

Questions to be answered (memo 11)

[Science](#), [Biology](#)



Biology Questions Hey buddy, I am here to help on some of the concepts relating to respiratory and urinary system A. Major functions of a respiratory system

The respiratory system consists of lungs, trachea, nose, mouth, bronchi, sinuses, larynx, pharynx, bronchial tubes, alveoli, cilia, diaphragm, and capillaries. The main roles played by the respiratory system in the body are breathing, which involves inhalation and exhalation allowing oxygen to be supplied to the blood and carbon dioxide to be exhaled. The other role of the respiratory system is to provide a defense mechanism through tiny hair particles in the nose and air passages that filter large particles and clean it with mucus in the respiratory system trapping foreign invaders like bacteria preventing them from reaching the deeper parts of the body. Coughing also allows for foreign things to be spit out of the lungs protecting the body.

B. Function of the diaphragm in respiration

The diaphragm is a vital organ for human respiration and is a dome-shaped muscle situated below the lungs. When inhaling, the diaphragm pushes downwards resulting in the creation of a vacuum allowing air to be sucked into the lungs. When exhaling the diaphragm pushes outward and downwards resulting in the carbon dioxide being forced out of the lungs. The downward, upward, and outward movements of the diaphragm are responsible for the breathing in humans making the main functions of the diaphragm to be inhaling of fresh air and expulsion of carbon dioxide from the lungs. The other role of the diaphragm is to separate the abdominal cavity from the chest cavity.

C. Functions of the Urinary system

The urinary system consists of kidneys, urethra, bladder, and ureters that collectively perform several functions in the body. The urinary system functions include blood PH regulation, regulation volume and pressure of blood, waste elimination, and electrolytes and metabolites level control. Vitamin D synthesis and red blood cells production are the other functions undertaken by the urinary tract system.

D. Nephron and its functions

The nephron refers to the structural and functional kidney unit tasked with filtering blood to ensure the concentration of soluble substances like salts and water concentration is optimum. The main functions of the nephron include removal of excess water and other unwanted substances, regulate the amount of sodium, phosphate, phosphorus, and potassium, secretion of glutamate, solutes, and carbohydrates. The nephron also functions in reabsorbing of substances needed by the body before excreting the remains as urine. Regulation of blood pressure, blood PH, volume, and control of electrolytes and metabolites levels in the blood are the other functions of the nephron.

E. I found particular confusing that the functions of the kidney, the urinary tract system, and the nephron have intertwining functions in the body. I believe the reason for the intertwining of the functions is that most of the functions are played by the nephron(s), which is the functional unit of the kidney, and the kidney is one of the organs that make up the urinary tract system.