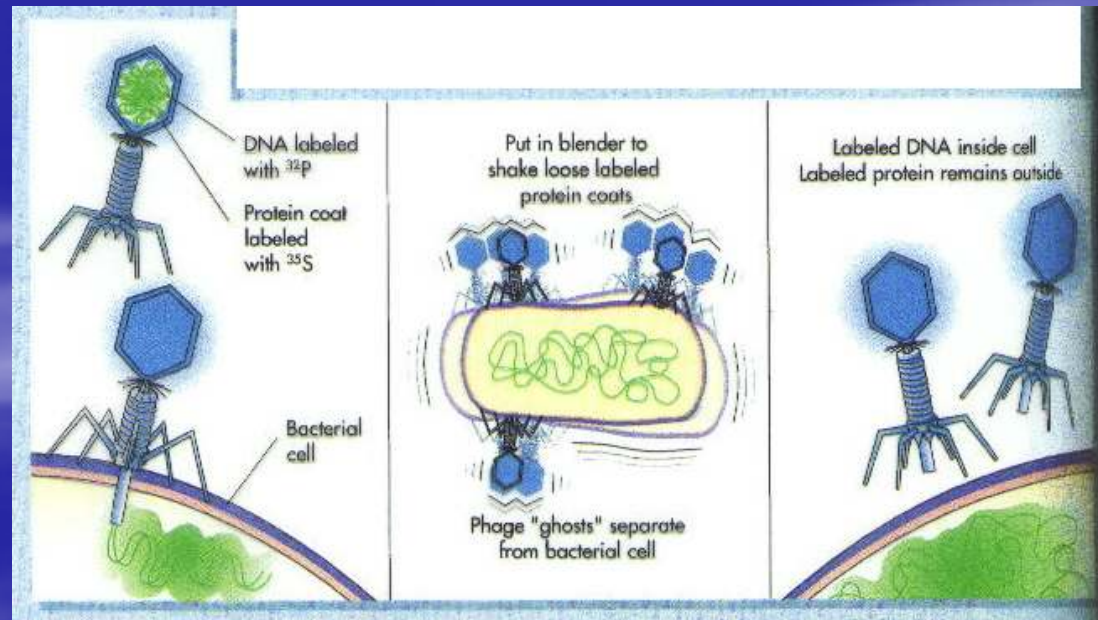


Viruses



Are Viruses Living?

(What do you think?)

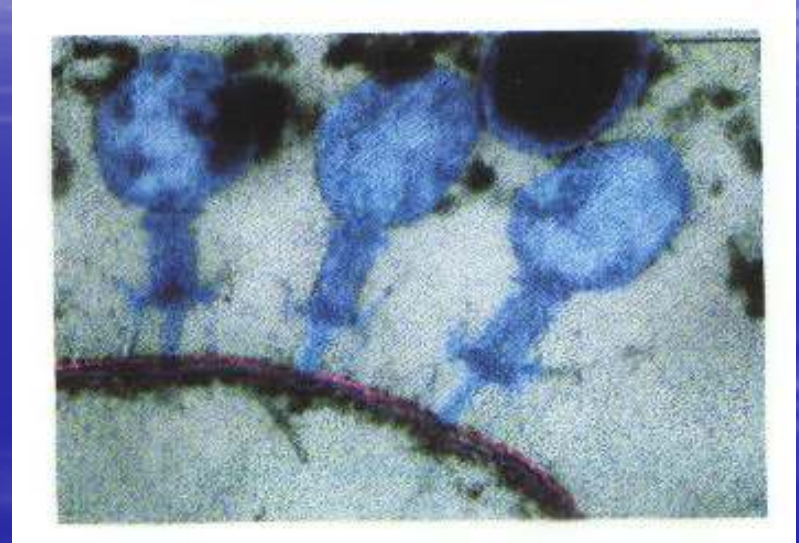
- Are they cells?
- Do they use energy to grow?
- Do they use energy to respond to their surrounding?
- Are they autotrophs or heterotrophs?
 - Do they give off waste?

Are Viruses Living?

NO

Who's Hosting?

- Viruses need a host to multiply
- Host- an organism that provides energy
 - Examples: people, birds, raccoon, tomato, potatoes



Counterfeit Parasites

- Parasites: **organism** living on or in a host cell that causes harm to the host
 - Why are viruses counterfeits?

Counterfeits?

- Viruses are counterfeits because they destroy host cells, but they are not organisms!!



Naming Viruses

After the disease it causes (polio)



Naming Viruses

Organism it infects (tomato mosaic)



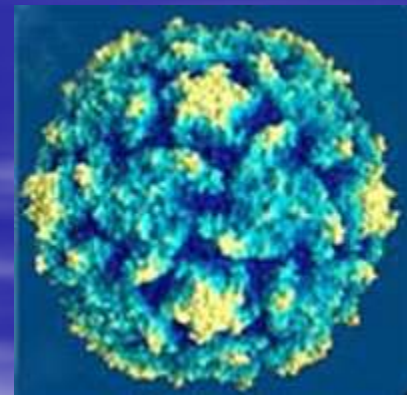
Naming Viruses

Place where it's found
(Ebola- place in Africa)



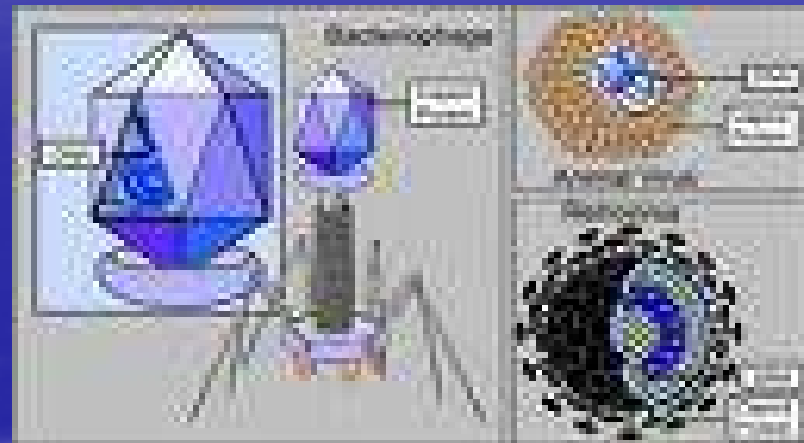
Naming Viruses

People who identify it (Epstein-Barr identified mononucleosis)



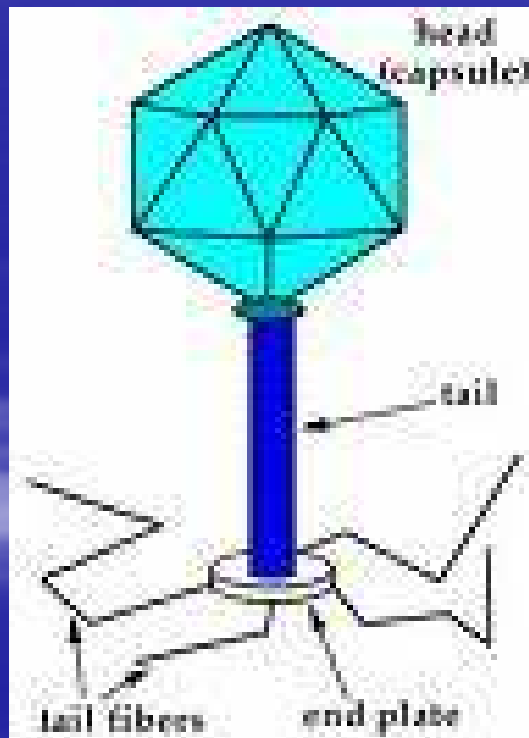
Various Shapes

- Rod
- Round
- Bricklike
- Bulletlike
- Threadlike



Various Shapes

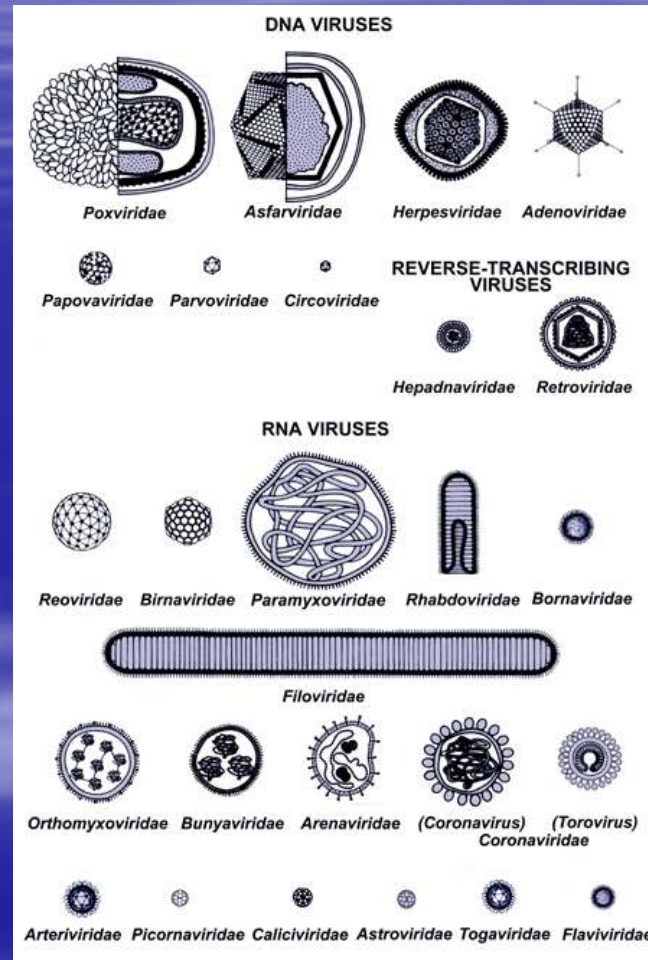
- Bacteriophage: a virus that infects bacteria!



Various Sizes

- Can't be seen with our microscopes
 - Measured in nanometers
 - 1nm-1/1,000,000,000m
 - Yellow fever= 22nm
 - Smallpox= 250nm
 - Average= 50nm to 60nm

Various Sizes



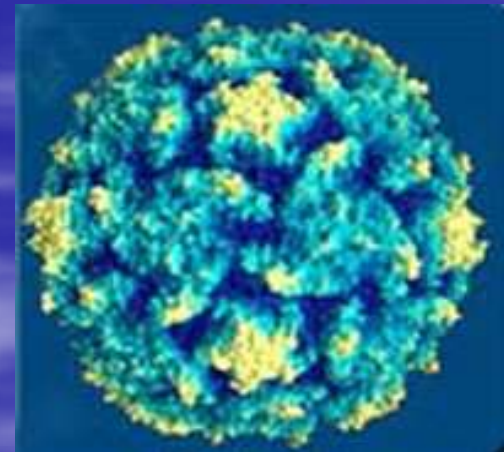
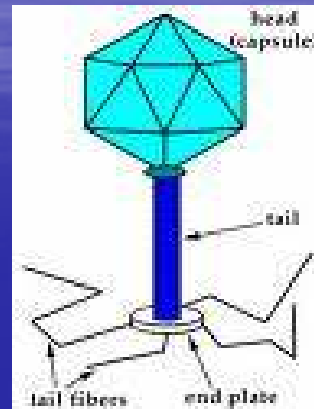
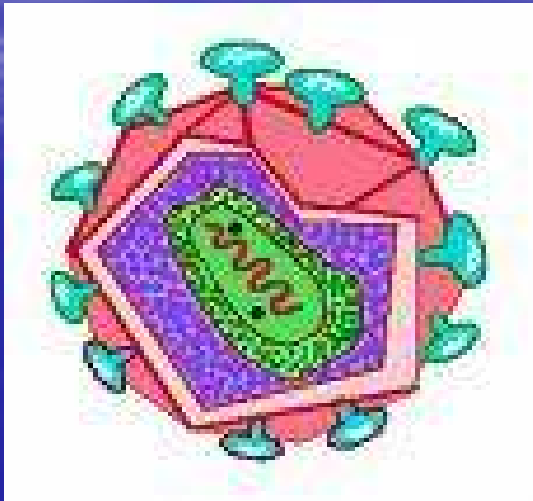
Structure of Viruses

- A unique protein coat: shape of the protein allows the coat to attach to, or lock onto, specific host cells

Example: HIV attach T-4 cells

*Genetic material is inside of the virus (DNA or RNA)

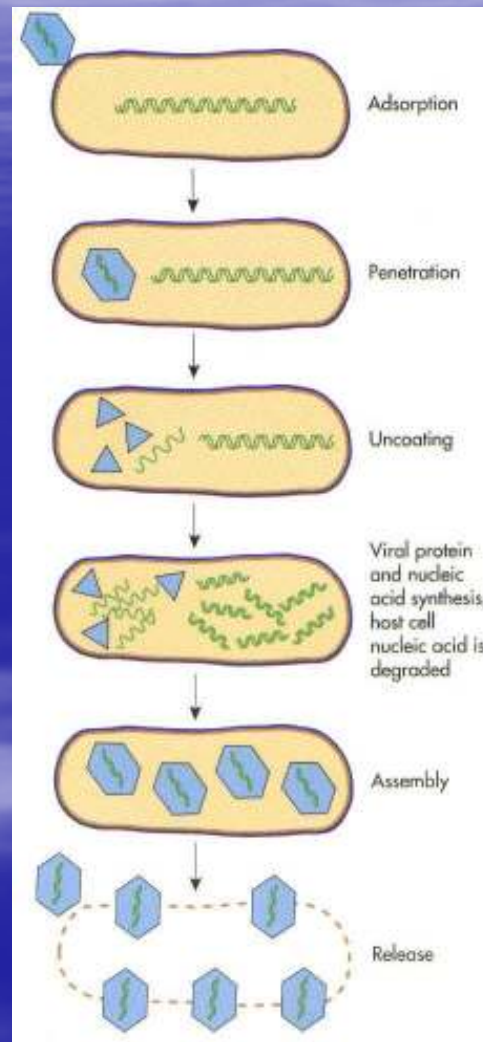
Structures of Viruses



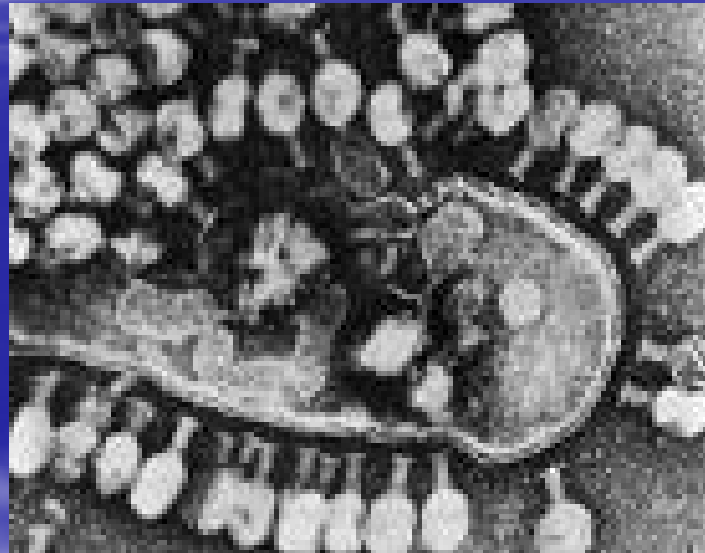
How Viruses Multiply (Active Viruses)

- Virus attaches to the host cell
 - Virus injects genetic material
- Viral DNA or RNA control production of viral protein and DNA or RNA
- Protein and genetic material are assembled
 - Host cell bursts and virus is released

Active Viruses



Active Virus



How Viruses Multiply (Hidden Viruses)

- Virus attaches to the host cell
- Virus injects genetic material into host cell's
- Viral genetic material becomes part of host cell's genetic material
- New viral protein and genetic material is made and assembled
 - Host cell bursts and virus is released

Hidden Viruses

- Herpes



Shingles

