



The Life of Viruses

Viruses are a peculiar, and in some ways misunderstood, class of molecules that serve as essential cogs in the circle of life. However, their spread can lead to many undesirable changes within human populations. Throughout these lessons, you will learn many different aspects of viruses and their connections to biological life, including:

- The structure and “life” cycle of viruses
- The biological definition of a living organism
- How viruses compare to biological organisms
- Different theories on how viruses came to exist and continue to exist
- Epidemiology: How doctors and scientists chart and control outbreaks

It is important to remember that, while viral outbreaks are challenging for human beings, they provide opportunities for scientists and doctors to study and gather data to help prevent them in the future. The events of the last six months and the weeks ahead will provide data that researchers will analyze for decades to come. Understanding how viruses work will help you to understand the breadth of science that will emerge from these times.

Part 1: Are Viruses Alive?

Resources:

[Introductory Slides and Research Review](#)

[Biological Classification Slides](#)

[Response Document](#): *This is where you will record information and what you will eventually submit on Google classroom.*

Learning Goals:

1. Learn the seven different characteristics of Biological Life
2. Understand the basics of Linnaean Classification and the debate around classification
3. Apply the seven Characteristics of Biological Life to answer the question: Are Viruses Alive?

Part 1. Resource Review Mission

1. Review the [Slides 1-9 in this presentation](#)

2. Answer the questions in *blue italicized writing* in this document
 - a. *What makes something living?*
 - b. *What do you think they are?*
 - c. *What do you think the creatures in the image to the right have in common?*
 - d. *How do the kittens and otters in that picture exhibit the biological characteristics of life?*
3. Define and/or describe these terms:
 - a. Biological Classification of Life
 - b. Virus
 - c. The structure of a virus is _____
 - d. Bacteriophage
 - e. Propagate
 - f. Host
 - g. Linnaean Classification

Part 2: Are Viruses Alive? Activity

1. Instructions for this assignment are on [Slide 10 in the presentation](#) (copied below for your convenience).
2. Make sure you have these links ready: [Biological Classification Slides](#) and [Response Document](#):

Are Viruses Alive? Research Review

Your task is to join the scientific debate and decide for yourself, “**Are Viruses Alive?**”

- One of the requirements of biological life
- Case studies on how two entities exhibit this property.
 - One of these entities is a biologically living organism
 - The other is a virus

As you read the material:

- Obtain the [Evidence Gathering Document](#)
- [Read each slide](#) fully. Read both the title and case studies of the two entities
- Decide whether the virus fulfills this characteristic of life or and back up your claim with evidence you collected
- Decide which entity is the virus and back up your claim with evidence you collected