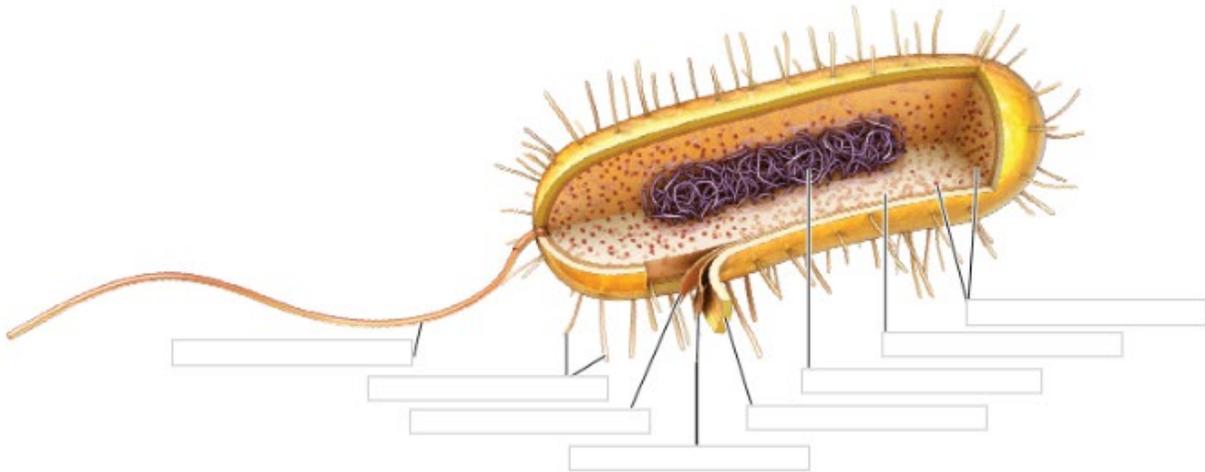


Prokaryotic and Eukaryotic Cells

Read Chapter 3.3-3.4

Fill in the blanks

1. The prokaryotic kingdoms are the _____ and _____.
2. The eukaryotic kingdoms are the _____, _____, _____, and _____.
3. Prokaryotes are the simplest cells that lack a nucleus and any other _____.
4. Label the following prokaryote.

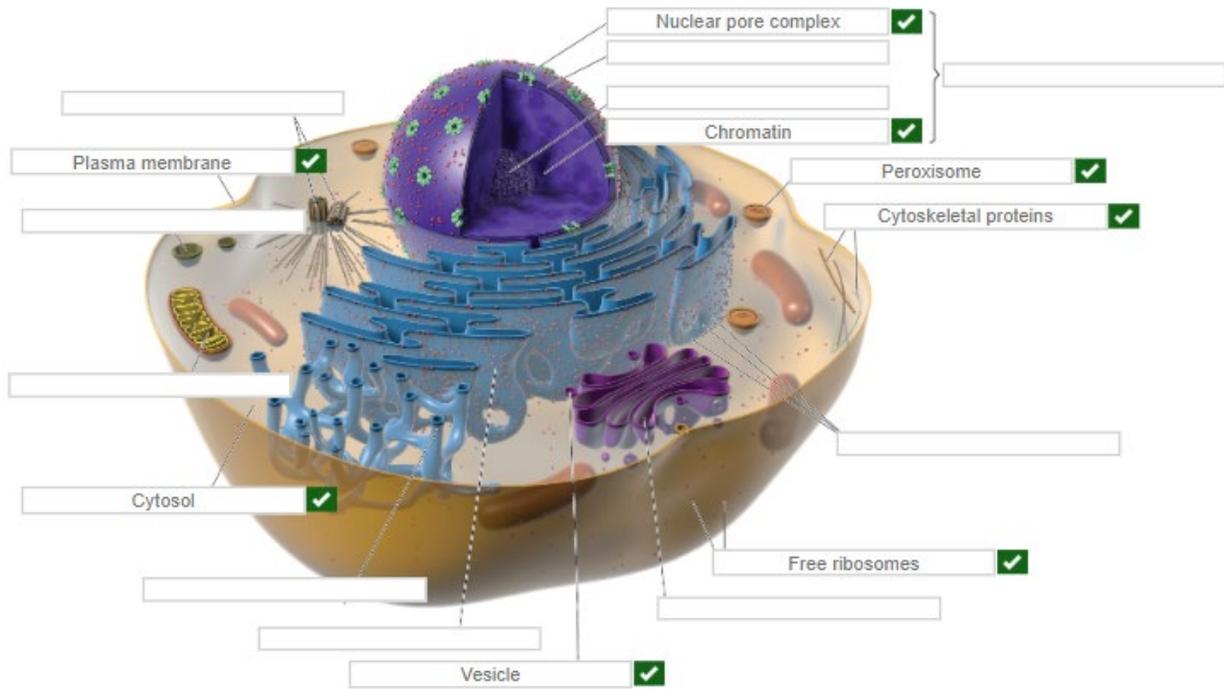


5. The cell wall of most eubacteria consist of sugars and amino acids, forming a layer called _____.
6. Bacteria can be categorized generally into as:
 - a. _____ - have many layers of peptidoglycan
 - b. _____ - have a smaller peptidoglycan layer plus an external layer of lipopolysaccharide (LPS)
7. Some bacteria may also have an extra layer of protection called a _____.
8. Prokaryotes have _____ that are essential for protein synthesis.

9. Prokaryotes may have _____ that help bacteria adhere to structures and can also be used to transfer DNA directly from one bacterium to another, through a process called _____.
10. Prokaryotes may have _____ that are used to help them move around.
11. Eukaryotic cells are approximately _____ X larger than Prokaryotic cells.
12. Chloroplasts are organelles that contain _____ that allows plant cells to have photosynthesis.
13. The _____ is a membrane-bound organelle that contains genetic material.
14. During cell division, DNA becomes tightly packed into _____. During the regular growth phase, DNA exists as loose strands called _____.
15. The nuclear membrane, also called the nuclear envelope, is a double layered membrane that contains _____ that allow large molecules to pass through.
16. The _____ is a small region inside the nucleus that is where ribosomal RNA is produced.
17. The main function of the Rough Endoplasmic Reticulum (Rough ER) is _____.
18. The Rough ER contains _____ on its surface.
19. The _____ body looks like a stack of semi-circular membranes and is where newly made proteins can go for further _____.
20. In the Golgi, glycosylation enzymes allow the addition of _____, phosphorylation enzymes add _____.
21. Mitochondria are organelles that produce _____.
22. It is believed that mitochondria are the product of a process called _____ where primitive bacteria were engulfed by another cell to give rise to eukaryotic cells.
23. Mitochondria contain a small circular _____ molecule that can self replicate.
24. Ribosomes are the site of _____ and are found in both prokaryotes and eukaryotes.
25. _____ are organelles that contain digestive enzymes and play an important role in breaking down old organelles and macromolecules.
26. _____ are organelles that produce hydrogen peroxide and catalase enzymes that break down toxic substances; the liver contains many of these organelles that help to break down alcohol and other toxins.

27. Centrioles are involved with the organization of spindle fibers that help to separate chromosomes during _____ and _____.

28. Label the eukaryotic cell. Some are filled in for you.



Add the following to the diagram above: Smooth ER, Rough ER, ribosomes, lysosome, nucleus, nucleolus, nuclear envelope, Golgi, Mitochondria, centrioles