1. in diffusion molecules move from high to low concentration with free energy. In active transport, molecules move from low to high concentration with energy input.

2. In simple diffusion, molecules move through membrane opening or inter-molecular spaces without any interaction with protein channels. In facilitated diffusion, proteins act as carriers/pores to bind the substance and shuttle them through the membrane.

3. Rate limiting factor in facilitated diffusion is the maximum rate of transport at which the carrier can undergo changes back and forth between the binding and release states.

4. electrical concentration gradients for ions across membrane, properties of ion channels in the cell membrane, ion channel gate factors.

5. Three determining factors in ionic channel permeability are concentration gradient, electrical potential and pressure.

6. Binding of ligand with ligand-gated channel changes confirmation that opens or closes the gate.

7. Na+=+70.3mV, K+=-94.2mV, Cl-=-86mV.

8. After the positive feedback loop of Na+, inactivation gate of voltage-gated Na+ channels closes and Na+ entry stops.

9. Myelin sheath thickness and axon diameter impacts propagation velocity.

10. Subsequent action potential cannot be elicited before re-establishing Na+ and K+ ion concentration difference. Absolute refractory period is the time in which no action potential can be elicited regardless of stimulation strength.

11. Hyperpolarize; away from.

12. Oxidative phosphorylation is a cellular process that harnesses the reduction of oxygen to generate high-energy ATP.

13. 2 carbons.

14. Kinase catalyzes the transfer of phosphate groups from ATP to protein.

15. CO2 is the main waste product in Krebs cycle. Blood carries CO2 to lungs which removes it by expiration.

16. Electron transport chain is in the inner membrane of the mitochondria.

17. True.

18. Positive feedback.

19. Negative feedback.

20. NADPH can be used for the synthesis of fats from carbohydrates.

21. Three carbons.

22. Using serum albumin.

23. LDL has higher content of cholesterol.

24. Unsaturated fatty acids are usually more fluid.

25. True.

26. Negative

27. True.

28. The target, goal or end point of a hot cup of coffee is the room temperature.

29. Negative feedback.

30. Exponential growth or runaway collapse.

31. True.

32. Lack of water may force sheep to travel to open locations where wolves can catch them easily.

33. Harvest and capital stock is in positive feedback loop.

34. False. Human hunting can help control overpopulation of the white-tailed deer.

35. False.

36. Is not limited.