**Viruses “Scavenger Hunt”**

*Today, you will learn all about viruses by visiting various stations around the classroom while using a worksheet to guide you. For each question, go to the assigned website/read the article/watch the video and use the information to help you fill in the worksheet.*

**1. The Basics of a Virus – “What is a Virus? What is a Viral Infection?”**

*Use your textbook Chapter 13-16 to answer the following questions.*

a) What is the definition of a virus?

b) The diagram below illustrates one type of virus. List the four parts of a virus and describe their functions. Label them on the diagram below.



**2. Virus Morphology – “Four Shapes”**

*Article from:* <http://www.newworldencyclopedia.org/entry/Virus>

|  |  |  |
| --- | --- | --- |
| **Shape of Virus** | **Diagram of Virus** | **Example of Virus** |
|  |  |  |
|  |  |  |
|  |  |  |
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**3. Virus Reproduction: The Lytic Cycle (for bacteriophages) & The Lysogenic Cycle**

***3a. Virus Replication: LYTIC CYCLE Website:*** <http://www.youtube.com/watch?v=wVkCyU5aeeU>

The **Lytic** Cycle is a viral **replication** cycle, during which a virus takes over all **metabolic** activities of a cell and **causes the host cell to die**. Bacteriophages that ONLY reproduce using the lytic cycle are called a **virulent phages.**

As you watch the video, write down the name of each stage, and describe what is happening in each stage in point form.



|  |  |
| --- | --- |
| **Stage of Lytic Cycle** | **Description of Stage of Lytic Cycle – What is happening?** |
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***3b.******Virus Replication: LYSOGENIC CYCLE***

*Watch:* [*http://www.youtube.com/watch?v=wLoslN6d3Ec*](http://www.youtube.com/watch?v=wLoslN6d3Ec) *and Textbook Printout*

The Lysogenic Cycle is another type of viral replication cycle in which the genome of the phage is replicated **without** destroying the host. Phages capable of using both modes of replication (lytic and lysogenic) are referred to as **temperate phages**.



a) During the lysogenic cycle, the phage genome is mostly silent within the bacteria. Why?

b) What determines whether or not the lytic cycle or lysogenic cycle is entered?

**4. Viral Infections – “What is a Viral Infection?”**

*Article from:* <http://www.medicalnewstoday.com/articles/158179.php>

Viruses are very specific. That is, they only infect a very limited range of species and target certain organs and cells. These specific species/organs/cells are referred to the virus’ **host range**. Using the information found on this website, fill in the following chart for the given viruses.

|  |  |  |
| --- | --- | --- |
| **Name of Virus** | **Organism, Tissue, Organ, or System Affected** | **How it Affects the Organism, Tissue, Organ or System**  |
| Measles |  |  |
| Shingles |  |  |
| SARS |  |  |

**5. Case Study – HIV/AIDS. Use your textbook.**

1. Label the following parts of the HIV virus.



1. Why is HIV called a retrovirus?
2. Fill in the following chart using your textbook.

|  |  |
| --- | --- |
| **History of HIV** | **Transmission of the HIV Virus and Prevention** |
| **Treatment of HIV/AIDS** ***(You will need to conduct your own research to answer this question)*** | **System/Cell Affected and How** |

Source: