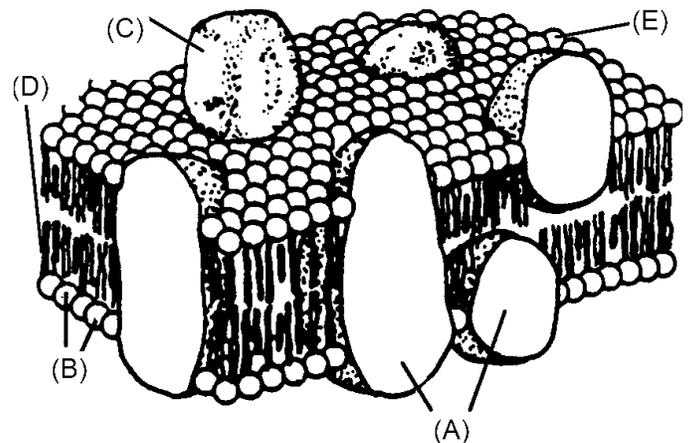


Do Now Unit 3 Cells

- All of the following are functions of vacuoles EXCEPT
 - temporary receptacles of nutrients
 - store starch, pigments and toxic substances
 - exert turgor on cell walls
 - collect and pump excess water out of the cell
 - break-down of toxic substances**
- Lysosomes operate within the cell by
 - metabolizing food within the cytoplasm
 - entering the endoplasmic reticulum to metabolize proteins
 - fusing with vacuoles to catalyze food and dead organelles**
 - acting as a defense mechanism for DNA outside the nucleus
 - none of the above
- Which of the following organelles is involved in storage, modification, and packaging of secretory products produced by the ribosomes?
 - The lysosome
 - The mitochondrion
 - The endoplasmic reticulum
 - The Golgi apparatus**
 - The nucleolus
- All of the following statements about organelles are true EXCEPT
 - vacuoles are membrane-enclosed, fluid-filled spaces
 - ribosomes are the sites of protein synthesis
 - golgi apparatus contains powerful oxidative enzymes**
 - the nucleus provides physical separation between transcription and translation
 - centrioles function in cell division
- Which organelle is NOT properly paired with its function?
 - lysosome - storage vesicle for many digestive enzymes
 - Golgi apparatus - support**
 - ribosome - site of protein synthesis
 - endoplasmic reticulum - transports substances within the cell
 - flagella - means of locomotion
- A major ATP-producing organelle is
 - the mitochondria**
 - the ribosome
 - the nucleosome
 - the nucleus
 - the endoplasmic reticulum
- In human cells, the cell wall is
 - composed of polysaccharides and peptidoglycans
 - acting as a barrier that selectively permits materials into and out of the cell
 - responsible for limiting the absorption of water
 - involved in controlling cellular mitosis
 - not present**
- Base your answer to the following question on the diagram of the cell membrane below.



Which of the following refers to the hydrophobic portion of the lipid molecule?

- A
- B
- C
- D**
- E

9. The fluid mosaic model of the cell membrane states that
- A) **the hydrophobic zone consists of the hydrophobic, nonpolar tails of phospholipids located in between hydrophilic, polar heads of phospholipids**
 - B) the hydrophobic zone consists of the hydrophilic, nonpolar tails of phospholipids located in between hydrophobic, polar heads of phospholipids
 - C) the hydrophilic zone consists of the hydrophobic, nonpolar tails of phospholipids located in between hydrophilic, polar heads of phospholipids
 - D) the hydrophilic zone consists of the hydrophobic, nonpolar tails of phospholipids located in between hydrophobic, polar heads of phospholipids
 - E) a layer of globular protein is located in between two phospholipid outer membranes
10. An erythrocyte placed in a hypertonic solution will
- A) **shrink**
 - B) lyse
 - C) expand
 - D) remain the same
 - E) undergo diffusion of solutes out of the cell
11. A cell at equilibrium with its environment is
- A) hypertonic
 - B) hypotonic
 - C) isobaric
 - D) isochoric
 - E) **isotonic**
12. Due to osmosis, a cell that is hypertonic to its environment, will eventually
- A) **enlarge**
 - B) shrink
 - C) become unable to undergo lysis
 - D) decrease its number of intracellular solute particles
 - E) increase its number of intracellular solute particles
13. A cell with a cytoplasmic solute concentration that is lower than its environment is said to be
- A) hydrophilic
 - B) hypertonic
 - C) **hypotonic**
 - D) isotonic
 - E) isomorphic
14. The cytoplasm of a cell is composed of 20% solutes and 80% water. If the cell itself is in a solution composed of 95% water, then the intracellular environment can be described as _____ to the extracellular environment.
- A) hypotonic
 - B) **hypertonic**
 - C) isotonic
 - D) subtonic
 - E) supertonic
15. Which phase of the cell cycle is the longest?
- A) M phase
 - B) G₁ phase
 - C) G₂ phase
 - D) Cytokinesis
 - E) **S phase**
16. Which of the following is NOT considered a phase of mitosis?
- A) Anaphase
 - B) **Cytokinesis**
 - C) Metaphase
 - D) Prophase
 - E) Telophase
17. During mitosis, DNA exists in the form of two sister chromatids during
- A) telophase
 - B) interphase
 - C) **prophase**
 - D) anaphase
 - E) metaphase
18. An organism cannot survive without catabolic pathways because
- A) proteins would never be formed from amino acids
 - B) the excess free energy causes instability
 - C) **energy would never be released from complex molecules**
 - D) glucose would be rapidly broken down into carbon dioxide and water
 - E) spontaneous chemical reactions would not occur

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19. Select the statement that accurately describes the difference in net energy yield between aerobic and anaerobic respiration.
- A) **Aerobic respiration yields 36 ATP and anaerobic respiration yields 2 ATP**
 - B) Aerobic respiration yields 34 ATP and anaerobic respiration yields 4 ATP
 - C) Aerobic respiration yields 4 ATP and anaerobic respiration yields 36 ATP
 - D) Aerobic respiration yields 36 ATP and anaerobic respiration yields 4 ATP
 - E) Aerobic respiration yields 34 ATP and anaerobic respiration yields 2 ATP
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