Viruses and Bacteria

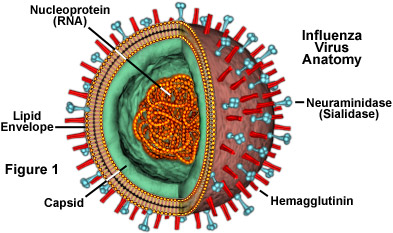
Fill in Notes

The influenza pandemic of 1918-1919 killed more people than World War I, at somewhere between 20 and 40 million people.

More people died of influenza in a single year than in four-years of the Black Death (1347).

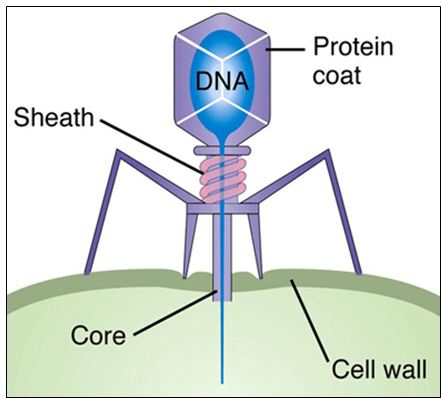
Viruses are pathogens that attack cells from the inside.  They hijack your own DNA and use it against you.  A virus cannot be treated with antibiotics, it can only run its course until your immune system kicks it out.

# Properties of Viruses

* \_\_\_\_\_\_\_\_ membranes, cytoplasm, ribosomes, or other cell parts
* cannot move or grow
* can only reproduce inside a host cell
* consist of 2 major parts - a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and hereditary material (DNA or RNA)
* are extremely tiny, only visible with electron microscopes

# Virus Structure

Virus has a covering that has a **\_\_\_\_\_\_\_\_\_\_\_** and sometimes an **\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Inner core contains a nucleic acid molecule \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and various proteins

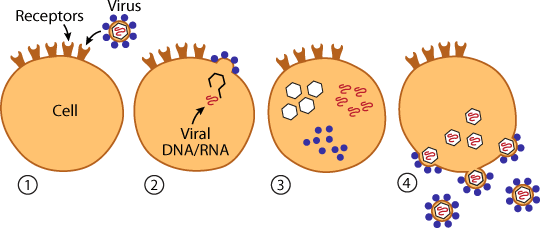
Viruses are usually very specific to their host and to the cells they can infect.

*This is a* ***bacteriophage****, a type of virus that attacks bacteria. It is recognizable because it looks like the lunar landing spaceship.*

# Virus Reproduction

1. Attachment

2. Penetration - the virus is \_\_\_\_\_\_\_\_\_\_\_by the cell   
                   (Cell can enter Lysogenic or Lytic Cycle)

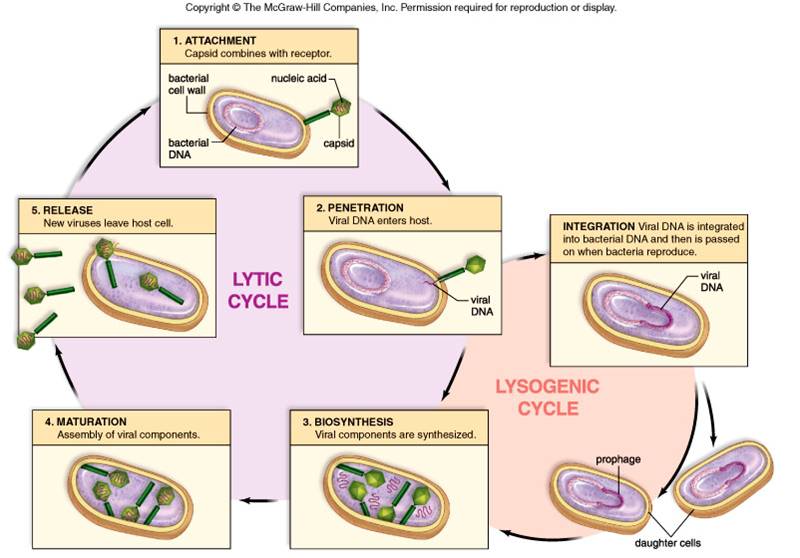
3. Biosynthesis - viral components are made   
                       (protein coat, capsid, DNA/RNA)

4. Maturation - assembly of \_\_\_\_\_\_\_\_\_\_\_\_ components

& Release - viruses leave host cell to infect new cells

Lytic cycle = reproduction occurs, cells \_\_\_\_\_\_\_\_

Lysogenic cycle = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ does not immediately occur (dormancy)



Video

# Types of Viruses

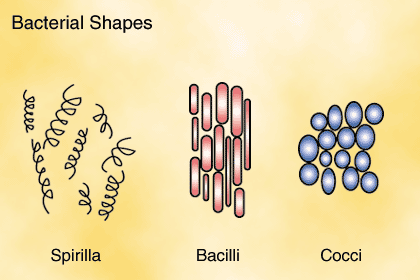
Bacteriophages - infect bacteria

Retroviruses - have \_\_\_\_\_\_ instead of DNA

Viruses may be named according to

* the associated diseases (poliovirus, rabies)
* the type of disease caused (murine leukemia virus)
* the sites in the body affected or from which the virus was first isolated (rhinovirus, adenovirus)
* where they were first isolated (Ebola virus, Hantavirus),
* the animal that carries the virus (bird flu, swine flu)
* for the way people imagined they were contracted (dengue = ‘evil spirit’; influenza = ‘influence’ of bad air).

# Monerans

* Unicellular without a \_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Microorganisms:
* Structure:
* Reproduce asexually (binary fission) Mitosis

Classified into three types by shape

* + Cocci bacteria - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Bacilli bacteria - \_\_\_\_\_\_\_\_\_\_\_\_\_
  + Spirilla bacteria - \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Harmful bacteria cause\_\_\_\_\_\_\_\_\_\_ and food spoilage

* Destroyed by\_\_\_\_\_\_\_\_\_\_\_\_\_
* Helpful Bacteria are used in environmental \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, digestion of food, and production of antibiotics(\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

and \_\_\_\_\_\_\_\_\_\_\_\_\_\_

