



Principles of Biomedical Science

Virtual Learning

9-12 / PLTW[®] PBS

May 6, 2020



Principles of Biomedical Science

9-12/PLTW[®] PBS
Lesson: May 6, 2020

Objective/Learning Target:

Students will be able to: learn deductive reasoning skills involved in determining "patient zero" in the spread of a disease. (Epidemiology) (*Reference: PLTW[®] 5.1.1 Contagious*)



Let's Get Started (Bell Ringer):

Watch the following Videos:

[What is Epidemiology?](#)

[The Hunt for Patient Zero Is Important But Impossible](#)



Lesson/Activity:

Let's start by reading the article [DISEASE OUTBREAK What is patient zero? Why is it important to find patient zero in an outbreak and is there any previous examples?](#) In your notebook, or on a separate piece of paper answer the following question from the article.

1. What are three reasons why it is important to find patient zero during a disease outbreak?



Answers:

1. Because the disease patient zero is carrying is in its most basic form, it can be invaluable to medics.
2. Finding the patient zero will allow medics to determine where it came from.
3. This in turn can give medics a way to stem, control and learn more about the outbreak.



Lesson/Activity continued:

Use these provided resources to do the following activity:

[Epidemiological Studies - made easy!](#)

Use video to name and explain the different types of Epidemiological Studies.



Answers:

Answers to these questions can be found [here](#).



Practice:

In your notebook or on a separate piece of paper create your own scenario on how a person was determined “patient zero” or the index patient using a made up story and disease. This can be anything you would like so the sky's the limit. Be sure to explain the disease and how it can be contracted that will make a huge factor in your story of the mystery of “patient zero”. Be creative and have fun!



Answers:

Story will vary based on person and what they choose to write about.



Additional Practice:

Explain the following words and how they can be used in the process of finding a “patient zero”

Word Bank: Infection
Contagious
Virulent
Transmission
Aseptic Technique



Answers:

Infection: The state produced by the establishment of an infective agent in or on a suitable host.

Contagious: Communicable by direct or indirect contact.

Virulent: An infectious agent that is likely to cause disease upon entering a host.

Transmission: The way a microbial organism moves from one host to another.

Aseptic Technique: A procedure performed under sterile conditions.