Part 1- Prokaryotic Cell Structures

**Vocabulary:**

- Cocci
- Bacillus
- Vibrio
- Spirilium
- Spirochete
- Pleomorphic
- Cell wall
- Peptidoglycan
- Lipopolysaccharide (LPS)
- Porin
- NAG, NAM
- Lipid A
- O antigen
- Endotoxin
- Teichoic Acid

**Mycobacteria spp**
- Mycolic Acid
- Capsules/Slime layers
- Biofilms
- Glycocalyx
- Endospores
- Dipicolinic acid (DPA)
- Inclusion Bodies
- Bacterial ribosomes
- Binary fission
- Pili
- Fimbriae
- Nucleoid
- Methanogens
- Halophiles
- Thermophiles

1. Describe the various possible arrangements for bacterial cells that were discussed in class. For example, Strepto, Staphylo, Diplo, Single, Palisade, etc.

2. Describe, in detail, and/or diagram the structures of gram-positive, gram-negative and acid-fast cell walls. Why do we care about these?

3. Describe the differences/similarities between eubacteria and archaebacteria.

4. What is the clinical importance of biofilms? How are they formed?

5. In what functional aspects is a bacterial cell membrane different that eukaryotic cell membranes? Why?

6. How are bacterial flagella different from fimbriae? What is the function of a sex pilus?

7. What kinds of things are found in inclusion bodies? How and why are they involved in floatation in some cyanobacteria?

8. What kinds of organisms form endospores? Why? Describe the major benefits and drawbacks to endospores from the organism’s point of view and from a clinical point of view.