Cell Biology Name:

Cell Structures Benchmark Review Period:

Use your brain to answer the following questions, then check your work using Chapter 4.

_____ 1. Which of the following words is the closest in meaning to the word *structure*?
a. evidence b. shape c. duty d. location

2. A _____ is the smallest structural and functional unit of living things. *[Section 1]*

3. Two types of _____ are ribosomes and mitochondria. *[Section 1]*

_____ 4. In eukaryotic cells, which organelle contains the DNA? *[Section 1]*
a. nucleus b. Golgi complex c. smooth ER d. vacuole

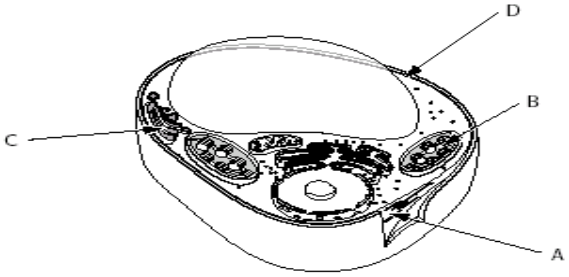
_____ 5. Which of the following statements is part of the cell theory? *[Section 1]*
a. All cells suddenly appear by themselves.
b. All cells come from other cells.
c. All organisms are multicellular.
d. All cells have identical parts.

_____ 6. The surface area–to–volume ratio of a cell limits... *[Section 1]*
a. the number of organelles that the cell has.
b. the size of the cell.
c. where the cell lives.
d. the types of nutrients that a cell needs.

_____ 7. Two types of organisms whose cells do NOT have a nucleus are... *[Section 1]*
a. prokaryotes and eukaryotes.
b. plants and animals.
c. bacteria and archaea.
d. single-celled and multicellular organisms.

8. Compare how a eukaryote stores DNA to how a prokaryote stores DNA. *[Section 1]*

Use the diagram below to answer the next three questions about information from Section 2.



9. Is this a plant or an animal cell?

10. Which letter identifies the structure that captures sunlight energy for photosynthesis? _____

11. Which letter identifies the structure that makes proteins and lipids and that contains passageways through which substances move from place to place in the cell? _____

12. A plant cell has chloroplasts that capture sunlight for photosynthesis. Plant cells have mitochondria that release energy that the cell can use to do work. Animal cells have mitochondria but do not have chloroplasts. How do animal cells get the sugars that mitochondria use to release energy? *[Section 2]*

turn the page over for more questions

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13. During development, the cells of a multicellular organism _____, which allows them to be specialized. *[Section 3]*

14. A _____ is a group of cells working together to perform a specific function. *[Section 3]*

_____ 15. Which of the following best describes an organ? *[Section 3]*
a. a group of cells that work together to perform a specific job
b. a group of tissues that belong to different systems
c. a group of tissues that work together to perform a specific job
d. a body structure, such as muscles or lungs

15. Describe the four levels of organization in multicellular organisms. *[Section 3]*

16. One of your classmates states a hypothesis that all organisms must have organ systems. Is your classmate's hypothesis valid? Explain your answer. *[Section 3]*

Use the diagram to the right to answer the next question. [Section 3]

17. Describe what could happen to an organism if the organ system shown failed to function properly.

18. How do you think cell differentiation affects an organism? *[Section 3]*