

MOTILITY (means "movement")

Bacteria sometimes have "tails" called flagella that are made of microtubules. ("Flagella" means "whip.")



Some bacteria can glide using a sugary slime.

Spirochetes have an inner flagellum.



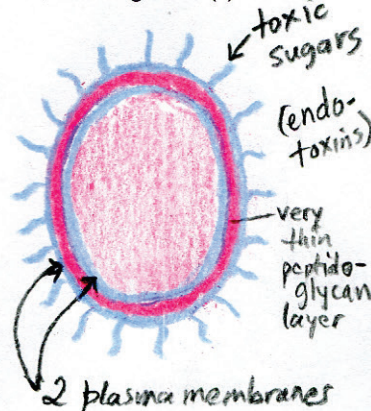
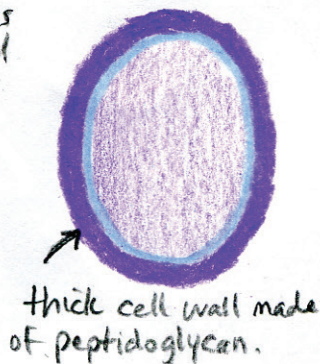
CLASSIFICATION by pathologists ("Patho" means "disease.")

The Gram stain is used to find out what kind of cell wall the bacteria has so right kind of antibiotic can be prescribed.

GRAM positive (+)

GRAM negative (-)

Stain is crystal violet

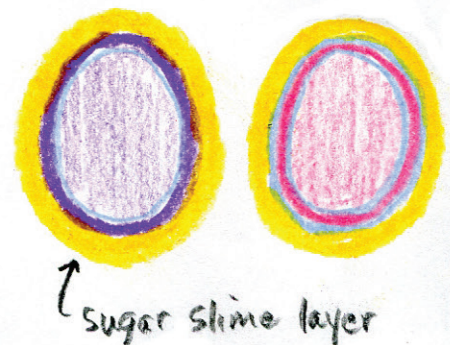


(Gram staining is named after Danish scientist Hans Christian Gram.)

CAPSULES (the "slime layer")

Gram +

Gram -

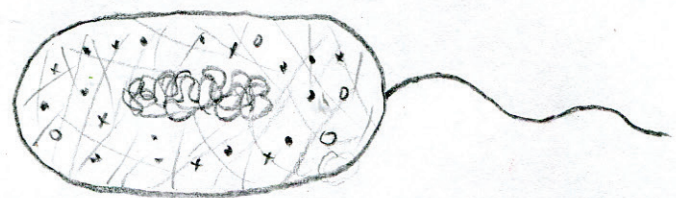


Capsules keep them from drying out and from being eaten by immune cells.

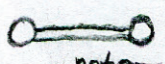
ARCHAEA

Archaea look and act very much like bacteria.

- Used to be classified as bacteria (They have their own kingdom now.)
- Most of them live in extreme environments like the bottom of the ocean or in hot mineral springs. However, a few species live in our intestines where they produce methane gas.
- None of them are pathogens. (They won't make you sick.)
- Coccus, bacillus and spirillum shapes
- Some have flagella



Differences between bacteria and archaea:

- 1) RNA polymerase structure.
- 2) Ribosome structure.
- 3) Archaea phospholipids look like this 
- 4) Archaea cell walls are not peptidoglycan.
- 5) Archaea DNA is wound on histone spools, 