

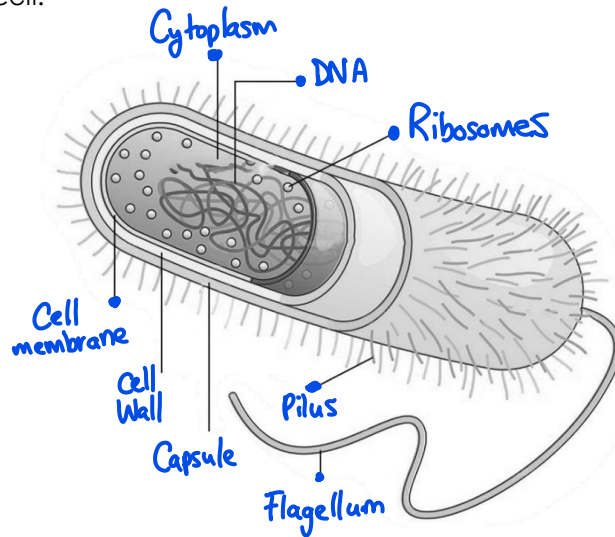
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## BACTERIA CHARACTERISTICS PART II (Chapter 17.2)

**STRUCTURE OF EUBACTERIA** – While watching the *Amoeba Sisters* video on *Bacteria*, LABEL THE PARTS of the bacteria cell.



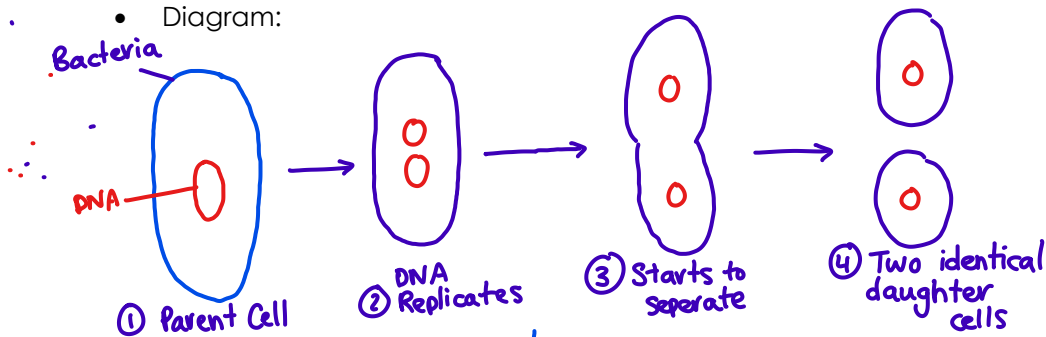
### Functions:

- 1) Flagellum - helps with movement.
- 2) Capsule - extra protections and aids in attachment.
- 3) Pilus - helps when attaching to surfaces.

### BACTERIA REPRODUCTION

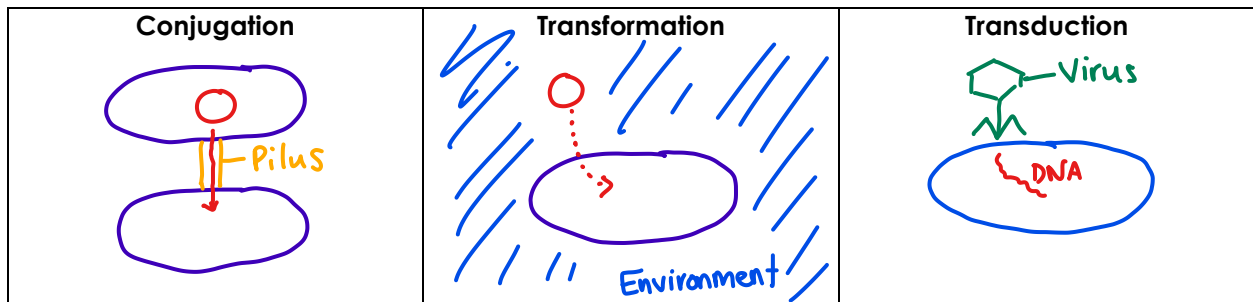
- **Binary Fission** - The DNA is copied and the cell divides into two identical cells.
  - Asexual Reproduction.

• Diagram:



- **Conjugation** – Forms bridge between two bacteria cells to transfer of genetic material.
  - Sexual reproduction
  - Join via a bridge called a pilus.

- **Transformation** - Picks up pieces of DNA from the environment.
- **Transduction** - virus transfers DNA into bacteria.
- Diagram:



- **Spore Formation** - When growth conditions are unfavorable, bacteria forms endospore to protect DNA.
  - When conditions return to favorable the endospore opens and bacteria continues to grow.

### SIGNIFICANCE OF BACTERIA

- Bacteria are used:
  - In food. Examples: yogurt, cheese, buttermilk, pickles, Kimchi.
  - In industry. Examples: oil spills, purify water.

### Control of Bacterial Growth

- 1) Disinfectants - Usually chemicals such as alcohols, bleach, hydrogen peroxide.
- 2) **Antiseptic** - Kill bacteria on the skin of humans or animals.
- 3) **Natural Body Defenses** - skin, fever.
- 4) **Vaccines** - Small doses of live bacteria or killed bacteria which cause an immune response.
- 5) **Antibiotics** - Medicines for bacterial infections.
  - Antibiotics kill or stop growth of bacteria.
  - Antibiotics DO NOT work against viruses!
  - **\*\*Antibiotic Resistance** = The ability of bacteria to protect themselves against the effects of an antibiotic.
  - **Is antibiotic resistance a problem?**
    - Leads to failure to treat diseases
    - Threatens ability to perform medicinal procedures.