

11. Using the scientific method, a scientist may make initial observations and her next step will be to ____.
- A. come to a conclusion B. formulate a hypothesis C. perform an experiment
D. any of the above can be done
12. If an experimenter wanted to test whether a certain sweetener was toxic to a group of mice, an appropriate control group would be _____.
- A. a similar group of mice with a different food ration
B. a similar group of mice with the same food and surroundings but not the sweetener
C. a different type of mice receiving the same food with sweetener
D. a similar group of mice receiving sugar in their food rather than sweetener
13. The innermost shell of any atom can contain up to _____ electrons.
- A. 2 B. 4 C. 6 D. 8 E. 18
14. Covalent bonds are formed by atoms sharing electrons.
- A. True B. False
15. Acids dissociate in water and release _____
- A. hydroxide ions B. hydrogen ions C. chloride ions D. hydroxide ions and hydrogen ions
16. The primary structure of a protein refers to its _____
- A. 3 D shape B. order of amino acids C. order of nucleic acids D. orientation of the amino acids
17. The human body contains an estimated _____ cells.
- A. 150,000 B. 25 million C. 50 billion D. 75 trillion
18. Membrane proteins provide many functions for the cell. Which of these is a membrane function?
- A. starting signal transduction B. transport ions or molecules C. form selective channels
D. All of these are membrane functions
19. The "garbage disposals" of the cell, with their digestive enzymes, are the _____.
- A. mitochondria B. endoplasmic reticulum C. lysosomes D. peroxisomes
20. In what part of the nucleus does ribosome production occur?
- A. within nuclear pores B. in the chromatin C. in nucleolus D. nucleoplasm
21. By which process does a glucose molecule move through a cell membrane protein carrier from a region of greater concentration to one of lower concentration?
- A. diffusion B. facilitated diffusion C. active transport D. filtration
22. Chromosomes align midway between centrioles during what phase of mitosis?
- A. prophase B. telophase C. anaphase D. metaphase
23. Enzymes function in chemical reactions to _____.
- A. lower the energy of activation needed to start the reaction B. act as substrate molecules
C. prevent the development of metabolic pathways D. keep reactants from interacting

SHORT ANSWER

24. Why is water such a necessary component of the diet for digestion?
25. Can nucleic acids be broken down by the body to yield basic nutrients? Explain.