

1. A ketone group can be found in a carbohydrate. (T)
2. An ester linkage is composed of a carboxyl group and an amino group. (F)
3. An example of a condensation reaction (dehydration synthesis) is the digestion of meat.(F)
4. A lipid (fat) is a polymer. (F)
5. The shape of an enzyme is determined by its location in the cell. (F)
6. The shape of an enzyme affects its activity. (T)
7. Proteins can still function if they are denatured. (F)
8. A competitive inhibitor competes with the substrate for an enzyme's active site. (T)
9. Feedback inhibition controls a metabolic pathway as the product formed inhibits an enzyme at the beginning of the pathway. (T)
10. The enzyme ATP synthase makes ATP by using the energy from an electrochemical gradient. (T)
11. The active site is an area on a substrate where the enzyme binds. (F)
12. An exergonic reaction increases the entropy in the system. (T)
13. NAD^+ is a coenzyme that carries electrons (from H) to the electron transport chain on the inner membrane of the mitochondrion. (T)
14. NADH dehydrogenase is an enzyme that adds H's to NAD. (F)
15. ATP contains more free energy than ADP. (T)
16. Oxidative phosphorylation forms ATP indirectly through a series of redox reactions involving O_2 as the final e^- acceptor. (T)
17. The function of oxygen is to combine with carbon to form carbon dioxide. (F)
18. C_3 plants are named because a 3-carbon intermediate is formed in photosynthesis. (T)
19. The Calvin cycle occurs in the grana of the chloroplast to fix CO_2 into carbohydrates and recycles coenzymes. (F)
20. The light reactions of photosynthesis produce ATP by chemiosmosis. (T)
21. Rubisco catalyzes the first reaction of the Calvin cycle as well as the oxidation of RuBP to CO_2 (T)
22. The light-saturation point occurs at a point when an increase in light intensity no longer increases the rate of photosynthesis. (T)
23. Stomata close when guard cells flop closed due to a decrease in turgor pressure. (T)
24. A phosphate group sticks out of the 5' end of a DNA molecule. (T)
25. Adenine and guanine are purines with one carbon ring.(F)
26. Adenine always pairs with thymine in DNA.(T)
27. A codon consists of one DNA base or the complementary mRNA base and codes for three amino acids.(F)
28. An anticodon is located on the tRNA.(T)
29. Gyrase unwinds (unzips) the DNA by disrupting hydrogen bonds. (F)
30. DNA polymerase I removes RNA primers and replaces them with DNA in DNA replication. (T)
31. DNA polymerase III synthesizes RNA from DNA. (F)
32. The leading strand contains Okazaki fragments. (F)
33. The collecting duct carries urine from the nephrons to the pelvis of a kidney.(T)
34. The proximal tubule passes urine from the loop of Henle to the collecting duct. (F)
35. ADH causes the kidneys to excrete more water. (F)
36. Nerve impulses are transmitted by the movement of ions. (T)
37. An axon is an extension of cytoplasm that carries nerve impulses away from the cell body.(T)
38. An action potential is the voltage difference across a nerve cell membrane when the nerve is stimulated.(T)
39. The corpus callosum controls limb movements, balance and muscle tone. (F)
40. The pons is a region of the brain that acts as a relay station by sending nerve messages between the cerebellum and the medulla. (T)
41. Sensory neurons carry impulses from the brain to the effector. (F)
42. Negative feedback is a process by which a mechanism is activated to restore conditions to their original state. (T)
43. A reflex arc is a neural circuit through the spinal cord that enables a response without brain involvement; saves time. (T)