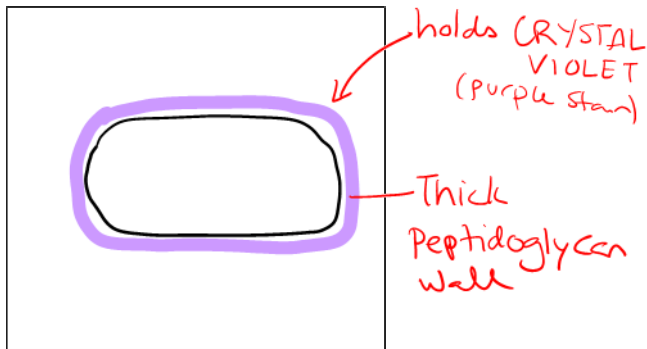
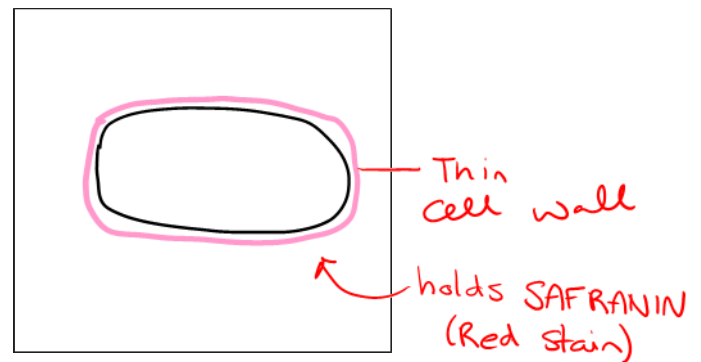


The bacteria that do NOT have these sugars on their cellular walls are called Gram - and are stained red / pink after the initial stain is washed off.

Gram Positive:



Gram negative:



Part 3: Diversity and Ecology of Bacteria

Archaeobacteria:

- Considered Primitive, some of the first life on Earth
- Gram negative
- Live in moderate environments and produce methane gas as a product: Methanogens
- Able to live in extreme conditions: Extremophiles (phile = loving)
- Extreme temperature environments: Thermophile
- Very salty environments: Halophiles
- Very acidic environments: Acidophiles
- Very basic environments: Alkaliphiles

Archaeobacteria have modified cell membranes in order to withstand these extreme environments:

- Impermeable outer layer
- Rigid lipid layer

Eubacteria:

- Considered true bacteria
- Most abundant and common bacteria type
- Gram positive or negative
- Unique ribosomal RNA (often targeted in _____)

Ecological roles of Bacteria:

- Decomposers → Remove dead organic matter, recycle nutrients.
- Nitrogen Fixation → Convert atmospheric nitrogen into usable form
- Primary Producers → Bottom of food chain
- Bioremediation → Clean up of toxins / spills in environment.

Where might you find bacteria on earth?

EVERYWHERE!

How would do we study bacteria alive?

- Grow on Agar plate
- Observe growth parameters
- Test antibiotic resistance