

The Organ Systems of the Human Body and Their Functions

ORGAN SYSTEM	MAJOR ORGANS/PARTS	FUNCTIONS
1. Integumentary System	Skin, hair, sweat glands, and nails	<ul style="list-style-type: none"> • Covers and protects the body • Helps maintain body temperature • Eliminates wastes through perspiration
2. Skeletal System	<p>206 bones, cartilage, tendons, and ligaments; teeth included</p> <p>Two main divisions: (1) axial skeleton: skull, spinal column, ribs, sternum (breastbone), and (2) appendicular skeleton: bones that provide mobility (bones in the arms, legs, shoulder blades, and pelvis)</p>	<ul style="list-style-type: none"> • Holds the body erect and gives its shape • Supports the soft tissues of the body • Provides protection to vital internal organs • Powered by the attached muscles, allows the body to move • Stores fats and minerals • Produces red and white blood cells in the marrow
3. Muscular System	More than 700 voluntary or skeletal muscles, involuntary or smooth muscles, and cardiac muscles; muscles account for half of the body's weight	<ul style="list-style-type: none"> • Contracts to allow the body and its parts to move • Maintains the body's posture • Helps protect and work various internal organs • Produces body heat
4. Nervous System	Two parts: (1) central nervous system : brain and spinal cord, and (2) peripheral nervous system : all the nerves that branch out throughout the body from the central nervous system	<ul style="list-style-type: none"> • Monitors and controls almost all bodily processes • Senses the environment and responds to stimuli • Controls the action of muscles, other tissues, and sensory organs by processing, coordinating, and transmitting nerve signals • Thinking, learning, memory, and many human behaviors
5. Respiratory System	Nose, nasal cavity, larynx (voice box), trachea (windpipe), diaphragm, lungs, bronchi, bronchioles, alveoli (tiny air sacs)	<ul style="list-style-type: none"> • Brings oxygen into the body and eliminates the waste carbon dioxide through breathing

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6. Cardiovascular (Circulatory) System	Heart, blood, and blood vessels (arteries, veins, and capillaries)	<ul style="list-style-type: none"> • Carries nutrient-rich and oxygen-rich blood to the cells of the body; oxygen is used in the cells for burning the food and producing heat and energy • Carries away wastes from cells and brings them to organs that remove them from the body • Returns used blood for replenishment • Carries germ-fighting blood cells
7. Digestive System	Digestive tract: mouth, pharynx, esophagus, stomach, small intestine, large intestine, and anus Associated organs: liver, pancreas, gallbladder	<ul style="list-style-type: none"> • Fuels the body by breaking down food and processing the nutrients so that it can be absorbed by the body • Eliminates solid undigested wastes from the body and expels these as feces
8. Reproductive System	Female sexual organs: ovaries, fallopian tubes, uterus, vagina Male sexual organs: testes, epididymis, vas deferens, seminal vesicles, ejaculatory duct, prostate gland, urethra, penis	<ul style="list-style-type: none"> • Allows the body to produce offspring through the production of hormones, sperm cells, and egg cells • Functions of the male reproductive system: (1) produces sperm cells (spermatozoa) and delivers these to the reproductive tract of the female, and (2) produces androgens, the male sex hormones • Functions of the female reproductive system: (1) produces eggs cells (ova), (2) secretes estrogens and progesterones, the female sex hormones, and (3) protects and nourishes the developing embryo from fertilization until birth

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9. Urinary System	Kidneys, ureters, urinary bladder, and urethra	<ul style="list-style-type: none"> • Regulates the water level in the body • Maintains the balance of body fluids and substances within those fluids, such as salt • Kidneys filter wastes from the blood • Excretes waste products and excess water as urine
10. Endocrine System	Various glands (such as the pituitary gland, pineal gland, salivary glands, sweat and oil glands, thyroid gland, parathyroid gland, adrenal glands, pancreas, etc.) and hormone-producing cells in tissues throughout the body (such as in the hypothalamus, heart, stomach, intestines, kidney, male testes, and female ovaries)	<ul style="list-style-type: none"> • Its various glands and tissues produce chemicals that control and regulate body functions • Exocrine glands (glands with ducts) give off secretions that travel through the ducts to other body parts • Endocrine glands (ductless glands) secrete hormones into the blood to regulate the body's activities such as metabolism, growth, and reproduction
11. Lymphatic System (subset of the circulatory system)	The fluid lymph , a network of lymphatic vessels, lymphocytes (white blood cells), spleen, appendix, and lymphatic nodules scattered throughout the body	<ul style="list-style-type: none"> • Produces and transports the fluid lymph which contains white blood cells (lymphocytes) that help eliminate toxins, wastes, and other unwanted materials from the body • Nodes along the lymphatic vessels filter harmful microorganisms (like bacteria and viruses) and other particles from the lymph. These microorganisms are destroyed by the lymphocytes. • Removes excess lymph from the spaces between body tissues and returns it to the blood • Provides defense against infection, disease, and some cancers • Reduces the risk of infection and limits the spread of infection in the body