

Class 10 - Biology Answer Key

Q1: Photosynthesis converts light energy into chemical energy, while respiration releases energy from food. Photosynthesis occurs in chloroplasts, respiration in mitochondria. Photosynthesis requires CO₂ and releases O₂, respiration requires O₂ and releases CO₂.

Q2: The human heart has four chambers – two atria and two ventricles. It pumps oxygenated blood to the body and deoxygenated blood to the lungs. Valves prevent backflow of blood.

Q3: Transpiration is the loss of water from plant leaves through stomata. It helps in water absorption, cooling, and nutrient transport.

Q4: The nervous system controls body activities by transmitting signals. It consists of the brain, spinal cord, and nerves.

Q5: The stages of nutrition include ingestion, digestion, absorption, assimilation, and egestion. Each step helps convert food into usable energy.

Q6: Heredity is the transmission of traits from parents to offspring. According to Mendel's law of segregation, allele pairs separate during gamete formation and reunite at fertilization.

Q7: A nephron is the structural and functional unit of the kidney. It filters blood, reabsorbs water and nutrients, and forms urine.

Q8: The carbon cycle is the process by which carbon moves through the biosphere, atmosphere, oceans, and geosphere. It maintains the balance of CO₂ in nature.