox	Tetanus		
Smallpox	Cholera		
Polio	Typhoid		
Rabies	Whooping Cough		
German Measles			

## **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 <u>How Does Your Immune System Work?</u>, answer the following questions:

- Your immune system is your body's best safeguard against a) \_\_\_\_\_\_,
  b) \_\_\_\_\_\_, and c) \_\_\_\_\_.
- 2. What is another name for white blood cells? \_\_\_\_\_\_
- 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?

#### 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 <u>Human Homeostasis Game</u> and see how well you do maintaining the health of your individual.