

Virus Study

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Purpose: To observe different types of viruses and to study their characteristics.

Procedure: Use Microviewer Set 97, the internet and reference books to complete this lab.

Observations:

1. View slide 1 and read the accompanying text.
 - a) What is a bacteriophage? What is the meaning of the term? Describe the structure of a typical bacteriophage
 - b) Estimate the length of the bacterium and the virus in this slide?
 - c) What type of microscope is used to view a virus?

2. View slide 3.
 - a) What is the major effect of the polio virus? Why is this virus no longer a problem?
 - b) Recovery from influenza does not give lasting immunity. Why is this?
 - c) What structural characteristic of the flu virus makes it difficult to control?

3. View slide 4. These cells have been attacked by the measles virus.
 - a) How do the cells that have been infected differ from the normal cells?
 - b) How can you tell that there were originally eight cells in the group?
 - c) Would these cells be able to carry out their normal function? Explain.
 - d) Viruses do not have ribosomes to enable protein synthesis. How are they able to build their protein shells during replication?
 - e) Using lab resources or the internet describe some serious complications that can result if pregnant women are exposed to this virus. When does this occur?

4. View slide 5.
 - a) What is the relationship between the Vaccinia virus and the development of a smallpox vaccine?
 - b) Using the internet resources explain why some health professionals think smallpox is a good choice for bioterrorists.
 - c) Do we have immunity to the smallpox virus? Explain.

5. View slides 7 and 8 and read the accompany text.
 - a) Why is Dr. Wendell Stanley significant in the history of virology?
 - b) Name four viruses that attack plants.
 - c) What are two viruses that are known to cause cancer in animals?

6. Divide a blank piece of paper into six sections. Notice how each virus has its own distinct shape which determines how it can fit onto its host. Sketch diagrams of these.

a) Bacteriophage	d) Ebola virus
b) Tobacco mosaic virus	e) Polio virus
c) Leukemia virus	f) HIV

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Conclusion:

- a) Explain how viruses differ from cells?
- b) What are the living and nonliving characteristics of viruses