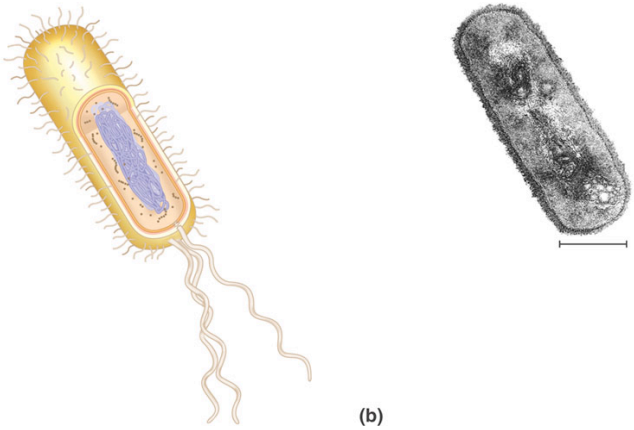
Name _____

AP Biology
Chapter 6 - A Tour of the Cell
Guided Reading Assignment Campbell's 10th Edition

Essential Knowledge:
2.A.3 Organisms must exchange matter with the environment to grow, reproduce, and maintain organization
2.B.3 Eukaryotic cells maintain internal membranes that partition the cell into specialized regions
4.A.2 The structure and function of subcellular components, and their interactions, provide essential cellular processes
4.B.2 Cooperative interactions within organisms promote efficiency in the use of energy and matter

LO 2.13 The student is able to explain how internal membranes and organelles contribute to cell functions.
LO 2.14 The student is able to use representations and models to describe differences in prokaryotic and eukaryotic cells.
LO 4.4 The student is able to make a prediction about the interactions of subcellular organelles.
LO 4.5 The student is able to construct explanations based on scientific evidence as to how interactions of subcellular structures provide essential functions.
LO 4.6 The student is able to use representations and models to analyze situations qualitatively to describe how interactions of subcellular structures, which possess specialized functions, provide essential functions.

1. Label the prokaryotic cell – list structure and function.



2. Why is surface area to volume such an important concept as it applies to the size of a cell?

3. For each of the structures below – note the specific structure and the function of the organelle or part of the organelle. The important concept is to note how the

specific structure allows for the specific function to be accomplished.

a. Nucleus
    i. Nuclear envelope
    ii. Chromosomes
    iii. Chromatin
    iv. Nucleolus
b. Ribosomes
c. Endoplasmic reticulum
    i. Smooth ER
    ii. Rough ER
d. Golgi Apparatus
e. Lysosomes
f. Vacuoles
    i. Food
    ii. Contractile
    iii. Central w/tonoplast

g. Endomembrane system – overall

h. Mitochondria

    i. Mitochondrial matrix

    ii. Cristae

i. Plastids

    i. Amyloplast

    ii. Chromoplast

    iii. Chloroplast

        1. thylakoids

        2. stroma

j. peroxisomes

k. Cell walls

    i. Primary cell wall

    ii. Middle lamella

    iii. Secondary cell wall

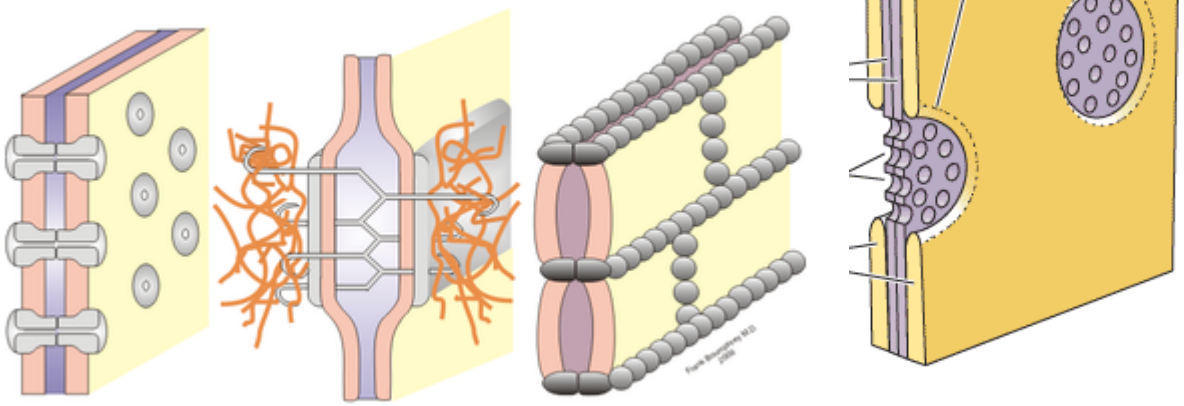
l. Extracellular matrix

i. Collagen

ii. Integrins

m. What are intercellular junctions and why are they important?

n. Label each diagram below and contrast plasmodesmata, tight junctions, desmosomes, and gap junctions.



_____ _____ _____ _____