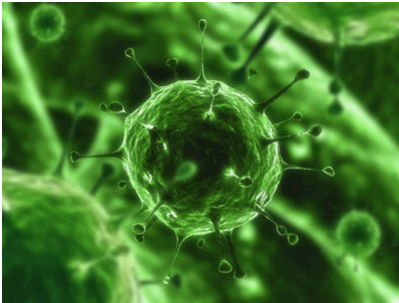


Virus

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What is a virus?

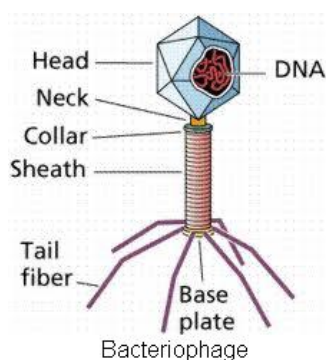


Viruses are composed of a core nucleic acid, either [DNA](#) or RNA, surrounded by a protein coat. Where they exist outside the living cells, they may be considered non-living chemicals since they do not display any of the characteristics of life. Once inside living cells they can replicate with the help of the host cell and so are clearly alive. So, viruses have features of both living and non-living material.

Shapes of viruses:

Since they can only multiply inside other organisms they are called [parasites](#) which are obligate. Viruses cause all sorts of diseases in humans, animals and plants. Different kinds of virus are in different shapes so that it's easy to recognize and classify them. We can see viruses only through an electron microscope as they are very minute. Around 10,000 viruses can fit side on the tip of your pen.

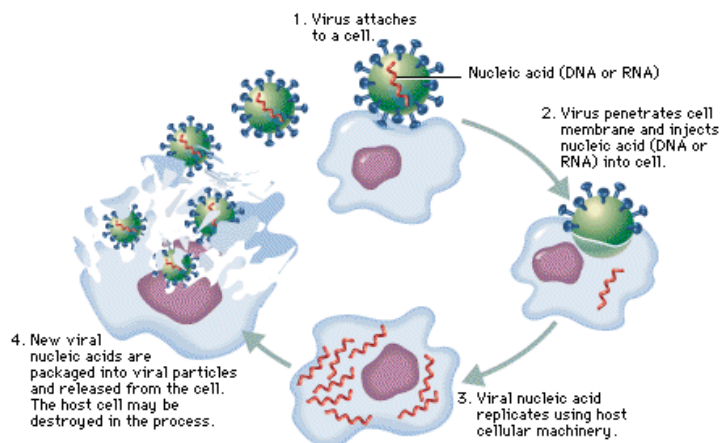
Structure of a virus:



A virus has a simple [structure](#): a piece of DNA or RNA surrounded by a protein coat. The coat protects the nucleic acid during the movement from host cell to the next. Viruses are not made of cells; they do not have the cell machinery of their own. They cannot be grown like bacteria or fungi. Due to this, none of the antibiotics work against them.

Replication of Virus:

Bacteriophages:



1. The virus attaches to host cell where it can be chemically recognized.
2. Either the whole virus or the nucleic acid enters the host cell.
3. The viral nucleic acid takes over the bacteria's own DNA and makes the cells produce many copies of viral nucleic acid and proteins.
4. These nucleic acid and proteins form new virus.
5. The new [virus](#) burst out with the help of the enzymes into host cells. This allows the cytoplasm to leak out and the host cell dies. So the virus acts like thief robbing the cell.

Importance of Virus

Advantages:

In [genetic engineering](#) intruding techniques of virus is used to target cells. It is known as gene therapy (insertion, alteration, or removal of genes)

Disadvantages:

Virus causes many of the common diseases in humans like [measles](#), mumps, rubella and the common cold. They are very specific to the host species. They will develop into the new organism in the host cells and attack the other parts. Plant virus must break through plant cell walls to cause diseases. They gain entry through a vector like an insect piercing plant to feed on it. Many farm animals are made ill or killed by viruses, resulting in major losses for farmers. Examples include foot and mouth, bird flu, SARS and others.

What is the difference between bacteria and Virus?

Want to know more about viruses? [Click here](#) to schedule a live help with an eTutor!

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Reference Links:

- <http://en.wikipedia.org/wiki/Virus>
- <http://en.wikipedia.org/wiki/Microbiology>
- <http://en.wikipedia.org/wiki/Plasmid>
- <http://en.wikipedia.org/wiki/Pathogen>
- <http://www.youtube.com/watch?v=splFjjtS3w>

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