

Viruses: Are They Alive?

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1. Name three ways in which viruses are classified.

A.

B.

C.

2. Scientists argue over whether viruses are living or not. Organize the following statements in the columns below to describe their living and non living characteristics.

They do not contain cytoplasm, they do not have a cell membrane, they are not a cell nor are they made of cells, they contain nucleic acid, do not use energy to grow or to respond to their surroundings, do not make food, do not take in food, do not produce waste, they need a host to reproduce

Nonliving Characteristics

Living Characteristics

A.

B.

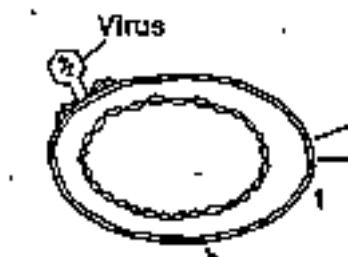
C.

D.

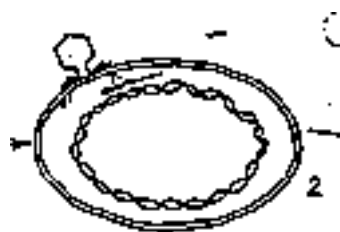
E.

3. The pictures below show a virus reproducing itself in a bacteria cell.

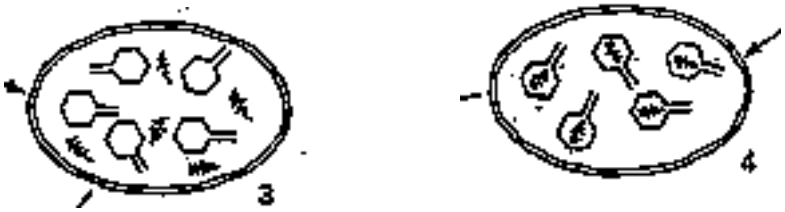
Under each picture, name the step and describe what is happening?



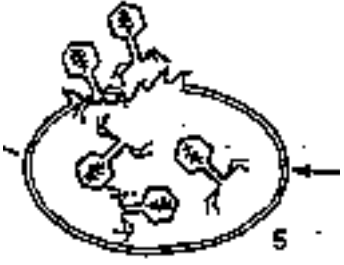
A. Name of the step _____
What is happening?



B. Name of the step _____
What is happening?

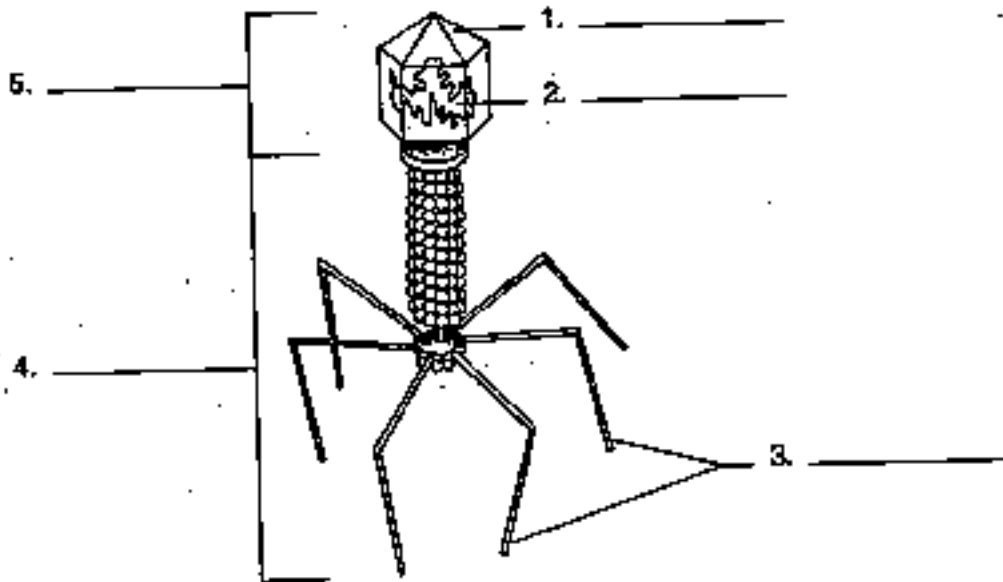


C. Name of the step _____
 What is happening in each picture?



D. Name of the step _____
 What is happening?

4. This is the picture of a virus. Label the parts.



5. The tail fibers of the virus help it to attach to the host cell. The coat of a virus is also very important. What is it made of _____.

6. How does the coat of a virus help it only invade a specific kind of cell?

7. Can a measles virus attach to a human white blood cell? Why/why not?

8. Some viruses hide for years – they are known as latent viruses. Where do they hide in your body?

9. What causes the viruses to activate years later?

10. An example of a latent virus with which you may be familiar is *Herpes simplex* or cold sores. Find out what another herpes virus called *cytomegalovirus* can do to infants.

11. When you have a cold are you the host or the parasite?

12. Viruses not only attack humans but animals and plants as well. For example the alfalfa mosaic disease kills alfalfa plants. What impact would this have on farmers and consumers (you may have to look up what alfalfa is used for)?
13. Rabies and distemper are examples of viruses that attack animals. How does distemper affect dogs and cats?

BRAIN STORMERS:

Many bacteria are becoming resistant to antibiotics. How could we use viruses (bacteriophages in particular) as a secret weapon against bacteria?