

Virus Webquest

Viruses are both fascinating and a bit scary. This webquest will give you a brief introduction to viruses in general and a particular virus that has been in the news throughout the spring and summer months.

Go to the following website: <http://science.howstuffworks.com/virus-human.htm>

1. Name 5 illnesses/diseases caused by viruses.



2. What are the symptoms of a cold or flu? _____

At the top right corner, click on NEXT - you should now see "What is a Virus?"

3. How does the size of a virus compare to the size of a bacterial cell?

Go to http://www.biology4kids.com/files/micro_virus.html

4. What can't viruses do?

a.

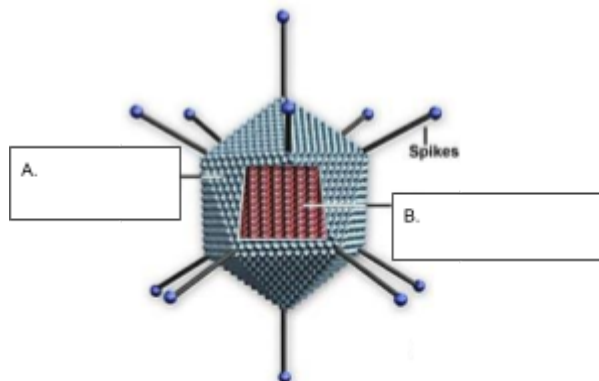
b.

c.

5. What are the basic parts of a virus?

- a. Small piece of _____ (never both). That strand of nucleic acid is considered the core of the virus.
- b. The second big part is a _____ to protect the nucleic acid. That coat is called the _____. The capsid protects the core but also helps the virus infect new cells.
- c. Some viruses have another coat or shell called the _____. The envelope is made of _____ and _____ in the way a regular cell membrane is structured. The envelope can help a virus get into systems unnoticed and help them _____ new host cells.

6. Label the diagram below and give the functions of the two main parts in a virus



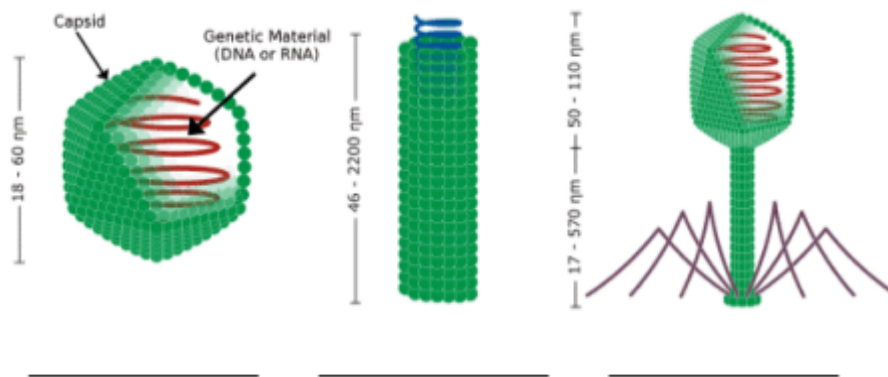
Functions:

A. _____

B. _____

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7. Label the three basic shapes of viruses on the diagram below. (Hint - Read the text, there is not a matching diagram on the website!)



Go to <http://www.etymonline.com/index.php?term=virus>

8. Virus is derived from the Latin word for what? _____

Go to <https://science.howstuffworks.com/life/cellular-microscopic/virus-human2.htm>

Look at the section titled "How Viruses Infect You"

9. What are the ways a virus might gain entry into your body?

10. What are the 5 steps of the Lytic Cycle (the viral reproductive cycle)? Hint - See the figure on the left side of the webpage.

At the bottom, or the top right, click on NEXT - you should now see "On the Inside"

11. Why do you get a fever when you have a viral infection like a cold?

12. Why should you cover your face when you sneeze?

At the bottom, or the top right, click on NEXT - you should now see "Lysogenic Cycle"

13. Describe how the lysogenic cycle is different from the lytic cycle.

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14. What are two viruses that may remain in a host, in the lysogenic cycle, for long periods of time? _____

At the bottom, or the top right, click on NEXT - you should now see "Reducing the Spread"

15. What are four ways that viruses may be transmitted/spread?



16. What are three things we can all do to help reduce the risk of viral transmission/spreading?

At the bottom, or the top right, click on NEXT - you should now see "Medicines That Can Help"

17. Do antibiotics have an effect on treating viral diseases? _____

18. Explain your answer for #17. Why or why not?

Go to the following website <https://www.pbs.org/wgbh/nova/video/immunity-and-vaccines-explained/>

** Launch the video. (If you do not have sound on your computer, click on "transcript" under the video and read the transcript)

19. Explain how vaccines work, using the words: **virus, immune system, white blood cells, memory cells, and vaccine** in your explanation.

Go to <https://www.pbs.org/wgbh/nova/article/herd-immunity/>

Read the section "What is Herd Immunity?"

20. What is herd immunity?

21. What are the 2 ways people can become immune to an infectious disease?

_____ & _____

22. What is a disease's immunity threshold?

23. What is factored in when scientists calculate a disease's immunity threshold?

24. Why is herd immunity important in our modern day?

