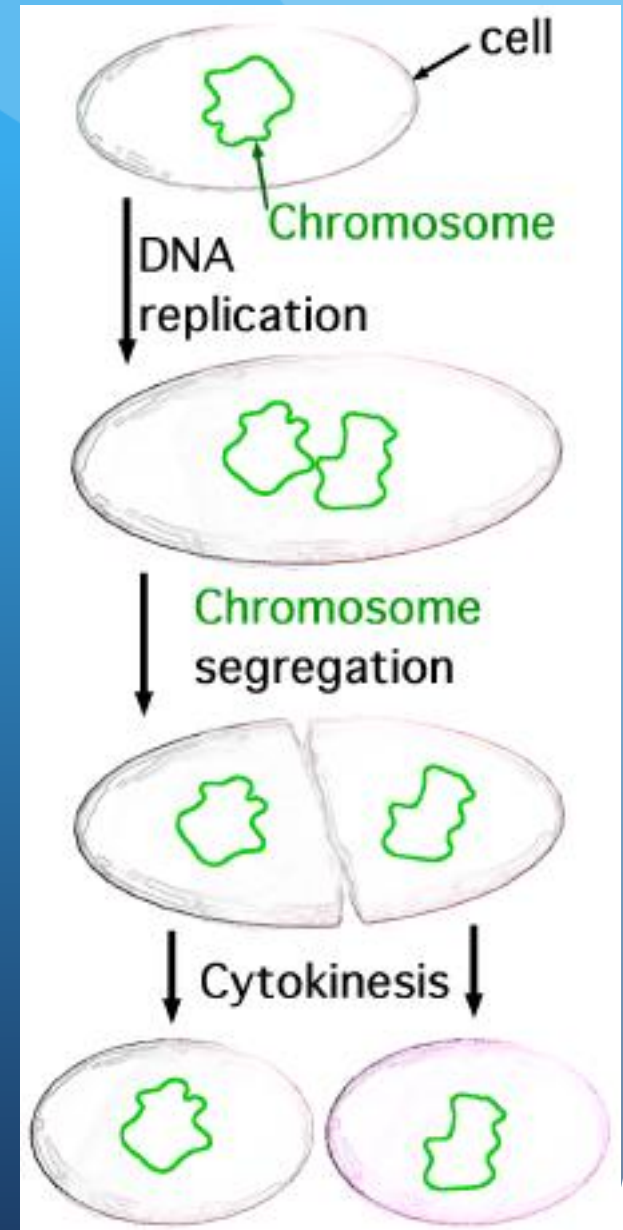


Bacteria, Viruses, and Protists

Bacteria

- Simplest kinds of life known on Earth
- Prokaryotes
- Have cell walls
- Genetic material contained in loops inside the cell
- Reproduces through binary fission

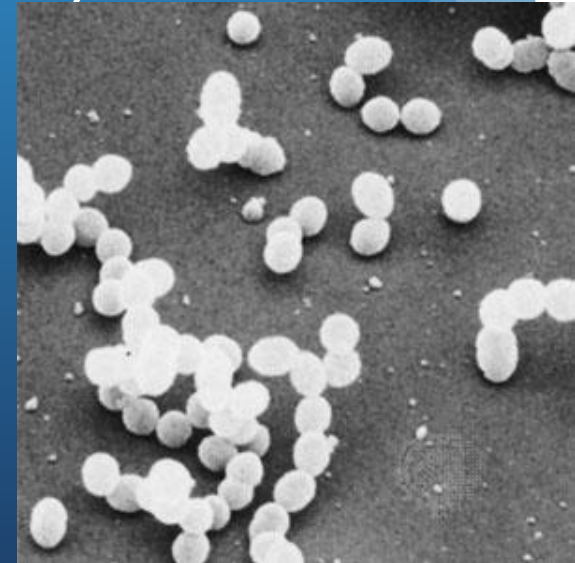


Bacteria

- See the bacteria diagram on page E 139
- Draw in your notes! Be sure to label all structures

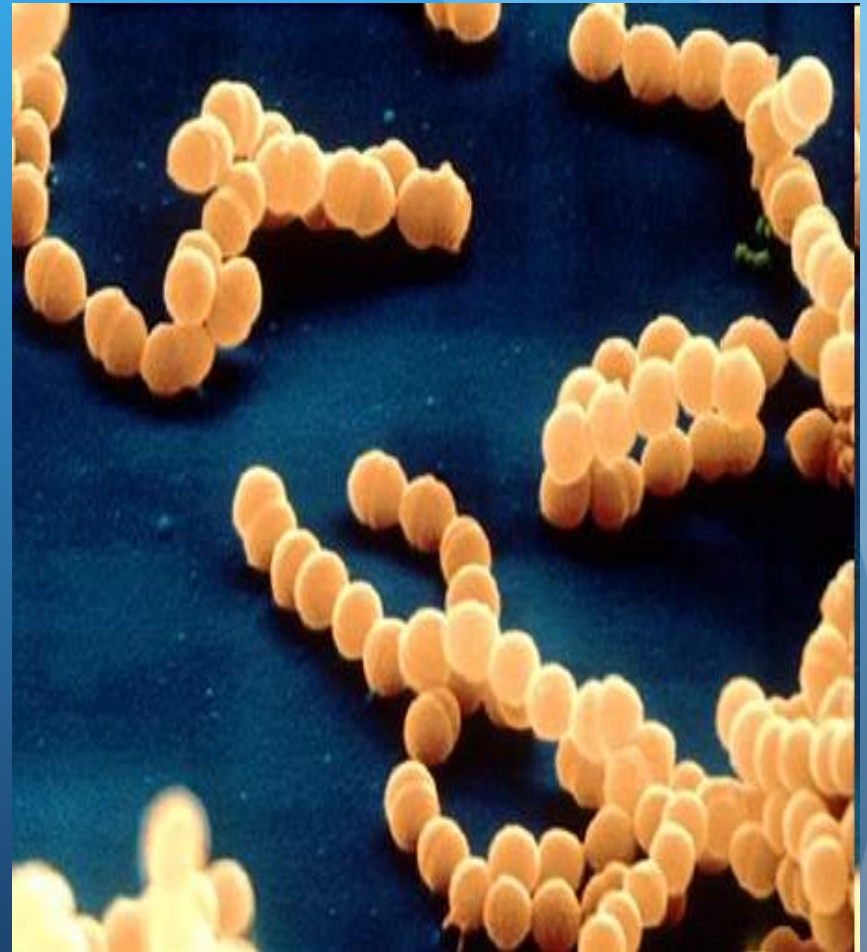
Bacteria

- There are three main shapes bacteria
- Spiral (also known as Spirillum)
- Rod (Bacillus)
- Round (Coccus)



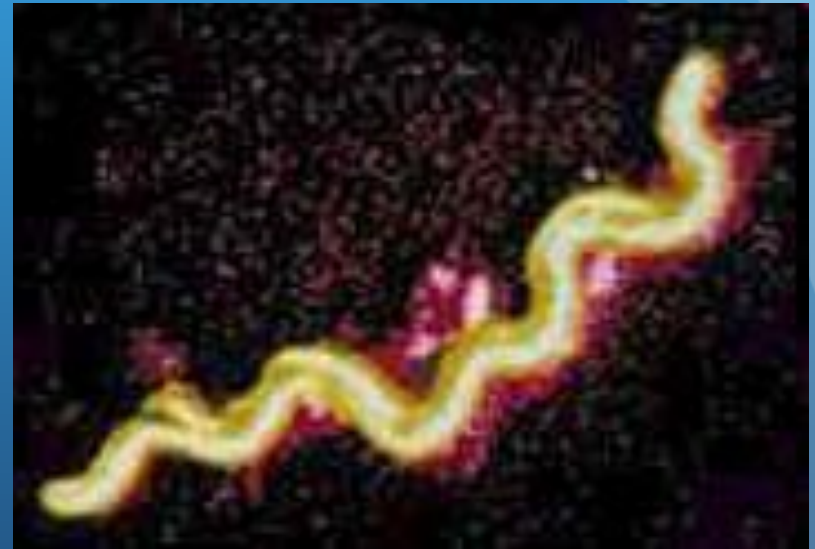
Shapes of Bacteria- Examples

- Ever had strep throat? It's painful to swallow something as good as ice cream. Strep throat is caused by the *Streptococcus* bacteria.



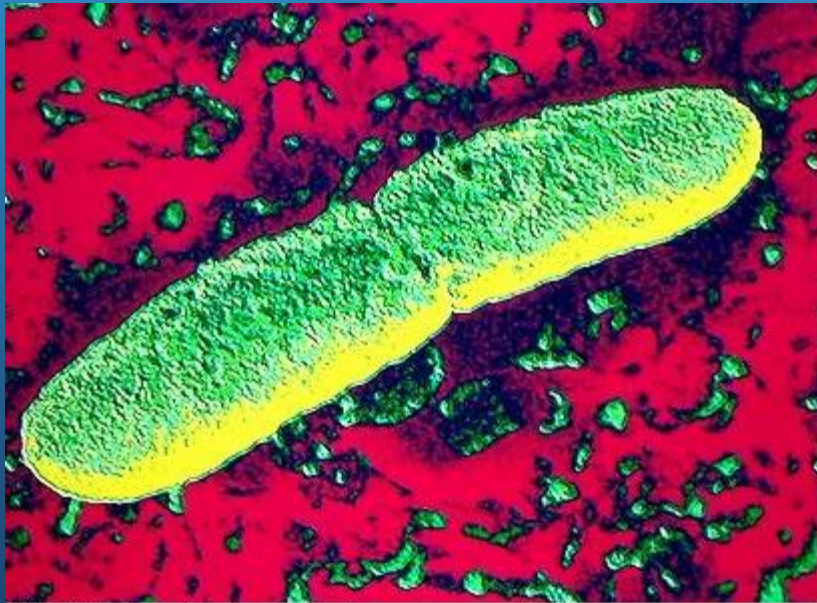
Shapes of Bacteria- Examples

Lyme disease, caused by *Borrelia burgdorferi* is something you can get if you get bitten by a tick. If you are out in the woods a lot, be sure to wear protective clothing and check for ticks.



Shapes of Bacteria- Examples

In the 1300s,
Yersinia Pestis
was the bacteria
responsible for
Black Death

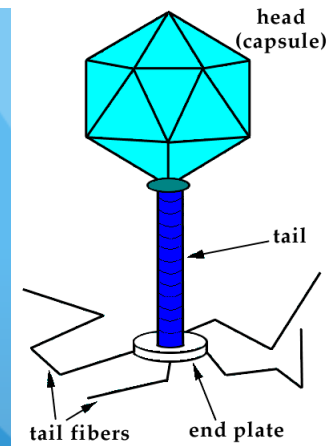


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Black Death

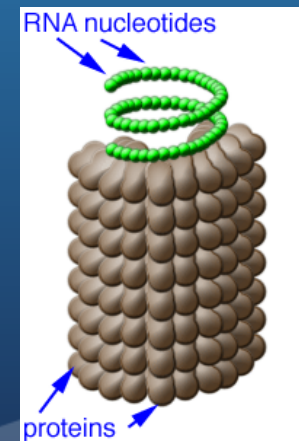
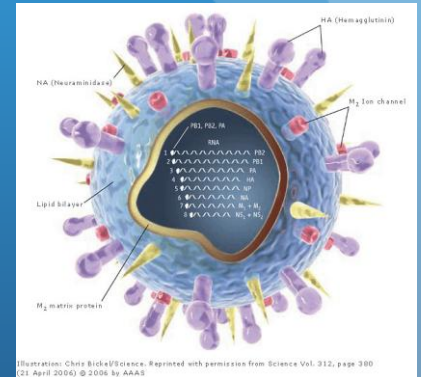
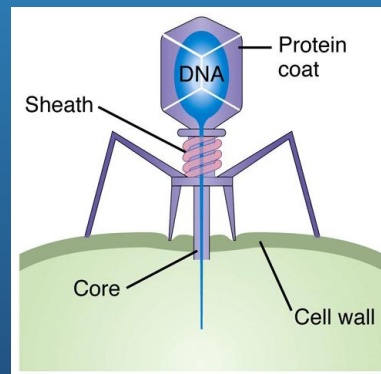
VIRUSES

- Latin for “poison” or “slimy liquid”
- Are much smaller than bacterial cells
- Consist of genetic material with a special protein coating called a capsid.
- Use living cells to get their DNA copied and produce new viruses
- NOT living organisms because they do not grow or respond to their environment!



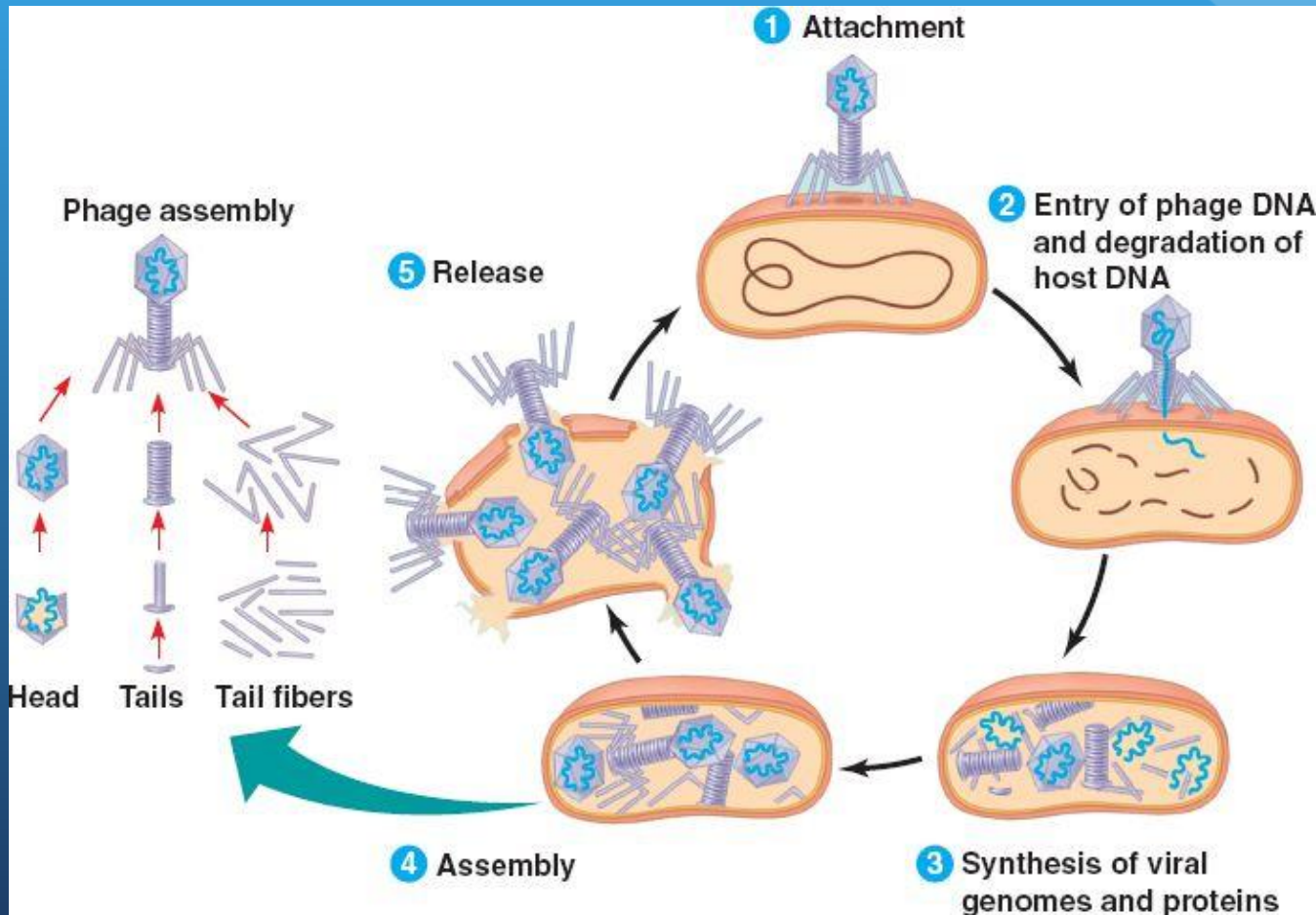
VIRUSES - How they multiply

- Can't reproduce by themselves, they must use a host cell to make copies
- 5 steps to virus multiplication:
 1. Attachment
 2. Injection
 3. Production
 4. Assembly
 5. Release



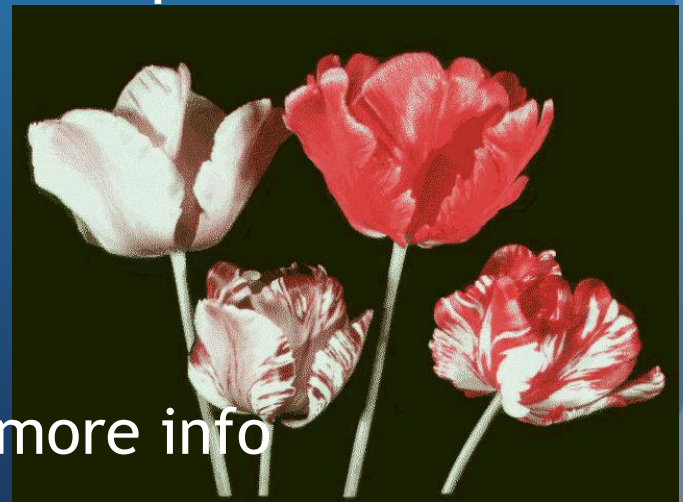
VIRUSES - How they multiply

Turn to page 149 of Unit E to see this process in your textbook. Draw the steps in your notebook NOW! 😊



VIRUSES – Are they good or bad?

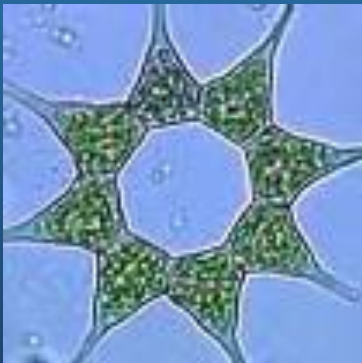
- Most viruses cause harm to host cells of animals, plants or bacteria
 - Cause diseases such as polio, small-pox, influenza, and West Nile virus [Video Clip](#)
- Plant viruses can stunt plant growth or kill them causing farmers with diseased crops to suffer
- Some viruses can be good
 - Tobacco Mosaic Virus
 - 1st virus to infect plants in 1637
 - see pg 151 in textbook for more info



Protists



- Classified in the Kingdom Protista.
- Usually single-celled organisms that live in moist environments.



More about Protists!

- Protists are categorized by the way they move and gather food.
- Four examples of protists are EUGLENA, PARAMECIUM, AMOEBA, and VOLVOX.

Euglena



Euglena

- Move by pulling themselves with flagella, which are long, whip-like structures.
- Can have one or more flagella.
- Euglena



Euglena



Unique because it has characteristics of both a plant and an animal

Contains chloroplasts that photosynthesize and can consume other organisms as well



Paramecium



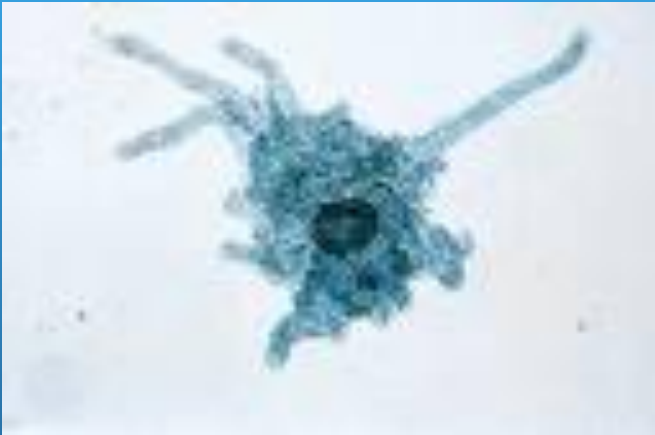
- Move by beating small hair-like structures called cilia.
- Cilia act as tiny oars that push the paramecium through the water.

Paramecium

- Cilia move to help capture food, taking it into a groove lined with cilia that functions like a mouth.
- Paramecium feeding



Amoeba



These protists move by extending their bodies forward and then pulling the rest of their bodies forward as well.

Amoeba

- The finger-like structures that they project forward are called pseudopods (*false foot*).

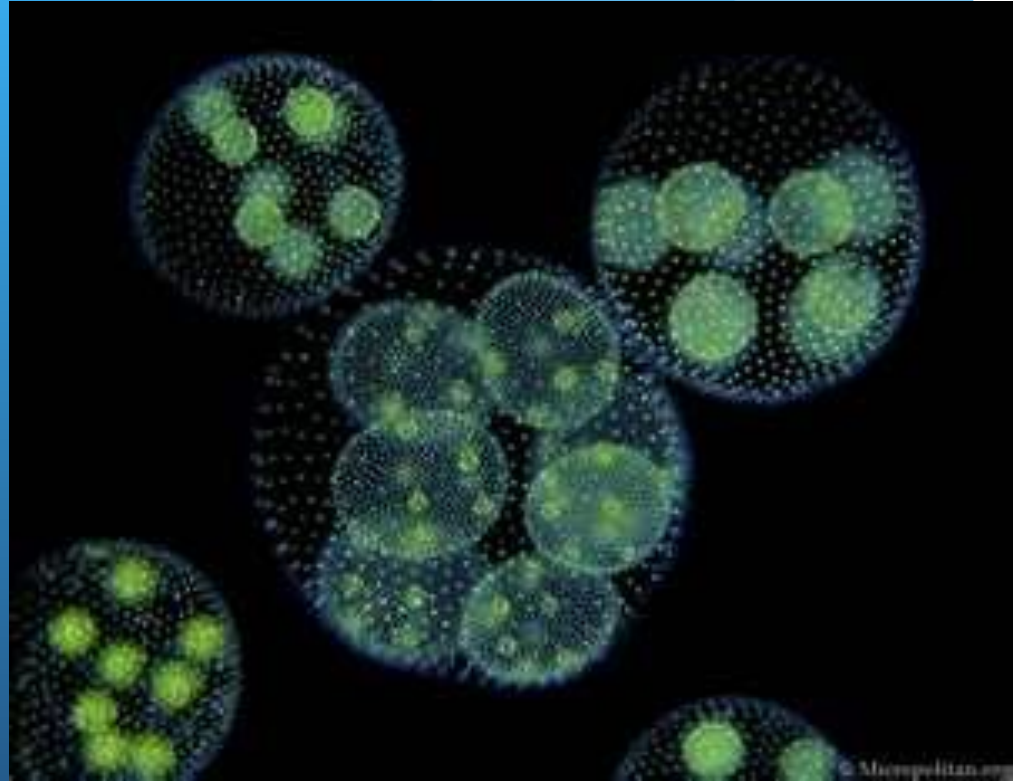
The pseudopods are also used to trap food.

Brain Eating Amoeba

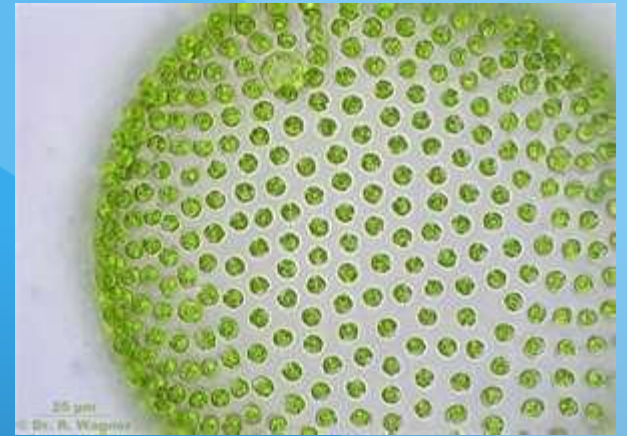


Volvox

- Green, single celled, aquatic organism
- Exists in a spherical colony
- Each individual alga is connected by strings of cytoplasm



Volvox



- Have flagella that help each alga move
- They create their own food through photosynthesis
- They use their flagella to move towards sunlight waters
- Dancing Volvox