Human Body Systems

Virtual Learning

9-12th PLTW® HBS

PLTW® 5.3.3 Fighting the Common Cold

Part 3 of 3: Pathogen Medical Interventions

May 22, 2020

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Lesson: May 22, 2020

Objective/Learning Target:

In Part 3 of 3 of this immune system lesson, students will be able to describe medical interventions that have been designed to help combat pathogens in the human body. *(Reference: PLTW® 5.3.3 Fighting the Common Cold)*

Let's Get Started/Warm Up Activities:

Before we start our lesson today, complete the following:

Categories of Medical Interventions Flashcards

Medical interventions are any measure whose purpose is to improve health or alter the course of disease. Click on the flashcards link above to see common categories of medical interventions.

How Vaccination Works Video

One category of medical interventions is vaccination. Click on the video link above to learn more.

Lesson/Activity:

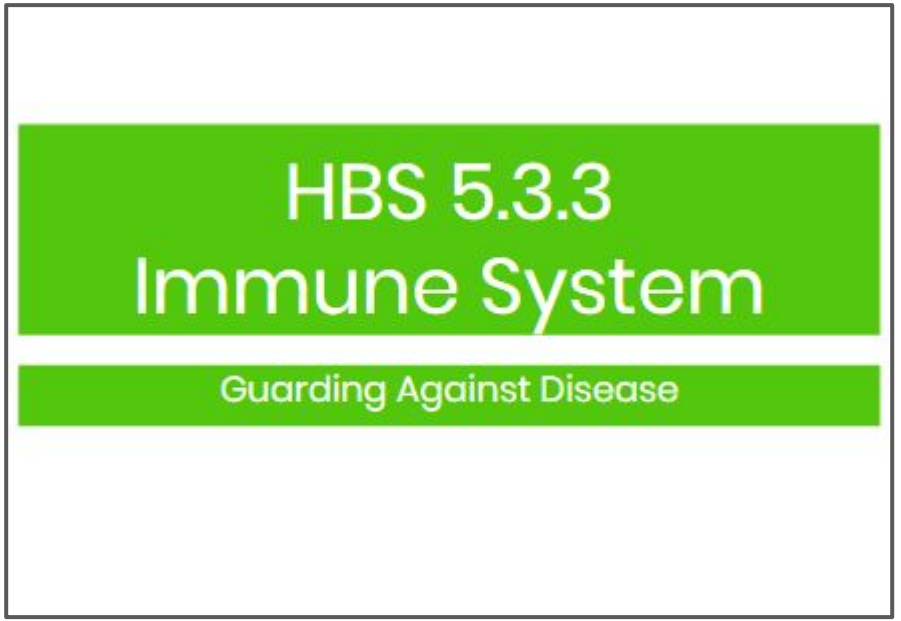
Read over the following:

[5.3.3 Immune System Notes]

Activity #1: On a piece of paper or in your notebook, write down notes over Slides #36-44 about the medical interventions antibiotics and vaccines.

Activity #2: Write notes over Slides #49-61 about medical interventions related to colds and flus.

Activity #3: Write notes over Slides #62-69 about other immune-response medical interventions including allergens, autoimmune disease and cancer.



Lesson/Activity Answer(s):

Activity #1 Answer(s):
Click HERE to view answers, Slides #36-44.

Activity #2 Answer(s):
Click HERE to view answers, Slides #49-61.

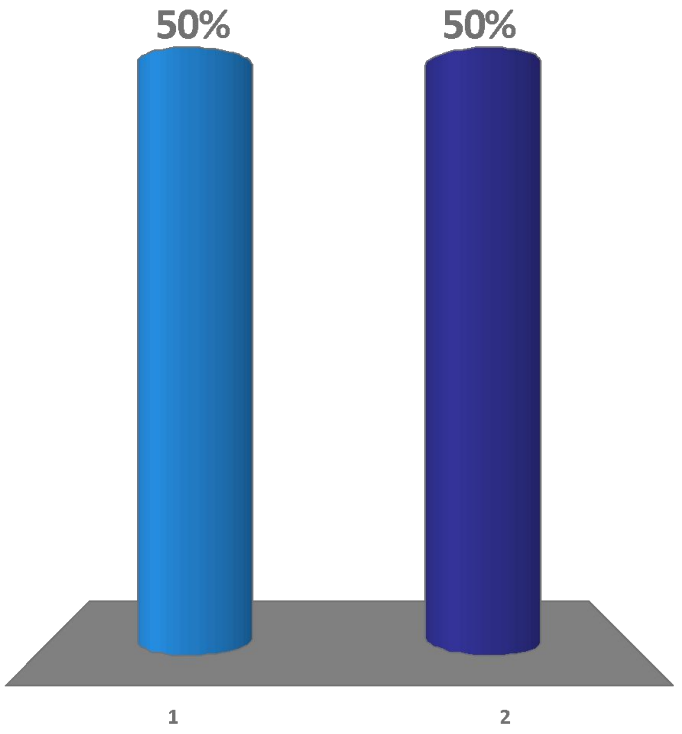
Activity #3 Answer(s):
Click HERE to view answers. Slides #62-69.

Practice:

Practice: Number your paper #1-6, and answer the following questions about the immune system and medical interventions.

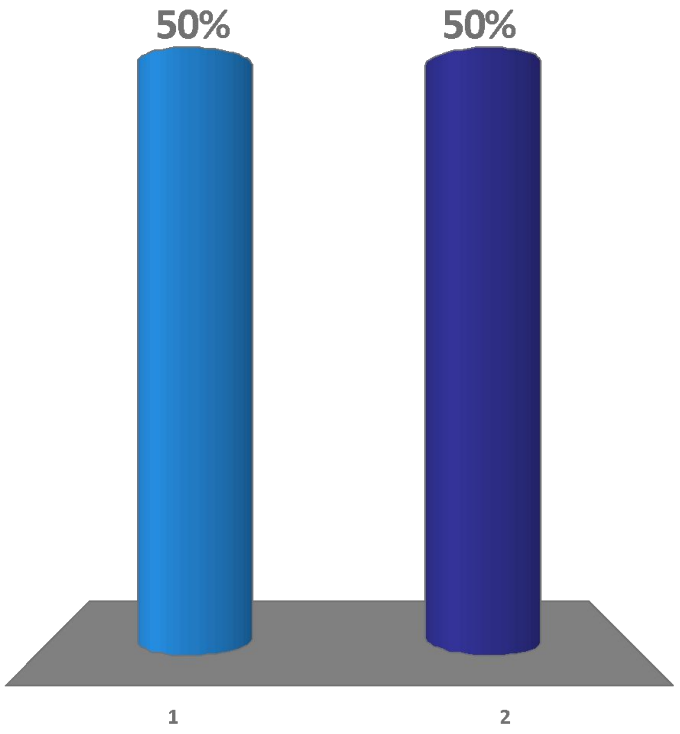
1. True or false: Antibiotics weaken the immune system because your body doesn't learn to make enough antibodies.

1. True. Antibiotics are a type of antibody.
2. False. Antibiotics are not antibodies.



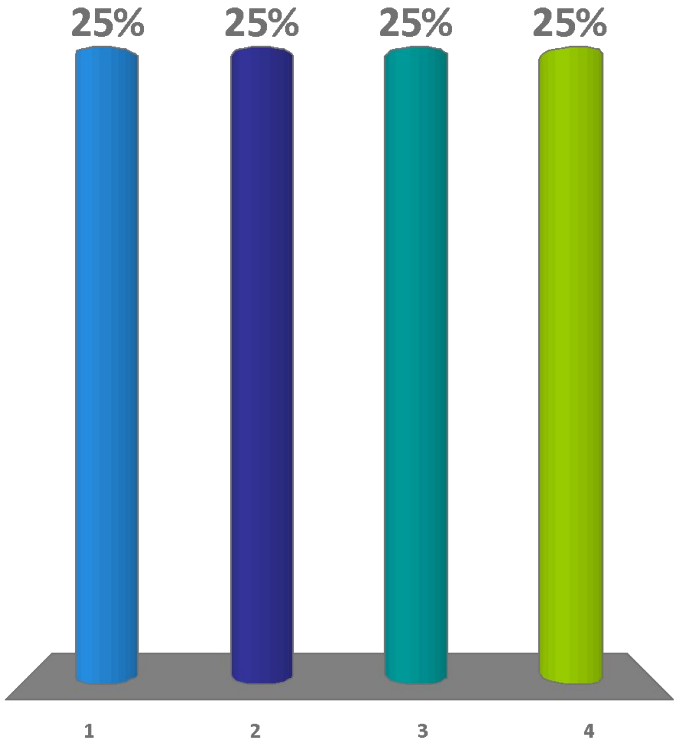
2. True or false: Vaccines weaken the immune system because the body doesn't learn to defend itself without help.

1. True. The immune system needs to exercise itself or it won't get strong.
2. False. Vaccination causes the body to learn to defend itself.



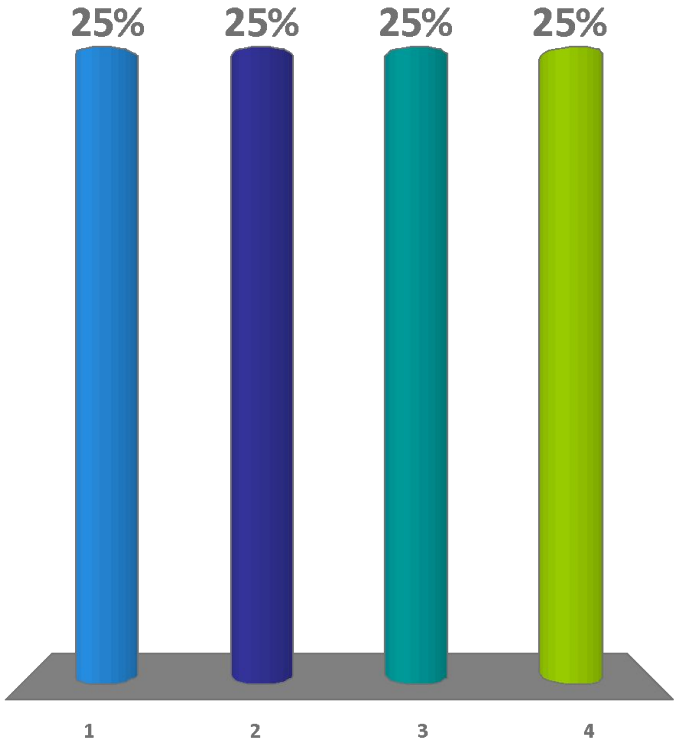
3. Vaccines stimulate the production of:

1. Antibodies.
2. Helper T-cells.
3. Antigens.
4. Memory cells.



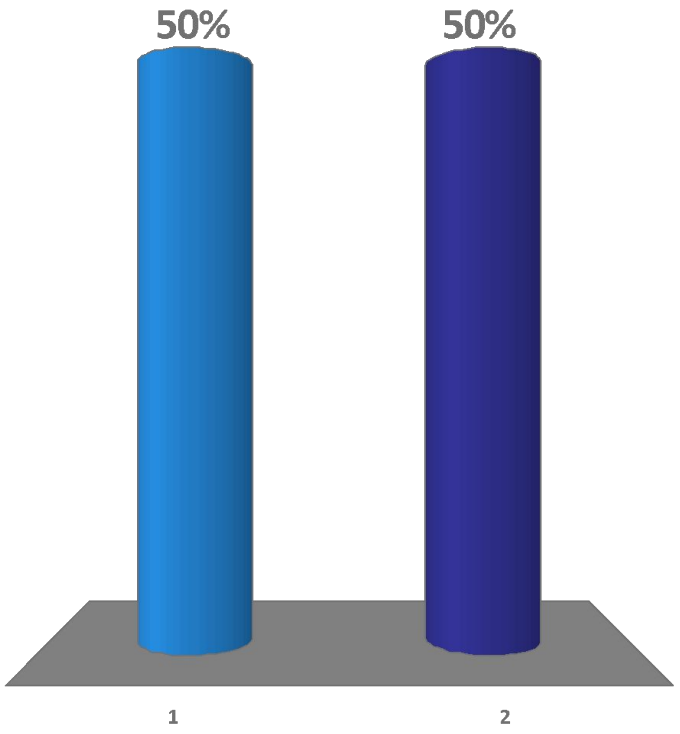
4. Which cell does HIV attack?

1. Macrophage.
2. Red blood cell.
3. Helper T-cell.
4. B-Memory cell.



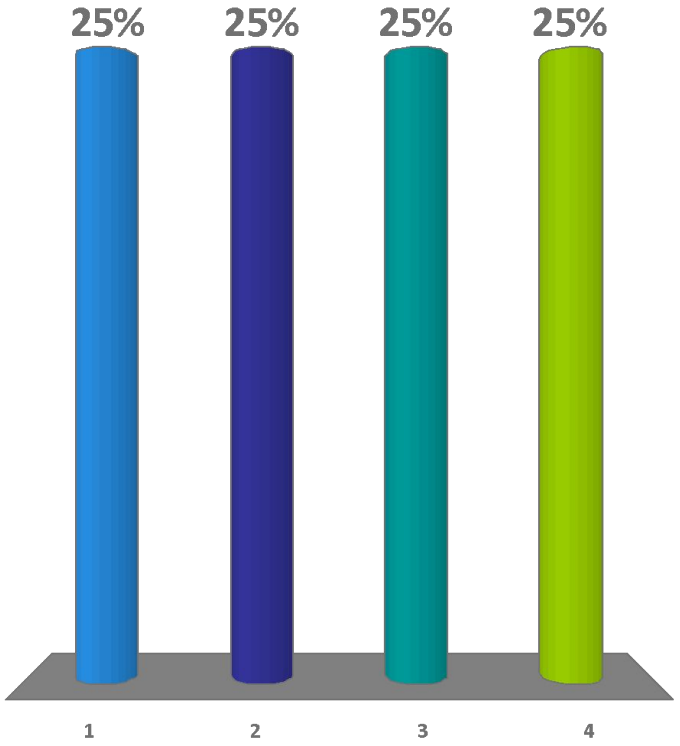
5. If AIDS attacks specific immune defense, would a person with AIDS have a fever if they catch the flu?

1. Yes. Fever is a nonspecific response.
2. No. The entire immune system has been compromised.



6. For some people, pollen allergies grow worse every year. Why?

1. More pollen is produced every year.
2. Memory cells cause a stronger reaction.
3. Pollen evolves stronger toxins.
4. Suppressor T-cells become more active with time.



Practice Answer(s):

Practice Answer(s):

1. #2
2. #2
3. #4
4. #3
5. #1
6. #2

Additional Practice and/or Resources:

Learn More:

HBS Lesson 5.3.3 Flashcards

Test your knowledge by clicking on the link above.

BAND-AID® Brand's History of Innovation Timeline

In this lesson, we learned about medical innovations that are used to combat pathogens. But have you ever wondered how a Band-Aid, one of the world's simplest medical interventions, came to be? Check out this timeline!

15 Swab-Worthy Facts About Q-Tips Article

Q-Tips are a medical intervention? That's right! Check out some facts that may have you looking at the cotton-topped, medical-intervention sticks in a new light.

Summer Vacation

HBS Students:

This is our last lesson for 2019-20. Thank you for a great year!

Interested in learning more about medical interventions? Email your PLTW teacher or counselor about taking our third-level course biomedical course, PLTW Medical Interventions, for 2020-21.