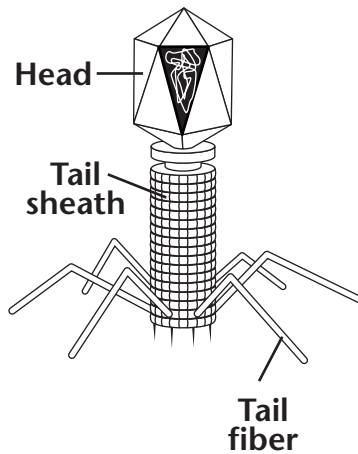


### What Makes Up a Virus?

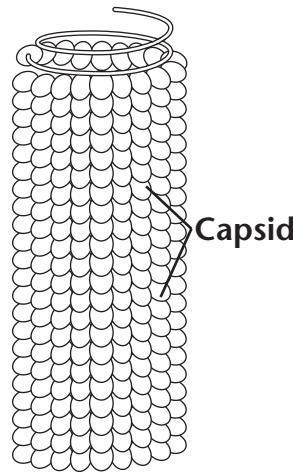
Viruses are particles made up of protein, genetic material, and sometimes lipids. The genetic material in a virus can be RNA or DNA. The protein coat that surrounds the genetic material is called the capsid.

*The diagrams show three kinds of viruses. Circle the genetic material in each virus. Color the protein parts of each virus yellow.*

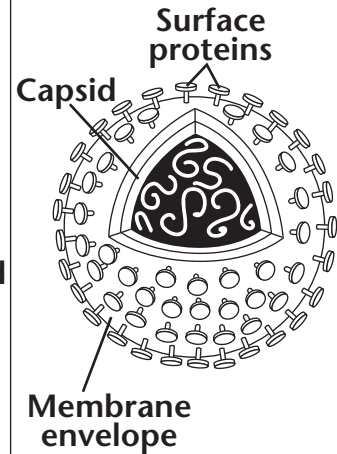
**T4 Bacteriophage**



**Tobacco Mosaic Virus**



**Influenza Virus**



*Use the diagrams to answer the questions.*

1. Where is the genetic material in a T4 bacteriophage located?

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2. In general, is the genetic material in a virus inside or outside the protein parts?

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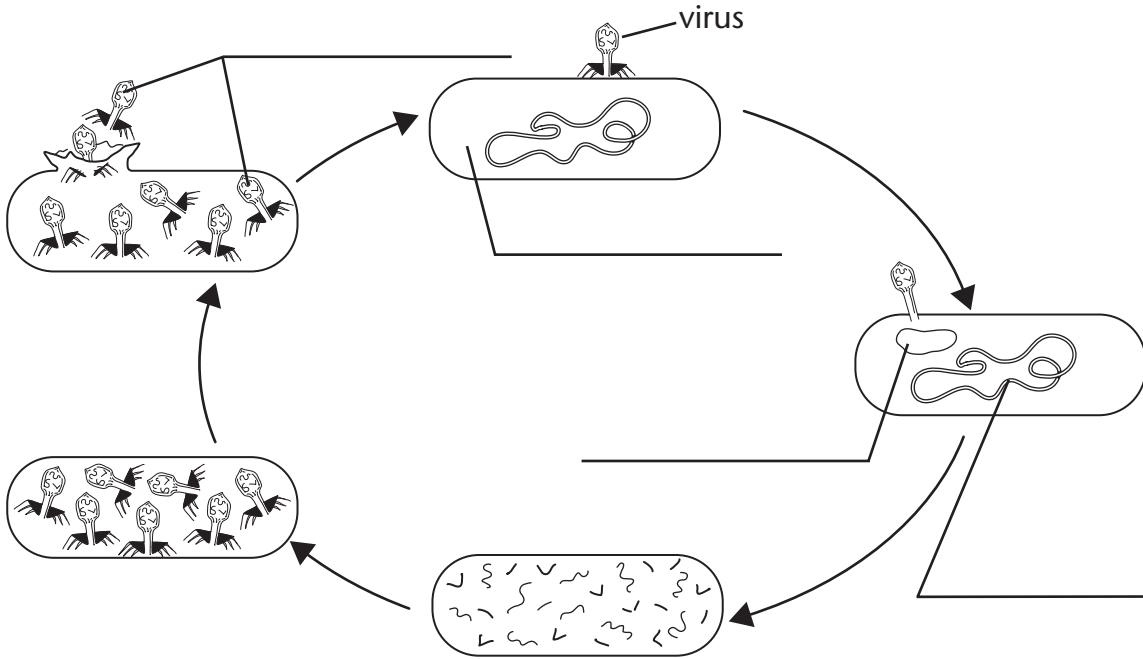
3. Which structure contains proteins that enable a virus to enter a host cell? Circle the correct answer.

capsid      RNA

### Lytic Infections

A bacteriophage is a virus that can infect bacteria. A lytic infection is one kind of viral infection. It results in lysis, or bursting of the host cell. The diagram shows how a bacteriophage causes a lytic infection in a bacterium.

*Label the bacterial DNA, host bacterium, viral DNA, and virus. Then, circle the step that shows lysis of the host cell.*



*Use the diagram to answer the questions.*

1. Summarize what happens in a lytic infection.

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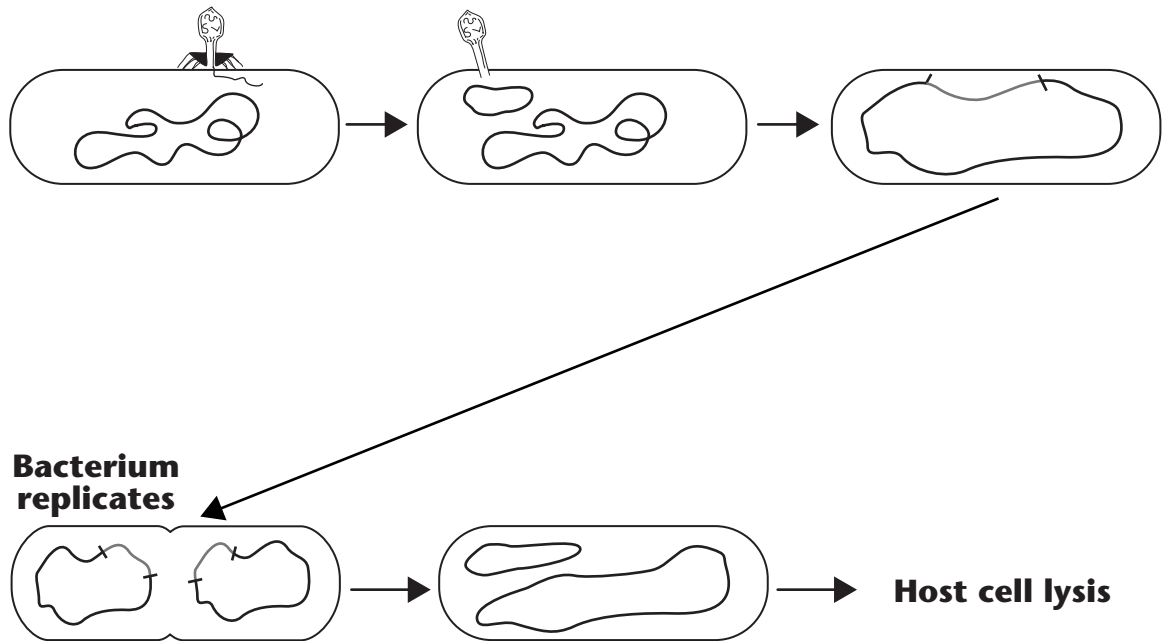
2. What is one result of a lytic infection? Circle the correct answer.

lysis of the virus      lysis of the host cell

### Lysogenic Infections

A lysogenic infection occurs when viral DNA inserts itself into the DNA of the host cell. The viral DNA is replicated along with the host cell DNA. Eventually, the viral DNA will separate out of the host DNA and direct the construction of new virus particles. The diagram shows how a bacteriophage causes a lysogenic infection in a bacterium.

*Circle the viral DNA in each diagram of the bacterium.*



*Use the diagram to answer the questions.*

1. What happens after the viral DNA is inserted into the bacterial DNA?

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2. How does a lysogenic infection help a virus spread?

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