

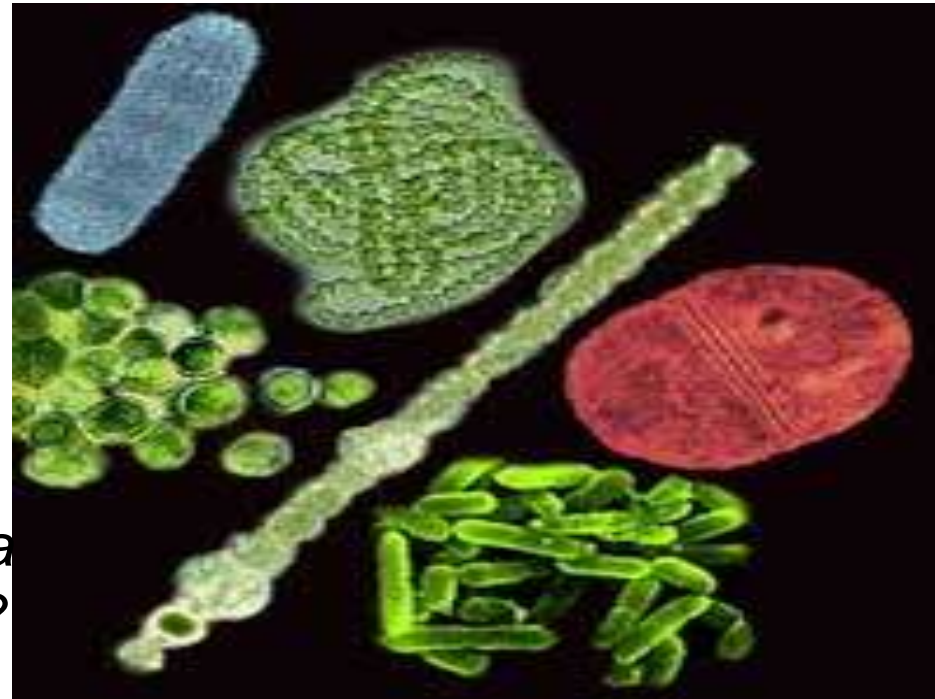
Kingdom

Monera

Characteristics of Monera

- Simple one celled organisms
- Prokaryotes
- No membrane bound organelles
- Nuclear material consists of a single circular chromosome
- Have cell walls
- Some are heterotrophic
- Some autotrophic
 - Some have chlorophyll for photosynthesis
- Some do chemosynthesis
- Some do thermosynthesis

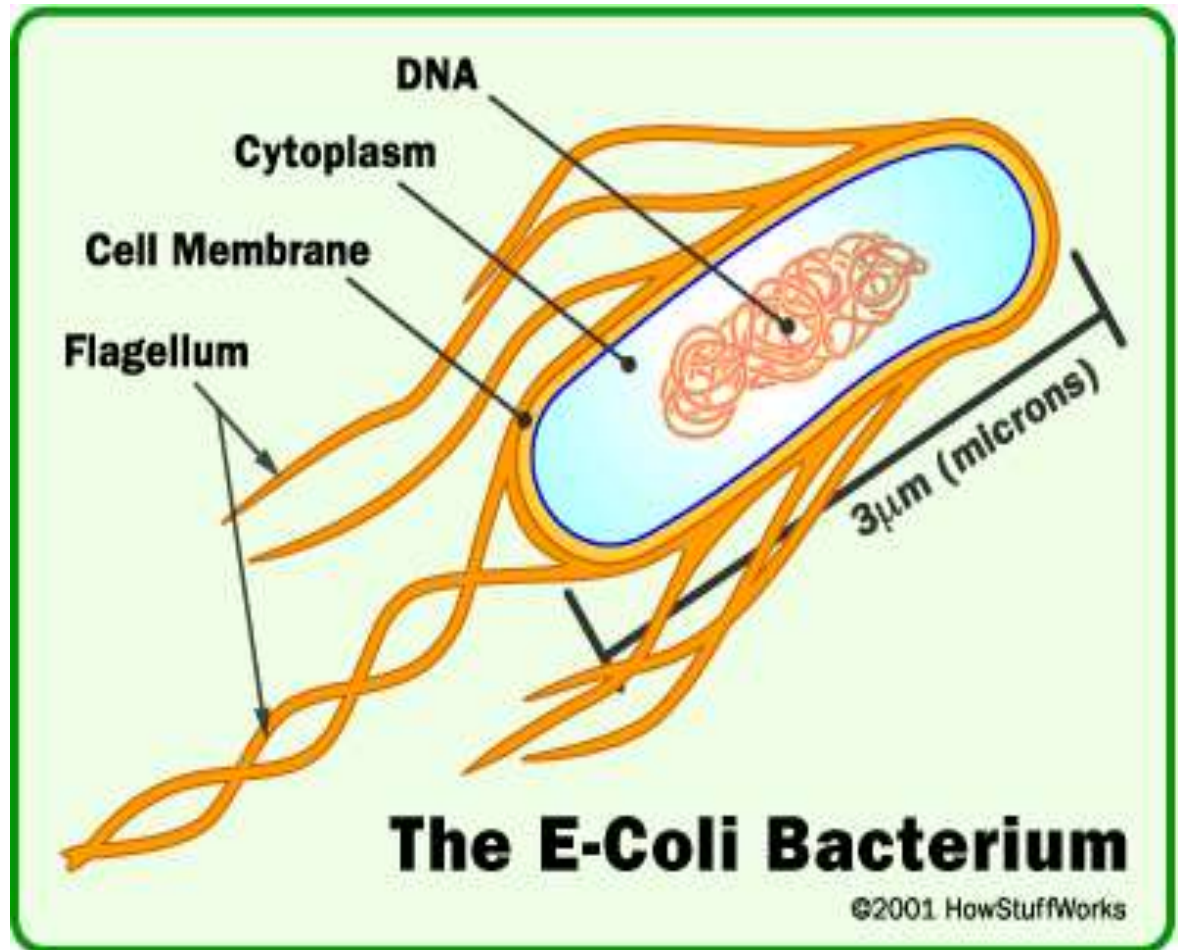
What characteristics make monera different from the other kingdoms?



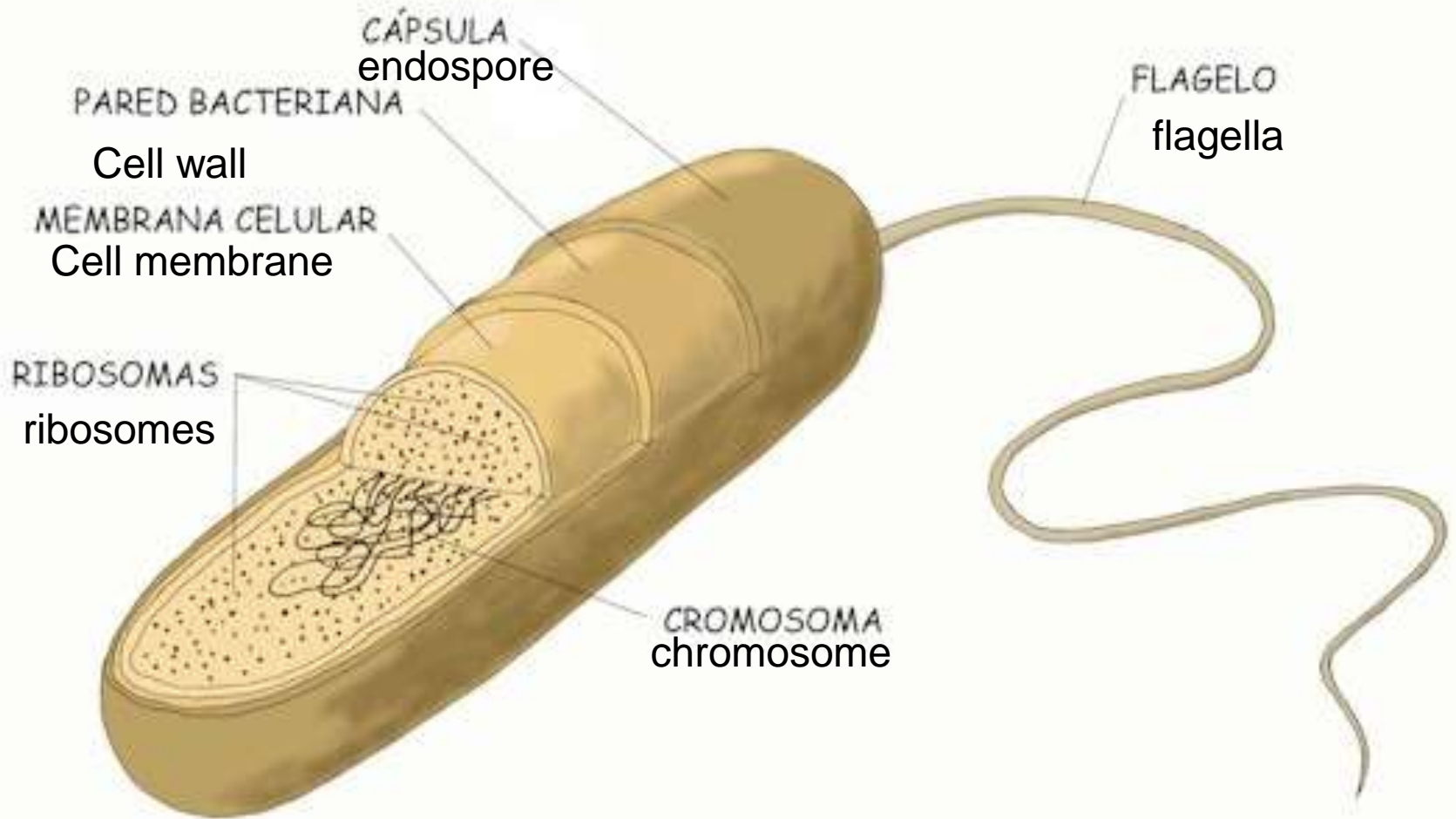
Parts of bacteria

- An outer casing can form in harsh conditions called an endospore.

*Know the parts of the bacteria.**

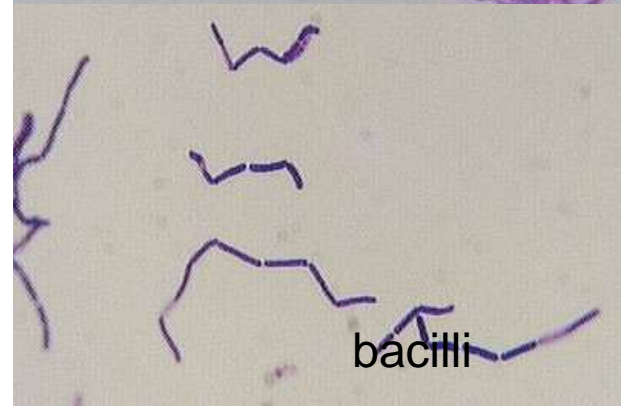
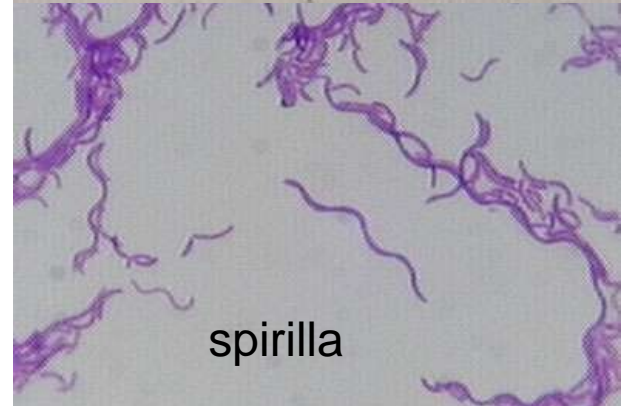
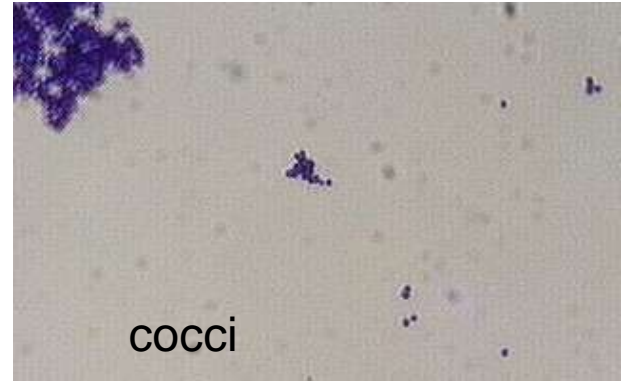


Bacteria w/ flagella



Classifying moneran

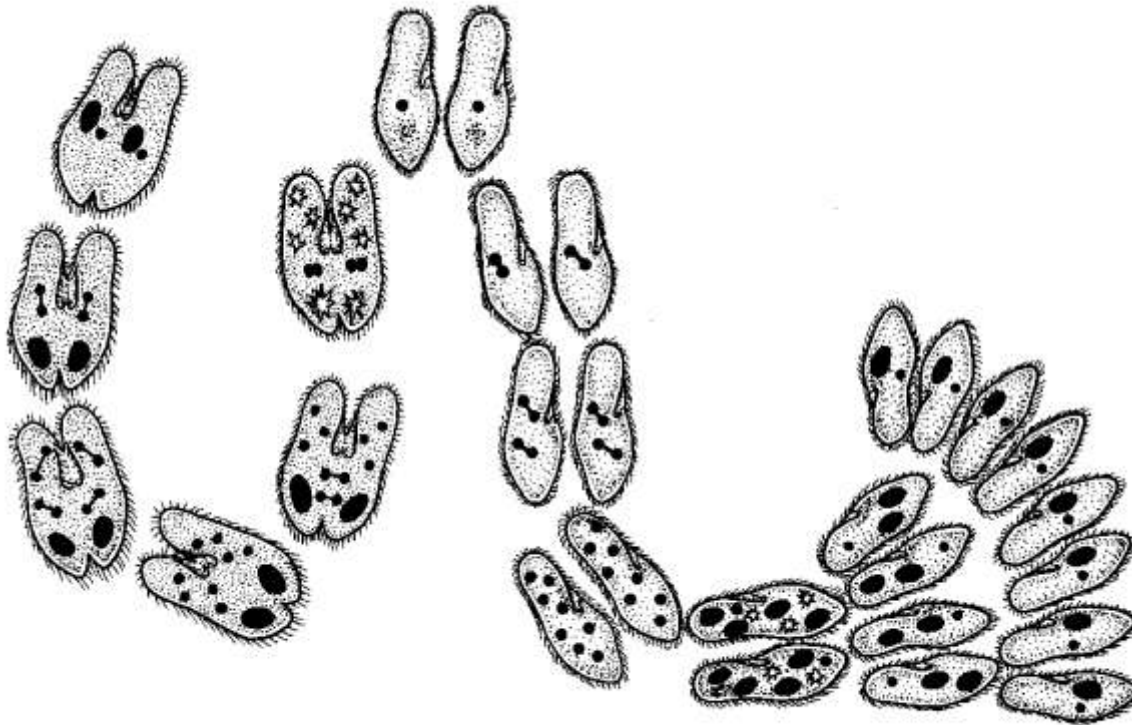
- Bacteria Shapes
 - Round *cocci*
 - Rod *bacilli*
 - Spiral *spirilla*
- Movement
 - Some move by a flagella



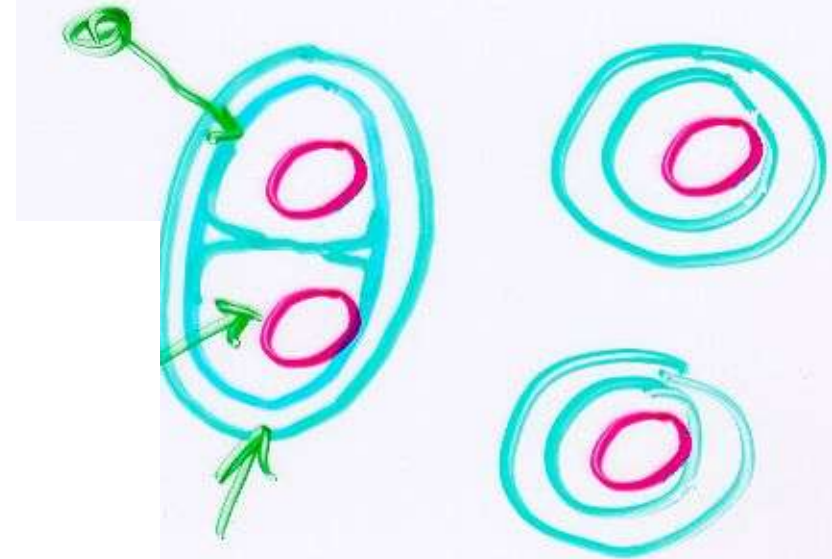
What are the three basic shapes of bacteria?

Reproduction

- Fission
- Conjugation



Swy/94



*What are the two ways that bacteria reproduce?**

Metabolism

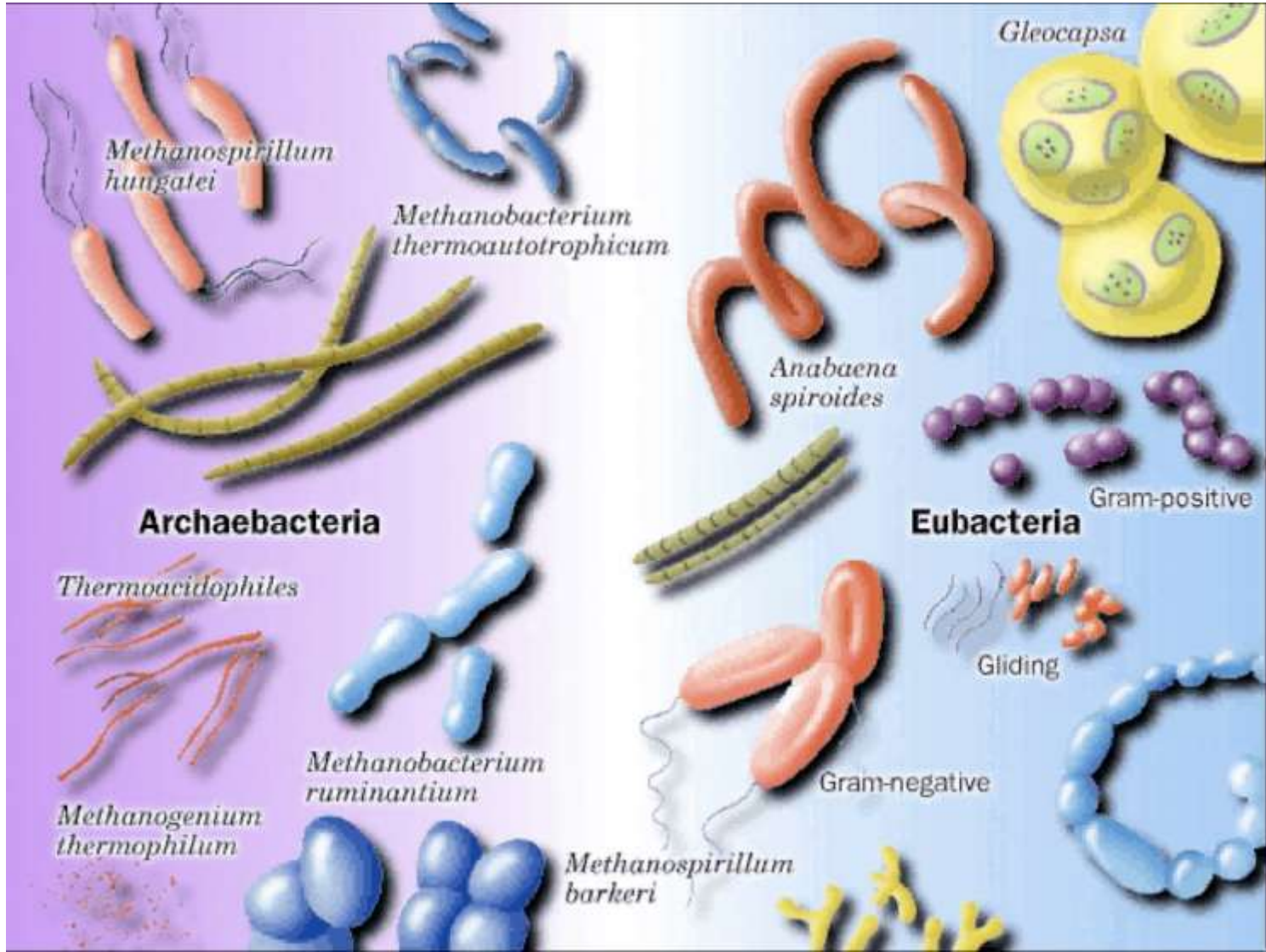
- **Respiration**
- **Some are aerobes**
 - Some are anaerobes
 - To these oxygen can be deadly
- **Cyanobacteria**
- **Some Do photosynthesis**
- **Important part of ecosystem in many lakes and ponds**

*How do aerobic and anaerobic organisms differ?**

How can cyanobacteria kill fish?

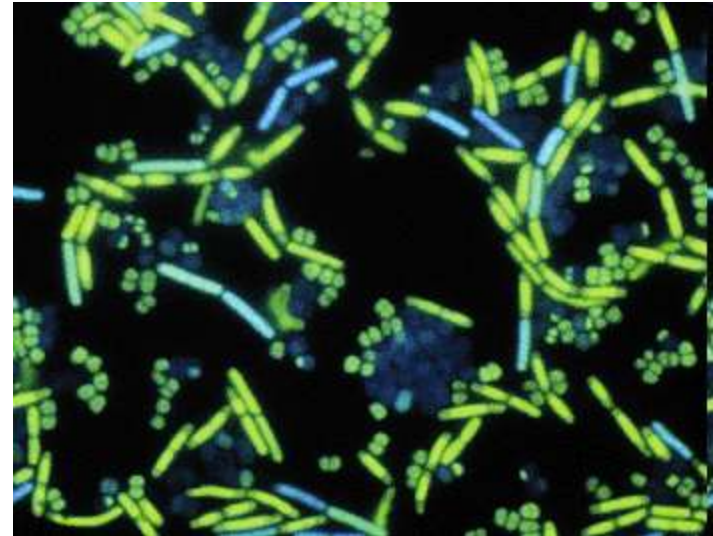
There Are Two Main Groups of Bacteria

- Eubacteria
- Archae Bacteria



Eubacteria

- Grouped by cell shape
- Producers
 - Do photosynthesis
 - Blue-green Algae (cyanobacteria)
- Consumers



Archaeobacteria

- Salt-, Heat-, and Acid-lovers
- Methane Producers (Produce Methane gas)
 - Live in swamps and sewer systems
 - Live in intestines of animals



Monerans and your life

- Beneficial monerans
 - Flavoring
 - Cheese & Yogurt
 - Sauerkraut
 - Vinegar

*What are some foods that are made using bacteria?**

Other Uses of bacteria

A petri dish containing a red agar medium with several streaks of bacterial growth. The streaks are arranged in a pattern that suggests a streak plate technique, with some showing distinct, separated colonies.

- Saprophyte (Lives off dead)
- Nitrogen fixing in plants
- Medicines
- Cleaners
- Adhesives
- Clean oil spills (Bioremediation)
- Keep sewers working correctly
- Help break down food in the intestine and keep you from getting other infections

*Why is nitrogen fixing bacteria important?**

*What are some ways that bacteria are beneficial to man?**

Harmful Monerans

- Pathogen (disease causer)
 - Strep throat
 - Tuberculosis – spread over the past 20 years
 - Anthrax
 - Diphtheria
 - Tetanus
 - Whooping cough
 - Bubonic Plague

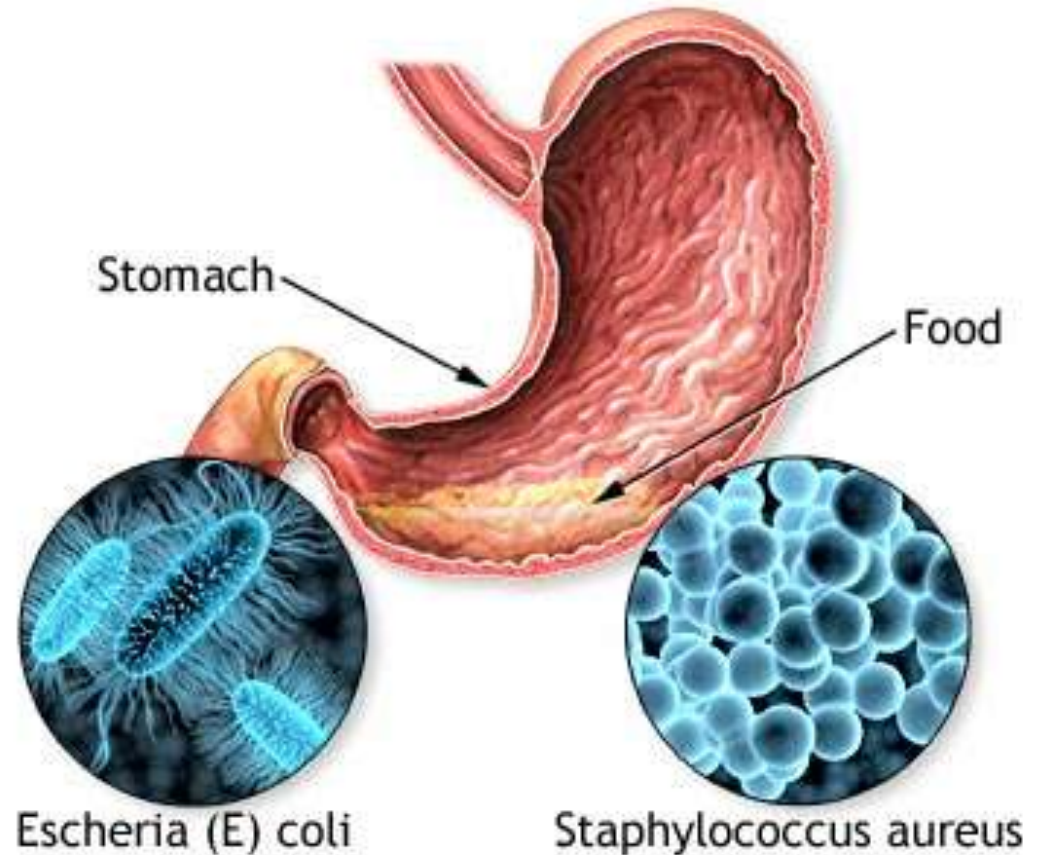
*What is a pathogen?**

Treating Bacterial disease

- Antibiotics
- Vaccine

Some produce poisonous wastes

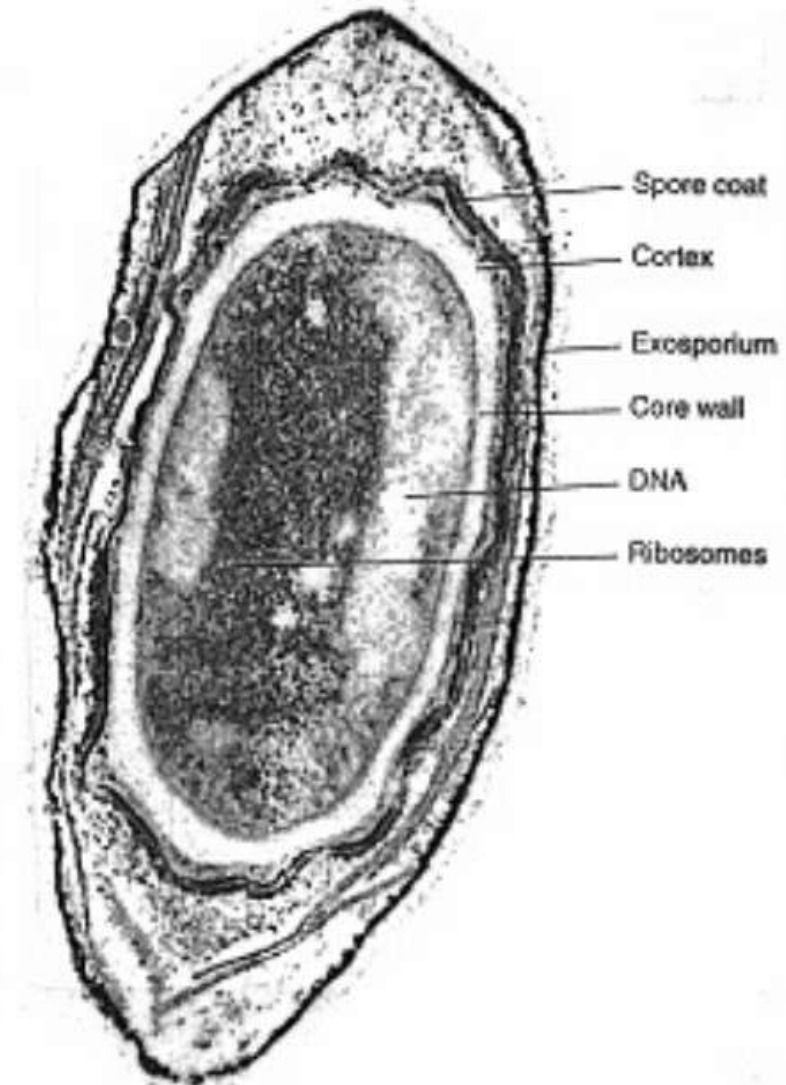
- Food poisoning
- Botulism (anaero
- Salmonella
- Ecoli (aerobic)



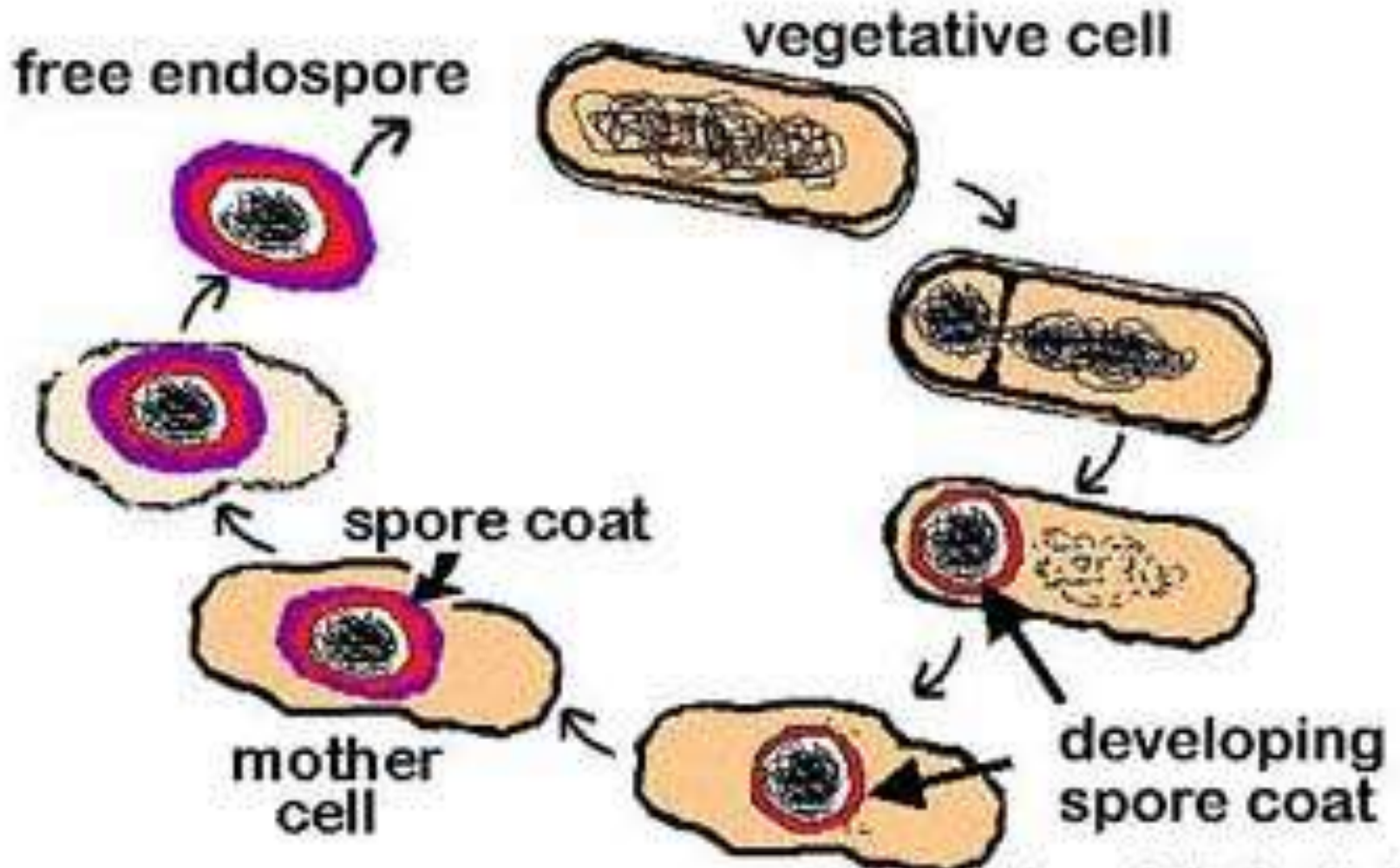
Why is botulism associated with canned foods and not fresh foods?

Bacterial Survival

- Bacteria can survive harsh conditions by producing a endospore, a thick walled structure that can keep them alive for more than 50 years
 - Killing bacteria
 - Pasteurization
 - Heating food or drink to a high temperature for a period of time
 - Autoclave
- What is an endospore?



Endospore forming



Bacteria and antibiotic resistance

- Bacteria can become antibiotic resistant
 - When you don't take all your antibiotic
 - Some bacteria can survive that are antibiotic resistant
 - When people go to the doctor for every little cold and the doctor gives them an antibiotic.
 - When the antibiotic is given in to small of dosage

quiz

1. Give three characteristics of monerans.
2. Give the three shapes of monerans.
3. *How do aerobic and anaerobic organisms differ?**
 - *What are some foods that are made using bacteria?*
 - *What is a pathogen?**