Life Science, Unit E, Chapter 1 Review Answers

1. Cells are the basic unit of life. Tissues are made up of groups of similar cells that function together
2. Organs are body structures that have specific functions. Organ systems are made up of groups of organs that perform related functions.
3. There are two main divisions of the human skeleton: the axial skeleton provides support and protection and the appendicular skeleton enables movement.
4. Skeletal muscle makes up the muscles of the muscles attached to the skeleton. Because it produces voluntary movement, such a muscle is called a voluntary muscle.
5. Smooth muscle is found inside body organs. It produces involuntary movement and is therefore called involuntary muscle.
6. Compact bone forms the hard outer layer of bones. Inside it is a strong, lightweight tissue called spongy bone.
7. C
8. A
9. B
10. B
11. D
12. C
13. D
14. A
15. C
16. Compact bone makes up a bone’s outer layer. Spongy bone is less dense and is surrounded by compact bone.
17. Homeostasis is the ability of the body to maintain a stable internal condition – in other words, to stay the same.
18. The muscle on the top of the arm contracts, and the muscle on the opposite side relaxes.
19. Cells – muscle cell; tissues – bone; organs – heart; organ systems – digestive system.
20. Connective tissue; blood flows through the body, connecting all organ systems.
21. The bones of the human skeleton contain calcium. The skeleton is hard, providing support and protecting internal organs. It is lightweight and has joints, much like the hinge of the clam’s shells. The difference is that clam’s shell is outside and bones are inside.
22. These are immovable joints. They lock together tissues that support and protect rather than move.
23. The arms and legs belong to the appendicular skeleton. They are attached by ball-and-socket joints allowing a wide range of motion.
24. The skeleton provides support just like the framework of a house. Unlike the house, the skeleton is made of living tissues and is flexible.
25. The skeleton provides shape and support; it allows the body to move and protects soft organs.
26. Bringing the toothbrush up involves rotational movement at the shoulder, pivotal of the wrist, angular of the elbow and fingers gripping. The small bones of the hand glide as the hand turns.
27. For movement to occur, muscles on one side of a bone must relax while muscles on the other side contract.
28. More effort means more fibers are contracted.
29. Answers will vary.
30. Bones come together at joints. Skeletal muscles that are attached to the bones contract and relax, pulling the bones to move the body.