Continue

An organ system is a group of organs that work together to perform a certain function in an organisms body. Most animals and plants have organs, which are self-contained groups of tissues such as the heart that work together to perform one function. Humans and other mammals have many organ systems. An example of an organ system is the circulatory system, which includes the heart, arteries, veins, and capillaries. The human body has 11 different organ systems.This figure depicts the respiratory system. The human organ systems are: Integumentary Skeletal Muscular Circulatory Respiratory Digestive Urinary Immune Nervous Endocrine ReproductiveThe integumentary system consists of external organs that protect the body from damage, including the skin, fingernails, and hair. Skin is the largest organ of the human body. It is made up of three layers: the epidermis, dermis, and hypodermis, which contains stored body fat. Nails and hair are both made up of the protein keratin. In other animals, the integumentary system may include feathers, scales, or hooves. Besides protecting the internal organs from physical damage, the integumentary system has multiple other functions such as protecting against virus invasion, dehydration, sunburns, and changes in temperature, making Vitamin D through sun exposure, and excreting waste through sweating. The skeletal system is made up of all the bones in the human body, i.e., the skeleton. The skeleton forms the supporting structure of the body. It comes from the Greek (skelets), meaning dried up, referring to the dry nature of bones. A human infant has 270 bones, some of which fuse together to form the 206 bones in the adult human body. Cartilage is the precursor to bone when an embryo is developing, and it is found in some structures in the human body such as the nose, ears, and joints.An internal support structure in an animal is called an endoskeleton. Some animals such as insects have hard coverings called exoskeletons on the outside instead of inside the body. The muscular system includes the different types of muscles in the body: cardiac, smooth, and skeletal muscles. Cardiac muscles are found only in the heart and contract to pump blood. Smooth muscles are found in organs such as the stomach, intestines, and bladder and move without conscious effort by the organism. Skeletal muscles are attached to bones and work together with bones to move the body. The circulatory system, also known as the cardiovascular system, consists of the heart, veins, arteries, and capillaries. The circulatory system circulates blood throughout the body in order to transport nutrients and oxygen to the cells. The lymphatic system, which includes lymph and lymph nodes, is also part of the circulatory system; lymph transports fats, destroys bacteria, and returns proteins and interstitial fluid from the bloodstream.Humans and other vertebrates have closed circulatory systems, where the blood is enclosed within blood vessels like veins and arteries. Some animals, such as insects, have open circulatory systems, where blood is pumped into body cavities without the use of vessels. The respiratory system is made up of the organs used for breathing, including the lungs, diaphragm, trachea, bronchi, and bronchioles. In the lungs, oxygen and carbon dioxide are exchanged between the outside air and the blood. Other animals breathe through gills or even through their skin. The digestive system digests food and absorbs it into the body. It is made up of the gastrointestinal tract (which includes the esophagus, stomach, liver, and intestines) along with accessory organs of digestion. These include the tongue, liver, pancreas, and gallbladder. The urinary system gets rid of wastes from the body in the form of urine. The kidneys, ureters, bladder, and urethra are all part of the urinary system. Sometimes the organs of the urinary system are grouped together with organs that remove wastes such as the skin, lungs, and large intestine, and this is called the excretory system. The immune system is an organisms defense system; it protects against disease. Important parts of the immune system include leukocytes (white blood cells), bone marrow, and the thymus. There are many different types of white blood cells, like helper T cells, killer T cells, and B cells. The lymphatic system is also associated with the immune system. The nervous system sends and interprets signals from different parts of the body and organizes the bodys actions. The central nervous system includes the brain and spinal cord, while the peripheral nervous system is made up of nerves that allow the central nervous system to connect to the rest of the body. The endocrine system is comprised of all the glands in the body that produce hormones, which are carried via the bloodstream to affect other organs. Some important glands are the pituitary gland, which produces reproductive and many other body-regulating hormones; the thyroid, which has roles in metabolism and protein synthesis; and the adrenal glands, which produce adrenaline and stimulate the fight-or-flight response. The reproductive system includes an organisms sex organs. In females, some of the sex organs are the vagina, uterus, and ovaries. In males, some sex organs are the penis, testes, prostrate, and vas deferens. All of these organs play a role in sexual reproduction. Organ a self-contained group of tissues that performs a specific function.Biological system a network of entities that are biologically related; this can be on the scale of tissues or organs, but also be used on a larger scale to represent populations of living things.Organism an individual living thing, such as one animal, plant, fungus, or bacterium. 1. Which organ is NOT a part of the nervous system?A. BrainB. NervesC. HeartD. Spinal cordC is correct. The brain, spinal cord, and nerves make up the nervous system. These organs function together to control the bodys movements and to send and receive signals to and from the other parts of the body. The heart is not a part of the nervous system; it is part of the circulatory system.2. Which organ system is made up of all the glands that produce hormones?A. The immune systemB. The muscular systemC. The endocrine systemD. The integumentary systemC is correct. The endocrine system is comprised of the glands that produce hormones, such as the adrenal glands, the pituitary gland, and the thyroid. The immune system is made up of organs that fight disease, the muscular system represents all the muscles in the body, and the integumentary system is made up of external organs that protect the body, like skin, hair, and nails.3. What is the function of the respiratory system?A. To digest food and absorb its nutrients into the bodyB. To form a supporting structure for the bodys other organsC. To circulate blood throughout the body and transport oxygen and nutrients to cellsD. To take in oxygen and expel carbon dioxide when an organism breathesD is correct. The respiratory system is made up of the organs used for breathing (respiration), such as lungs, the trachea, bronchi, and bronchioles. When an organism breathes, the organs of the respiratory system take in oxygen and removes carbon dioxide from the body. The human body has distinct organ systems that work together to perform various functions. Each organ has specialized roles and is made up of distinct tissues. These systems include the circulatory, digestive, nervous, endocrine, cardiovascular, respiratory, muscular, lymphatic, urinary, and reproductive systems. Additionally, the integumentary and skeletal systems contribute to the overall functionality of the human body. Our bodies are complex structures consisting of different organ systems. These systems work in harmony to enable growth, reproduction, and survival. From the circulatory system responsible for transporting blood to the skeletal system providing structure and support, each system has a crucial role. Understanding these systems is fundamental to grasp the intricacies of human anatomy and physiology. We will delve into the various organ systems, their functions, and how they collectively contribute to the overall well-being of an individual. An organ system is a biological system consisting of a group of organs that work together to perform one or more functions. Each organ has a specialized role in a plant or animal body and is made up of distinct tissues. In humans, there are eleven main organ systems that contribute to our overall health and well-being.Cardiovascular SystemThe cardiovascular system, also known as the circulatory system, is responsible for the transportation of blood throughout the body. It consists of the heart, blood vessels, and blood. The heart pumps oxygenated blood to all parts of the body, delivering essential nutrients and removing waste products. The blood vessels, including arteries, veins, and capillaries, act as a network that carries blood to and from the heart.Skeletal SystemThe skeletal system provides structure and support to the body. It is made up of bones, cartilage, ligaments, and tendons. The bones support our body, protect internal organs, and assist in movement. The skeletal system also stores minerals like calcium and produces blood cells in the bone marrow.Digestive SystemThe digestive system breaks down food into nutrients that can be absorbed by the body. It includes the mouth, esophagus, stomach, small intestine, large intestine, liver, gallbladder, and pancreas. Each organ plays a vital role in the digestion and absorption of nutrients, while waste products are eliminated through the process of defecation.Respiratory SystemThe respiratory system is responsible for the exchange of oxygen and carbon dioxide in the body. It consists of the lungs, trachea, bronchi, and diaphragm. Oxygen is inhaled through the nose or mouth and transported to the lungs, where it is exchanged with carbon dioxide. The carbon dioxide is then exhaled, allowing the cycle to continue.Endocrine SystemThe endocrine system is a network of glands that produce and secrete hormones into the bloodstream. These hormones regulate various bodily functions, including growth, metabolism, reproduction, and mood. The major glands of the endocrine system include the pituitary gland, thyroid gland, adrenal glands, pancreas, and reproductive glands.Nervous SystemThe nervous system is responsible for transmitting signals between different parts of the body. It consists of the brain, spinal cord, and nerves. The brain processes information received from sensory organs, controls bodily functions, and coordinates movement. The spinal cord serves as a communication pathway between the brain and the rest of the body, while the nerves carry signals to and from the brain.Reproductive SystemThe reproductive system is responsible for the production of offspring. In males, it includes the testes, prostate gland, and penis, while in females, it comprises the ovaries, uterus, and vagina. These organs facilitate the production of sperm and eggs, and the subsequent fertilization and development of a new life.Integumentary SystemThe integumentary system is the bodys outer covering, including the skin, hair, and nails. It serves as a protective barrier against external threats and regulates body temperature. The skin also plays a role in the synthesis of vitamin D and the excretion of waste products through sweat.Lymphatic SystemThe lymphatic system is responsible for the removal of waste, toxins, and pathogens from the body. It includes lymph nodes, lymph vessels, and lymphoid organs such as the spleen and tonsils. The lymphatic system also plays a crucial role in the bodys immune response, producing and storing white blood cells that help fight off infections.Muscular SystemThe muscular system is responsible for movement and maintaining posture. It consists of skeletal muscles, smooth muscles, and cardiac muscles. Skeletal muscles enable voluntary movements, while smooth muscles control involuntary movements in organs like the stomach and blood vessels. Cardiac muscles contract to pump blood throughout the body. Credit: en.wikipedia.org The human body consists of various interconnected systems, each playing a vital role in maintaining overall health and functionality. Understanding the significance of body systems can provide valuable insights into the complex and harmonious workings of the human body.Interconnectedness Of SystemsThe bodys systems are intricately interconnected, working in harmony to support the overall functioning of the body. For example, the cardiovascular system is responsible for pumping blood throughout the body, delivering essential nutrients and oxygen to various organs and tissues, thereby impacting the overall well-being. Similarly, the nervous system coordinates and controls bodily activities, influencing the functioning of other systems.Impact On Overall HealthThe health of each body system directly impacts the overall well-being of an individual. For instance, the digestive system plays a crucial role in absorbing nutrients and eliminating waste, impacting energy levels and overall health. Additionally, the respiratory system ensures the intake of oxygen and removal of carbon dioxide, essential for sustaining life and maintaining optimal health. The human body is a complex and fascinating biological entity, consisting of several interconnected systems that work together to maintain and regulate essential functions. Understanding these body systems is crucial for comprehending the intricate workings of the human body and promoting overall well-being. Lets explore the various human body systems and their respective functions.Circulatory SystemThe circulatory system, comprised of the heart, blood vessels, and blood, plays a vital role in the transportation of nutrients, oxygen, and hormones throughout the body. It also facilitates the removal of waste products and helps regulate body temperature.Digestive SystemThe digestive system is responsible for processing food, extracting nutrients, and eliminating waste. It includes organs such as the stomach, intestines, and liver, which work together to break down food into usable components that are absorbed by the body.Endocrine SystemThe endocrine system, consisting of glands such as the pituitary and thyroid, regulates bodily functions through the secretion of hormones. These hormones control metabolism, growth, development, and various other physiological processes.Integumentary SystemThe integumentary system encompasses the skin, hair, and nails, serving as a protective barrier against external factors and regulating body temperature. It also houses sensory receptors and plays a role in vitamin D synthesis.Immune SystemThe immune system defends the body against pathogens and foreign substances, safeguarding against infections and diseases. It comprises various cells, tissues, and organs, including the lymph nodes, spleen, and white blood cells.Muscular SystemThe muscular system enables movement and supports the bodys structure, encompassing skeletal, smooth, and cardiac muscles. It allows for locomotion, posture maintenance, and the execution of various bodily functions.Nervous SystemThe nervous system coordinates and controls bodily activities through the transmission of electrical impulses. It comprises the brain, spinal cord, and nerves, regulating sensory perception, motor function, and cognitive processes.Reproductive SystemThe reproductive system, specific to each gender, is responsible for procreation and the production of sex hormones. It includes organs such as the uterus, ovaries, testes, and prostate, facilitating conception and the continuity of the species.Urinary SystemThe urinary system eliminates waste products and helps maintain fluid and electrolyte balance in the body. Consisting of the kidneys, bladder, and ureters, it filters blood, excretes urine, and regulates blood pressure and pH levels. Credit: www.sciencelearn.org.nz The functionality of body systems is crucial for the overall well-being and proper functioning of the human body. Each system plays a unique role and works harmoniously with the others to maintain balance and ensure the body functions optimally. Lets explore three essential body systems and understand their functionality.Overview Of Skeletal SystemThe skeletal system is the framework that supports and protects the body. It consists of bones, cartilage, and ligaments that work together to give the body structure, maintain its shape, and enable movement. The skeletal system also serves as a storage site for minerals such as calcium and phosphorus and plays a crucial role in blood cell production.The bones in our body are connected by joints, allowing for flexibility and movement. Some bones, like the skull, protect vital organs like the brain, while others, like the ribcage, safeguard the heart and lungs.Efficiency Of Cardiovascular SystemThe cardiovascular system, also known as the circulatory system, is responsible for delivering oxygen, nutrients, and hormones throughout the body. It consists of the heart, blood vessels, and blood. The heart pumps oxygen-rich blood to various body parts through blood vessels, ensuring efficient circulation.The cardiovascular system plays a crucial role in maintaining homeostasis by regulating body temperature, pH balance, and blood pressure. It also aids in the removal of waste products from cells and tissues and helps fight infections by transporting immune cells.Coordination In Nervous SystemThe nervous system is responsible for coordinating and controlling all bodily functions. It consists of the brain, spinal cord, and nerves. The nervous system receives sensory information from the body and responds by sending signals to the appropriate organs and tissues.The brain is the command center of the nervous system and processes information received from the senses. The spinal cord serves as the communication highway, transmitting signals between the brain and the rest of the body. Nerves carry these signals to various body parts, allowing for movement, sensation, and coordination. Credit: openmd.com The 12 systems of the body include the circulatory, digestive, endocrine, integumentary, immune, muscular, nervous, reproductive, respiratory, skeletal, and urinary systems. The 11 major systems of the body are the skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems. Each system consists of organs and structures working together to perform specific functions. The 7 systems of the body include the cardiovascular, skeletal, digestive, respiratory, endocrine, nervous, and reproductive systems. They consist of organs working together to perform various functions. The 4 major systems of the human body are the cardiovascular, respiratory, digestive, and nervous systems. The human body consists of various organ systems, each with its own specific functions and roles. These systems, such as the cardiovascular, respiratory, nervous, and reproductive systems, work in harmony to support growth, reproduction, and survival. Understanding the workings of these systems is essential in comprehending the complexities of the human body. By acknowledging the interplay between these systems, we can appreciate the importance of their collective efforts in maintaining our overall well-being. Organs in the body each perform specific functions vital for life and overall well-being. They work in harmony within organ systems to maintain the bodys homeostasis and facilitate growth, reproduction, and survival. Understanding what organs are, how they are organized, and their roles in the body provides insight into the intricacies of human anatomy.An organ is a group of tissues that work together to perform a specific function. Organs are distinct structures with unique shapes, sizes, and purposes, ranging from the hearts role in circulating blood to the livers function in detoxification.Organs are not:Cells: While organs contains cells, they often contain other structures, too. A cell is the fundamental building block of a living organism,Tissues: Tissues are collections of similar cells that form the building blocks of organs.Systems: Organ systems are groups of organs working together for a larger function, such as digestion or circulation.Organ systems are groups of organs that collaborate to perform broad biological functions. The human body has 11 major organ systems:Circulatory System: Includes the heart and blood vessels, transporting blood, oxygen, and nutrients.Respiratory System: Composed of the lungs and airways, facilitating oxygen intake and carbon dioxide removal.Digestive System: Includes the stomach, intestines, liver, and other organs that break down and absorb nutrients.Nervous System: Composed of the brain, spinal cord, and nerves, controlling body functions and responses.Muscular System: Encompasses all muscles, enabling movement and maintaining posture.Skeletal System: Consists of bones and joints, providing structure and support.Endocrine System: Includes glands that release hormones for regulation of processes like growth and metabolism.Reproductive System: Involves organs like the ovaries and testes, facilitating reproduction.Excretory System: Composed of the kidneys and bladder, removing waste from the body.Immune System / Lymphatic System: Includes the lymph nodes and spleen, defending against pathogens.Integumentary System: Includes the skin, hair, and nails, protecting the body and regulating temperature.The exact number of organs in the human body varies depending on the definition of what constitutes an organ. Traditionally, there are about 78 organs, but some classifications count accessory organs and microstructures like glands, leading to numbers over 100.Vital organs are those necessary for survival. They include:Brain: Controls body functions and cognitive processes.Heart: Pumps blood to deliver oxygen and nutrients.Lungs: Facilitate breathing and oxygen exchange.Liver: Detoxifies the body and produces bile.Kidneys: Filter blood and produce urine.While all organs contribute to health, some are not essential for survival:Gallbladder: Removes bile, but its absence doesnt prevent digestion.Appendix: Once thought vestigial, its removal doesnt impair health significantly.One Kidney: A person can survive with one kidney.One Lung: You can survive with just one.Spleen: Its removal increases susceptibility to infections but isnt life-threatening.Reproductive Organs: Necessary for reproduction but not survival.Eyes: Necessary for vision, but not essential for survival.When you look at a person from the outside, it appears the body displays bilateral symmetry. Inside, its a different story. There are different organs on the right and left sides of the body.Centrally Located Organs:BrainHeart (slightly left)Small intestineBladderOrgans on the Right Side:Organs on the Left Side:Paired Organs (one on each side)KidneysEyesLungsEarsReproductive organs (testicles, ovaries)Accessory organs assist in bodily functions but are not part of the primary system they support. Examples include:Gallbladder: Stores and releases bile.Pancreas: Produces enzymes aiding digestion and hormones regulating blood sugar.Salivary Glands: Aid in digestion by producing saliva.Breasts: Aid the reproductive system by producing milk.Largest Organ: The skin is the largest organ, covering the entire body and serving as a protective barrier. Skin accounts for around 15% of body weight. The largest internal organ is the liver.Smallest Organ: The pineal gland in the brain, about the size of a grain of rice, regulates sleep through melatonin production.Here is a comprehensive list of the organs in the human body with their functions:Central Nervous System:Brain: Controls body functions and processes.Spinal Cord: Transmits signals between the brain and body.Circulatory System:Heart: Pumps blood throughout the body.Blood Vessels (arteries, veins, capillaries): Transport blood.Respiratory System:Lungs: Facilitate oxygen intake and carbon dioxide removal.Trachea: Connects the throat to the lungs.Bronchi: Passageways for air into the lungs.Digestive System:Stomach: Breaks down food for digestion.Small Intestine: Absorbs nutrients from food.Large Intestine: Absorbs water and forms feces.Liver: Detoxifies chemicals and metabolizes drugs.Pancreas: Produces digestive enzymes and hormones like insulin.Gallbladder: Stores bile for fat digestion.Excretory System:Kidneys: Filter blood to produce urine.Ureters: Transport urine from kidneys to bladder.Bladder: Stores urine.Urethra: Removes urine from the body.Endocrine System:Pituitary Gland: Regulates other glands and growth.Pineal Gland: Produces melatonin for sleep regulation.Thyroid Gland: Controls metabolism.Parathyroid Glands: Regulate calcium levels.Adrenal Glands: Produce hormones like adrenaline.Pancreas (dual function): Regulates blood sugar.Ovaries/Testes: Produce sex hormones.Immune and Lymphatic Systems:Spleen: Filters blood and supports immunity.Lymph Nodes: Filter lymph and produce white blood cells.Thymus: Matures T-cells for the immune system.Reproductive System:Ovaries: Produce eggs and hormones.Testes: Produce sperm and testosterone.Uterus: Supports fetal development.Prostate Gland: Produces seminal fluid.Integumentary System:Skin: Protects the body and regulates temperature.Hair: Insulates and protects skin.Nails: Protect the tips of fingers and toes.Sensory Organs:Eyes: Enable vision.Ears: Facilitate hearing and balance.Tongue: Detects taste and aids in speech.Nose: Detects smell.Skeletal System:Bones (206 total): Provide structure and support.Bone Marrow: Produces blood cells.The list currently omits smaller or less prominent organs that are essential but often overlooked in traditional classifications. Here are examples of organs that could be added to reach a more comprehensive list:Salivary Glands (Parotid, Sublingual, and Submandibular): Produce saliva for digestion and oral health.Lymphatic Structures (such as Tonsils and Adenoids): Play roles in immunity and filtering pathogens.Mesentery: A fold of tissue anchoring the intestines, now recognized as an organ.Adipose Tissue: Fat stores, recently classified as an endocrine organ due to its hormonal activity.Vas Deferens and Seminal Vesicles: Male reproductive organs aiding in sperm transport and seminal fluid production.Bartholins and Skenes Glands: Female reproductive glands involved in lubrication.Inner Ear Structures (e.g., Cochlea and Vestibular System): Responsible for hearing and balance.During embryonic development, organs form through a process called organogenesis. This begins with the differentiation of germ layers:Ectoderm: Forms the brain, spinal cord, skin, and sensory organs.Mesoderm: Develops into muscles, bones, the heart, and blood vessels.Endoderm: Forms the digestive tract, lungs, and liver.Stem cells play a critical role in the early stages of development, giving rise to the specialized cells that make up each organ. This tightly regulated process ensures proper organ placement and function.Organ transplants involve replacing a failing organ with a healthy one from a donor. Common transplants include the kidney, liver, and heart. Advances in medicine have led to:Artificial Organs: Devices like artificial hearts and dialysis machines that mimic natural organ functions.3D Printing: The potential to create custom organs using biocompatible materials.Stem Cell Research: Exploring the regeneration of damaged tissues and organs.Comparative anatomy highlights evolutionary adaptations that suit each species environment and lifestyle. Human organs share similarities with those of other species, but adaptations exist:Gills in Fish: Allow aquatic respiration by extracting oxygen from water.Crop in Birds: A storage organ for food before digestion.Cloaca in Reptiles and Birds: A multipurpose organ for excretion and reproduction.Spiracles in Insects: Openings that allow gas exchange without lungs.Here are answers to some common questions about organs in the body:What defines an organ? An organ is a collection of tissues that perform a specific function.What organ is unique to humans? While most organs are common across mammals, the human brains cognitive capacity sets it apart.How do organs regenerate? Some organs, like the liver, have a remarkable capacity for regeneration. Others, like the heart, regenerate minimally.Can a person have extra organs? Yes, conditions like situs inversus or accessory spleens result in additional organs.Griffith, Oliver W.; Wagner, Gnter P. (2017). The placenta as a model for understanding the origin and evolution of vertebrate organs. Nature Ecology & Evolution. 1 (4): 0072. doi:10.1038/s41559-017-0072Kent, Michael (2000). Advanced Biology. Oxford: Oxford University Press. ISBN 0199141959.Widmaier, E. P.; Raff, H.; Strang, K.T. (2014). Vanders Human Physiology (12th ed.). McGraw-Hill Higher Education. ISBN 978-0-07-128366-3.Related Posts An example of a system: the nervous systemThe nervous system in its place in the bodyIn biology, an organ system is a group of organs that work together to perform one or more functions. Each does a particular job in the body, and is made up of certain tissues.These specific systems are widely studied in anatomy. They are present in many types of animals.Circulatory system: pumping and channeling blood to and from the body and lungs with heart, blood and blood vessels.Integumentary system: The skin, hair, fat, and nails.Skeletal system: structural support and protection with bones, cartilage, ligaments and tendons.Reproductive system: the sex organs, such as ovaries, fallopian tubes, uterus, vagina, mammary glands, testes, vas deferens, seminal vesicles and prostateDigestive system: digestion and processing food with salivary glands, esophagus, stomach, liver, gallbladder, pancreas, intestines, rectum and anus.Urinary system: kidneys, ureters, bladder and urethra involved in fluid balance, electrolyte balance and excretion of urine.Respiratory system: the organs used for breathing, the pharynx, larynx, bronchi, lungs and diaphragm.Endocrine system: communication within the body using hormones made by endocrine glands such as the hypothalamus, pituitary gland, pineal gland, thyroid, parathyroid and adrenal glands.Immune system: protects the organism from outside Organisms like bacteria, viruses, fungi, and toxins (chemicals made by toxic cells) with proteins called antibodies.Lymphatic system: the transfer of lymph between tissues and the blood stream; includes the lymph and the nodes and vessels. The system includes the functions of immune responses and the development of antibodies.Muscular system: allows for manipulation of the environment, provides locomotion, maintains posture, and produces heat. Includes skeletal muscles, smooth muscles and cardiac muscle.Nervous system: collecting, transferring and processing information with brain, spinal cord and peripheral nervous system.Retrieved from " organ system is a group of organs that work together to perform a certain function in an organisms body. Most animals and plants have organs, which are self-contained groups of tissues such as the heart that work together to perform one function. Humans and other mammals have many organ systems. An example of an organ system is the circulatory system, which includes the heart, arteries, veins, and capillaries. The human body has 11 different organ systems.This figure depicts the respiratory system. The human organ systems are: Integumentary Skeletal Muscular Circulatory Respiratory Digestive Urinary Immune Nervous Endocrine ReproductiveThe integumentary system consists of external organs that protect the body from damage, including the skin, fingernails, and hair. Skin is the largest organ of the human body. It is made up of three layers: the epidermis, dermis, and hypodermis, which contains stored body fat. Nails and hair are both made up of the protein keratin. In other animals, the integumentary system may include feathers, scales, or hooves. Besides protecting the internal organs from physical damage, the integumentary system has multiple other functions such as protecting against virus invasion, dehydration, sunburns, and changes in temperature, making Vitamin D through sun exposure, and excreting waste through sweating. The skeletal system is made up of all the bones in the human body, i.e., the skeleton. The skeleton forms the supporting structure of the body. It comes from the Greek (skelets), meaning dried up, referring to the dry nature of bones. A human infant has 270 bones, some of which fuse together to form the 206 bones in the adult human body. Cartilage is the precursor to bone when an embryo is developing, and it is found in some structures in the human body such as the nose, ears, and joints.An internal support structure in an animal is called an endoskeleton. Some animals such as insects have hard coverings called exoskeletons on the outside instead of inside the body. The muscular system includes the different types of muscles in the body: cardiac, smooth, and skeletal muscles. Cardiac muscles are found only in the heart and contract to pump blood. Smooth muscles are found in organs such as the stomach, intestines, and bladder and move without conscious effort by the organism. Skeletal muscles are attached to bones and work together with bones to move the body. The circulatory system, also known as the cardiovascular system, consists of the heart, veins, arteries, and capillaries. The circulatory system circulates blood throughout the body in order to transport nutrients and oxygen to the cells. The lymphatic system, which includes lymph and lymph nodes, is also part of the circulatory system; lymph transports fats, destroys bacteria, and returns proteins and interstitial fluid from the bloodstream.Humans and other vertebrates have closed circulatory systems, where the blood is enclosed within blood vessels like veins and arteries. Some animals, such as insects, have open circulatory systems, where blood is pumped into body cavities without the use of vessels. The respiratory system is made up of the organs used for breathing, including the lungs, diaphragm, trachea, bronchi, and bronchioles. In the lungs, oxygen and carbon dioxide are exchanged between the outside air and the blood. Other animals breathe through gills or even through their skin. The digestive system digests food and absorbs it into the body. It is made up of the gastrointestinal tract (which includes the esophagus, stomach, liver, and intestines) along with accessory organs of digestion. These include the tongue, liver, pancreas, and gallbladder. The urinary system gets rid of wastes from the body in the form of urine. The kidneys, ureters, bladder, and urethra are all part of the urinary system. Sometimes the organs of the urinary system are grouped together with organs that remove wastes such as the skin, lungs, and large intestine, and this is called the excretory system. The immune system is an organisms defense system; it protects against disease. Important parts of the immune system include leukocytes (white blood cells), bone marrow, and the thymus. There are many different types of white blood cells, like helper T cells, killer T cells, and B cells. The lymphatic system is also associated with the immune system. The nervous system sends and interprets signals from different parts of the body and organizes the bodys actions. The central nervous system includes the brain and spinal cord, while the peripheral nervous system is made up of nerves that allow the central nervous system to connect to the rest of the body. The endocrine system is comprised of all the glands in the body that produce hormones, which are carried via the bloodstream to affect other organs. Some important glands are the pituitary gland, which produces reproductive and many other body-regulating hormones; the thyroid, which has roles in metabolism and protein synthesis; and the adrenal glands, which produce adrenaline and stimulate the fight-or-flight response. The reproductive system includes an organisms sex organs. In females, some of the sex organs are the vagina, uterus, and ovaries. In males, some sex organs are the penis, testes, prostrate, and vas deferens. All of these organs play a role in sexual reproduction. Organ a self-contained group of tissues that performs a specific function.Biological system a network of entities that are biologically related; this can be on the scale of tissues or organs, but also be used on a larger scale to represent populations of living things.Organism an individual living thing, such as one animal, plant, fungus, or bacterium. 1. Which organ is NOT a part of the nervous system?A. BrainB. NervesC. HeartD. Spinal cordC is correct. The brain, spinal cord, and nerves make up the nervous system. These organs function together to control the bodys movements and to send and receive signals to and from the other parts of the body. The heart is not a part of the nervous system; it is part of the circulatory system.2. Which organ system is made up of all the glands that produce hormones?A. The immune systemB. The muscular systemC. The endocrine systemD. The integumentary systemC is correct. The endocrine system is comprised of the glands that produce hormones, such as the adrenal glands, the pituitary gland, and the thyroid. The immune system is made up of organs that fight disease, the muscular system represents all the muscles in the body, and the integumentary system is made up of external organs that protect the body, like skin, hair, and nails.3. What is the function of the respiratory system?A. To digest food and absorb its nutrients into the bodyB. To form a supporting structure for the bodys other organsC. To circulate blood throughout the body and transport oxygen and nutrients to cellsD. To take in oxygen and expel carbon dioxide when an organism breathesD is correct. The respiratory system is made up of the organs used for breathing (respiration), such as lungs, the trachea, bronchi, and bronchioles. When an organism breathes, the organs of the respiratory system take in oxygen and removes carbon dioxide from the body. In order to continue enjoying our site, we ask that you confirm your identity as a human. Thank you very much for your cooperation. An organ system is a group of organs that work together in the body to perform a complex function, such as pumping blood or processing and utilizing nutrients. There are 11 major organ systems in the human body:The circulatory (cardiovascular) systemThe lymphatic systemThe respiratory systemThe integumentary systemThe endocrine systemThe gastrointestinal (digestive) systemThe urinary (excretory) systemThe musculoskeletal systemThe nervous systemThe reproductive systemThe immune system Organ systems work together to keep the body in good health. For example, the circulatory and digestive systems work jointly to deliver nutrients throughout the body. Except for the reproductive system, each system is necessary for survival. Peter Dazeley / Getty Images The circulatory system transports oxygen and nutrients to all corners of the body. It also carries away carbon dioxide and other waste products. When people talk about this organ system, theyre usually talking about the cardiovascular system at large, which includes: The heartBloodBlood vessels (arteries and veins) The circulatory system maintains blood flow within a certain pressure range so that the blood can make it to everywhere it needs to go. Blood pressure thats too high puts extra stress on other organs and tissues. Low blood pressure means the bloodand its nutrientswont make it to where it needs to go. The lymphatic system is the drainage system of the body. It plays an important role in your immunity, blood pressure regulation, digestion, and other functions. This organ system carries excess fluid, proteins, fats, bacteria, and other substances away from the cells and spaces between cells. It does this using:Lymph vesselsLymph nodesLymph ductsVarious glands The lymphatic vessels move the fluid into collecting ducts, which return the fluid to your bloodstream. The lymphatic system also helps create and circulate vital cells that fight disease, which is why it is also a part of the immune system. This includes lymphocytes and monocytes (white blood cells) and antibodies (proteins that recognize bacteria and viruses). The respiratory system is responsible for breathing, which is the controlled movement of air in and out of the body (ventilation). It also moves oxygen and carbon dioxide into and out of the bloodstream (respiration). This organ system contains the following:LungsTrachea (windpipe)Airways of the respiratory tree One of the least understood responsibilities of the respiratory system is to help regulate the bodys pH balance (the bodys balance of acids and bases). Carbon dioxide is made into carbonic acid, which affects the pH balance. The respiratory system regulates this pH level when it releases carbon dioxide from the body. Breathing issues may indicate a condition that affects the bodys acidity. The integumentary system is unique because it is the largest and only single-organ system in the body. It protects the body from the external environment and helps regulate body temperature. The integumentary system is the skin and all the structures in it, including: Sweat glandsHair folliclesNailsNerves The endocrine system mostly regulates metabolism and uses the products of digestion. Along with the nervous system and immune system, its generally considered one of the most complicated systems in the body. This organ system includes all the glands that secrete hormones into the bloodstream, including: The gastrointestinal (GI) system is sometimes referred to as the gut or the digestive system. It is responsible for breaking down foods into nutrients, which the body needs for energy, growth, and cell repair. This system includes all the organs that carry food from where it enters the body to where it exits, including the following: MouthEsophagusStomachSmall intestineLarge intestineRectumAnus The pancreas, gallbladder, and liver are also part of this organ system. The GI tract and the endocrine system have a lot of interaction. The endocrine system produces the hormones that regulate digestion and the absorption of nutrients. The GI system also owes a lot to the vagus nerve, the main contributor to the parasympathetic nervous system, which regulates bodily functions. The vagus nerve is involved in slowing metabolism, lowering heart rate and blood pressure, and stimulating the mechanics of digestion.Some organs belong to more than one organ system. The pancreas, for example, can be considered a part of the digestive system because it secretes enzymes that help the body break down fat, protein, and starch. It is also part of the endocrine system because it produces hormones that help regulate blood sugar. The urinary system includes:KidneysUretersBladderUrethra These organs work together to filter blood and remove toxins and waste from body tissues. The removal of excess fluid through this organ system also helps regulate blood pressure. The musculoskeletal system provides the framework and the engine for our movement, posture, and physical abilities. This organ system includes: The skeletonAll the muscles, tendons, and ligaments attached to the skeleton There are three types of muscles in the body: Skeletal (voluntary)Smooth (visceral or involuntary), which are inside walls of organs like the intestinesCardiac (heart muscle) Only skeletal muscle is considered part of the musculoskeletal system. Your body's skeletal system contains 206 bones: The 80 bones of the axial skeleton (your spine and the core of your body)The 126 bones in the appendicular skeleton (your arms, legs, and bones away from the core) In addition to providing your body's structure and facilitating its mobility, the skeletal system contains bone marrow to produce blood and lymph cells. It stores fat in the body, as well as key minerals like calcium. The nervous system is a network that makes it possible for different parts of the body to communicate with one another. Think of it as your bodys command station. All body processes, reactions, thoughts, and movements stem from this organ system. The nervous system is incredibly detailed and includes: The Central Nervous System The Peripheral Nervous System All the nerves connected to both of these organs The nervous system contains the only tissue that isnt fed directly through contact with blood. The immune system helps the body fight against infection and other diseases. All of its organs are borrowed from other organ systems. Because of the interplay between organs from various other systems, the immune system is one of the most complicated systems of all. The primary organs of the immune system include:Lymph nodesBone marrowThymusSpleenAdenoidsTonsilsSkin Immune system organs work like sailors on a ship: Each one has a primary duty and is cross-trained for other jobs. This is the only organ system that is not complete in any one body and requires another person (or medical intervention) to complete its mission, producing offspring. The male reproductive system consists of the: EpididymisTestesProstateAs well as the external structures of the scrotum and penis. The female reproductive system consists of the: Aside from their direct roles in reproduction, the ovaries and testicles also play important roles in the endocrine system, producing estrogen, testosterone, and progesterone. The body has 11 different organ systems. Each group of organs has a different complex function, such as movement, breathing, or digestion. In some cases, one system works closely with another on a particular task. For example, the endocrine system interacts with the gastrointestinal system to control digestion and metabolism. When your organ systems are working properly, they help your body stay in balance and maintain your health. Share copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution You must give appropriate credit , provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. Body systems are groups of organs and tissues that work together to perform important jobs for the body. Some organs may be part of more than one body system if they serve more than one function. Other organs and tissues serve a purpose in only one body system. Examples include the respiratory system, nervous system, and digestive system.The various body systems in humansOverview of Body SystemsAll body systems are necessary for a complex organism to be able to survive and reproduce. This article will focus on the systems of the human body; similar systems are required by all animals, but the details of how they accomplish their tasks may vary. Functions that must be performed by an animal to stay alive include: Absorbing oxygen for use in cellular respiration Excreting carbon dioxide produced during cellular respiration Ingesting and processing food to obtain sugars and other nutrients. Transporting necessary substances, such as oxygen and nutrients, to all cells in the body Clearing toxic waste products from the body. Responding to changes in the environmental conditions Protecting the organs from the environment. Fighting pathogensAdditionally, for a species to survive, its individuals must be able to reproduce.How do our organs and tissues work together as systems to accomplish these tasks?List and Functions of Body Systems The respiratory system facilitates gas exchange between cells and the environment. The structures involved include the nasal passage, the trachea, and the lungs. The respiratory system takes oxygen from the environment to be used throughout the body.In humans, oxygen is taken into the body by the lungs, where it and rapidly diffuses into the blood. The lungs accomplish this by passing large amounts of blood over gas exchange membranes. In fact, the bodys whole blood volume passes over these membranes about once per minute!It could be argued that the respiratory system is one of the bodys most important. Without oxygen to fuel cellular respiration, cells begin to die within minutes. This is the primary reason that heart attacks are deadly. Although the heart is part of the circulatory system, not the respiratory system, it is responsible for transporting oxygen from the lungs to our cells. When the circulatory system stops working, our tissues begin to die from lack of oxygen. The lungs also expel carbon dioxide a waste product of cellular respiration which could otherwise build up to toxic levels. The digestive system ingests food and breaks it down into usable nutrients before excreting solid waste products. It includes the mouth, esophagus, stomach, and intestines.

nodes such as those behind the ears, under the jaw, and in the armpits and groin can become painful and swollen as our immune systems fight the infections in these nodes. The reproductive system facilitates the production of offspring. It includes, for example, the ovaries, uterus, mammary glands (breasts), penis, and testes.The reproductive system is not essential to individual survival, but it is essential for the survival of the species. After all, a species whose members couldnt reproduce would not last very long!In humans, there are two very different reproductive systems: the male system, which is primarilyconcerned with producing sperm and finding mates; and the female system, which must prepare for pregnancy, childbirth, and baby care for reproduction to be successful.The female reproductive system is a particularly fascinating study in the way body systems work together to ensure our survival. Throughout the course of a womans menstrual cycle, her body uses four different hormones most of which are produced by her ovaries to decide when and whether her body should prepare for pregnancy.The reproductive system in females and malesThe major effects of the reproductive hormones are on the reproductive organs themselves, which must bring eggs for maturity and prepare uterine lining, rich in blood vessels, to nurture a possible embryo.However, effects are also seen in other organ systems. As the menstrual cycle progresses, the hormones may alter the body temperature; blood flow; and even the appetite and attraction to the opposite sex, to ensure that all the right resources are in place at the right time for reproduction to proceed.Women in some parts of the world have been known to develop bizarre eating habits due to the demands of their reproductive cycle. In areas with poor nutrition, for example, the monthly shedding of the blood-rich uterine lining can cause deficiencies of the minerals found in the blood. As a result, women in these areas may actually eat clay from the ground to ensure these minerals are replenished!We may not see such clear examples of our body systems interacting on a daily basis; but the organs and tissues that make up our body systems are always communicating, and working together, to keep us and our species alive and healthy. BibliographyBartsch, R. P., Liu, K. K. L., Bashan, A., & Ivanov, P. C. (2015). Network physiology: How organ systems dynamically interact. PLoS ONE, 10(11). R. L., Vogl, W., & Mitchell, A. W. M. (2015). Grays Clinical Anatomy. In Grays Anatomy for Students. S. (2017). Guyton and Hall: Textbook of Medical Physiology. Surgical Neurology International. organ system is a group of organs that work together to perform a certain function in an organisms body. Most animals and plants have organs, which are self-contained groups of tissues such as the heart that work together to perform one function. Humans and other mammals have many organ systems. An example of an organ system is the circulatory system, which includes the heart, arteries, veins, and capillaries. The human body has 11 different organ systems.This figure depicts the respiratory system. The human organ systems are: Integumentary Skeletal Muscular Circulatory Respiratory Digestive Urinary Immune Nervous Endocrine ReproductiveThe integumentary system consists of external organs that protect the body from damage, including the skin, fingernails, and hair. Skin is the largest organ of the human body. It is made up of three layers: the epidermis, dermis, and hypodermis, which contains stored body fat. Nails and hair are both made up of the protein keratin. In other animals, the integumentary system may include feathers, scales, or hooves. Besides protecting the internal organs from physical damage, the integumentary system has multiple other functions such as protecting against virus invasion, dehydration, sunburns, and changes in temperature, making Vitamin D through sun exposure, and excreting waste through sweating. The skeletal system is made up of all the bones in the human body, i.e., the skeleton. The skeleton forms the supporting structure of the body. It comes from the Greek (skelets), meaning dried up, referring to the dry nature of bones. A human infant has 270 bones, some of which fuse together to form the 206 bones in the adult human body. Cartilage is the precursor to bone when an embryo is developing, and it is found in some structures in the human body such as the nose, ears, and joints.An internal support structure in an animal is called an endoskeleton. Some animals such as insects have hard coverings called exoskeletons on the outside instead of inside the body. The muscular system includes the different types of muscles in the body: cardiac, smooth, and skeletal muscles. Cardiac muscles are found only in the heart and contract to pump blood. Smooth muscles are found in organs such as the stomach, intestines, and bladder and move without conscious effort by the organism. Skeletal muscles are attached to bones and work together with bones to move the body. The circulatory system, also known as the cardiovascular system, consists of the heart, veins, arteries, and capillaries. The circulatory system circulates blood throughout the body in order to transport nutrients and oxygen to the cells. The lymphatic system, which includes lymph and lymph nodes, is also part of the circulatory system; lymph transports fats, destroys bacteria, and returns proteins and interstitial fluid from the bloodstream.Humans and other vertebrates have closed circulatory systems, where the blood is enclosed within blood vessels like veins and arteries. Some animals, such as insects, have open circulatory systems, where blood is pumped into body cavities without the use of vessels. The respiratory system is made up of the organs used for breathing, including the lungs, diaphragm, trachea, bronchi, and bronchioles. In the lungs, oxygen and carbon dioxide are exchanged between the outside air and the blood. Other animals breathe through gills or even through their skin. The digestive system digests food and absorbs it into the body. It is made up of the gastrointestinal tract (which includes the esophagus, stomach, liver, and intestines) along with accessory organs of digestion. These include the tongue, liver, pancreas, and gallbladder. The urinary system gets rid of wastes from the body in the form of urine. The kidneys, ureters, bladder, and urethra are all part of the urinary system. Sometimes the organs of the urinary system are grouped together with organs that remove wastes such as the skin, lungs, and large intestine, and this is called the excretory system. The immune system is an organisms defense system; it protects against disease. Important parts of the immune system include leukocytes (white blood cells), bone marrow, and the thymus. There are many different types of white blood cells, like helper T cells, killer T cells, and B cells. The lymphatic system is also associated with the immune system. The nervous system sends and interprets signals from different parts of the body and organizes the bodys actions. The central nervous system includes the brain and spinal cord, while the peripheral nervous system is made up of nerves that allow the central nervous system to connect to the rest of the body. The endocrine system is comprised of all the glands in the body that produce hormones, which are carried via the bloodstream to affect other organs. Some important glands are the pituitary gland, which produces reproductive and many other body-regulating hormones; the thyroid, which has roles in metabolism and protein synthesis; and the adrenal glands, which produce adrenaline and stimulate the fight-or-flight response. The reproductive system includes an organisms sex organs. In females, some of the sex organs are the vagina, uterus, and ovaries. In males, some sex organs are the penis, testes, prostrate, and vas deferens. All of these organs play a role in sexual reproduction. Organ a self-contained group of tissues that performs a specific function.Biological system a network of entities that are biologically related; this can be on the scale of tissues or organs, but also be used on a larger scale to represent populations of living things.Organism an individual living thing, such as one animal, plant, fungus, or bacterium. 1. Which organ is NOT a part of the nervous system?A. BrainB. NervesC. HeartD. Spinal cordC is correct. The brain, spinal cord, and nerves make up the nervous system. These organs function together to control the bodys movements and to send and receive signals to and from the other parts of the body. The heart is not a part of the nervous system; it is part of the circulatory system.2. Which organ system is made up of all the glands that produce hormones?A. The immune systemB. The muscular systemC. The endocrine systemD. The integumentary systemC is correct. The endocrine system is comprised of the glands that produce hormones, such as the adrenal glands, the pituitary gland, and the thyroid. The immune system is made up of organs that fight disease, the muscular system represents all the muscles in the body, and the integumentary system is made up of external organs that protect the body, like skin, hair, and nails.3. What is the function of the respiratory system?A. To digest food and absorb its nutrients into the bodyB. To form a supporting structure for the bodys other organsC. To circulate blood throughout the body and transport oxygen and nutrients to cellsD. To take in oxygen and expel carbon dioxide when an organism breathesD is correct. The respiratory system is made up of the organs used for breathing (respiration), such as lungs, the trachea, bronchi, and bronchioles. When an organism breathes, the organs of the respiratory system take in oxygen and removes carbon dioxide from the body.An organ system is a group of organs that work together to perform a certain function in an organisms body. Most animals and plants have organs, which are self-contained groups of tissues such as the heart that work together to perform one function. Humans and other mammals have many organ systems. An example of an organ system is the circulatory system, which includes the heart, arteries, veins, and capillaries. The human body has 11 different organ systems.This figure depicts the respiratory system. The human organ systems are: Integumentary Skeletal Muscular Circulatory Respiratory Digestive Urinary Immune Nervous Endocrine ReproductiveThe integumentary system consists of external organs that protect the body from damage, including the skin, fingernails, and hair. Skin is the largest organ of the human body. It is made up of three layers: the epidermis, dermis, and hypodermis, which contains stored body fat. Nails and hair are both made up of the protein keratin. In other animals, the integumentary system may include feathers, scales, or hooves. Besides protecting the internal organs from physical damage, the integumentary system has multiple other functions such as protecting against virus invasion, dehydration, sunburns, and changes in temperature, making Vitamin D through sun exposure, and excreting waste through sweating. The skeletal system is made up of all the bones in the human body, i.e., the skeleton. The skeleton forms the supporting structure of the body. It comes from the Greek (skelets), meaning dried up, referring to the dry nature of bones. A human infant has 270 bones, some of which fuse together to form the 206 bones in the adult human body. Cartilage is the precursor to bone when an embryo is developing, and it is found in some structures in the human body such as the nose, ears, and joints.An internal support structure in an animal is called an endoskeleton. Some animals such as insects have hard coverings called exoskeletons on the outside instead of inside the body. The muscular system includes the different types of muscles in the body: cardiac, smooth, and skeletal muscles. Cardiac muscles are found only in the heart and contract to pump blood. Smooth muscles are found in organs such as the stomach, intestines, and bladder and move without conscious effort by the organism. Skeletal muscles are attached to bones and work together with bones to move the body. The circulatory system, also known as the cardiovascular system, consists of the heart, veins, arteries, and capillaries. The circulatory system circulates blood throughout the body in order to transport nutrients and oxygen to the cells. The lymphatic system, which includes lymph and lymph nodes, is also part of the circulatory system; lymph transports fats, destroys bacteria, and returns proteins and interstitial fluid from the bloodstream.Humans and other vertebrates have closed circulatory systems, where the blood is enclosed within blood vessels like veins and arteries. Some animals, such as insects, have open circulatory systems, where blood is pumped into body cavities without the use of vessels. The respiratory system is made up of the organs used for breathing, including the lungs, diaphragm, trachea, bronchi, and bronchioles. In the lungs, oxygen and carbon dioxide are exchanged between the outside air and the blood. Other animals breathe through gills or even through their skin. The digestive system digests food and absorbs it into the body. It is made up of the gastrointestinal tract (which includes the esophagus, stomach, liver, and intestines) along with accessory organs of digestion. These include the tongue, liver, pancreas, and gallbladder. The urinary system gets rid of wastes from the body in the form of urine. The kidneys, ureters, bladder, and urethra are all part of the urinary system. Sometimes the organs of the urinary system are grouped together with organs that remove wastes such as the skin, lungs, and large intestine, and this is called the excretory system. The immune system is an organisms defense system; it protects against disease. Important parts of the immune system include leukocytes (white blood cells), bone marrow, and the thymus. There are many different types of white blood cells, like helper T cells, killer T cells, and B cells. The lymphatic system is also associated with the immune system. The nervous system sends and interprets signals from different parts of the body and organizes the bodys actions. The central nervous system includes the brain and spinal cord, while the peripheral nervous system is made up of nerves that allow the central nervous system to connect to the rest of the body. The endocrine system is comprised of all the glands in the body that produce hormones, which are carried via the bloodstream to affect other organs. Some important glands are the pituitary gland, which produces reproductive and many other body-regulating hormones; the thyroid, which has roles in metabolism and protein synthesis; and the adrenal glands, which produce adrenaline and stimulate the fight-or-flight response. The reproductive system includes an organisms sex organs. In females, some of the sex organs are the vagina, uterus, and ovaries. In males, some sex organs are the penis, testes, prostrate, and vas deferens. All of these organs play a role in sexual reproduction. Organ a self-contained group of tissues that performs a specific function.Biological system a network of entities that are biologically related; this can be on the scale of tissues or organs, but also be used on a larger scale to represent populations of living things.Organism an individual living thing, such as one animal, plant, fungus, or bacterium. 1. Which organ is NOT a part of the nervous system?A. BrainB. NervesC. HeartD. Spinal cordC is correct. The brain, spinal cord, and nerves make up the nervous system. These organs function together to control the bodys movements and to send and receive signals to and from the other parts of the body. The heart is not a part of the nervous system; it is part of the circulatory system.2. Which organ system is made up of all the glands that produce hormones?A. The immune systemB. The muscular systemC. The endocrine systemD. The integumentary systemC is correct. The endocrine system is comprised of the glands that produce hormones, such as the adrenal glands, the pituitary gland, and the thyroid. The immune system is made up of organs that fight disease, the muscular system represents all the muscles in the body, and the integumentary system is made up of external organs that protect the body, like skin, hair, and nails.3. What is the function of the respiratory system?A. To digest food and absorb its nutrients into the bodyB. To form a supporting structure for the bodys other organsC. To circulate blood throughout the body and transport oxygen and nutrients to cellsD. To take in oxygen and expel carbon dioxide when an organism breathesD is correct. The respiratory system is made up of the organs used for breathing (respiration), such as lungs, the trachea, bronchi, and bronchioles. When an organism breathes, the organs of the respiratory system take in oxygen and removes carbon dioxide from the body.Group of organs assembled in a structural unit to serve a common functionThis article needs additional citations for verification. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed.Find sources:"Organ system"news newspapers books scholar JSTOR (June 2019) (Learn how and when to remove this message)This article is part of a series on theDevelopment of organ systemsNervous systemDigestive systemReproductive systemUrinary systemEndocrine systemHuman developmentCirculatory systemvteStructure of the immune systemDetailsSystemLymphatic systemIdentifiersFMA7149Anatomical terminology[edit on Wikidata]An organ system is a biological system consisting of a group of organs that work together to perform one or more bodily functions.[1] Each organ has a specialized role in an organism body, and is made up of distinct tissues.Main article: List of systems of the human bodyNervous system in a human bodyThere are 11 distinct organ systems in human beings,[2] which form the basis of human anatomy and physiology. The 11 organ systems: the respiratory system, digestive and excretory system, circulatory system, urinary system, integumentary system, skeletal system, muscular system, endocrine system, lymphatic system, nervous system, and reproductive system. There are other systems in the body that are not organ systemsfor example, the immune system protects the organism from infection, but it is not an organ system since it is not composed of organs. Some organs are in more than one systemfor example, the nose is in the respiratory system and also serves as a sensory organ in the nervous system; the testes and ovaries are both part of the reproductive and endocrine systems.Organ systemDescriptionComponent organsRespiratory systembreathing: exchange of oxygen and carbon dioxidenose, mouth, paranasal sinuses, pharynx, larynx, trachea, bronchi, lungs and thoracic diaphragmDigestive and excretory systemdigestion: breakdown and absorption of nutrients, excretion of solid wastesteeth, tongue, salivary glands, esophagus, stomach, liver, gallbladder, pancreas, small intestine, large intestine, rectum and anusCirculatory systemcirculate blood in order to transport nutrients, waste, hormones, O2, CO2, and aid in maintaining pH and temperatureblood, heart, arteries, veins and capillariesUrinary systemmaintain fluid and electrolyte balance, purify blood and excrete liquid waste (urine)kidneys, ureters, bladder and urethraIntegumentary systemexterior protection of body and thermal regulationskin, hair, fat and nailsSkeletal systemstructural support and protection, production of blood cellsbones, cartilage, ligaments and tendonsMuscular systemmovement of body, production of heatskeletal muscles, smooth muscles and cardiac muscleEndocrine systemcommunication within the body using hormones made by endocrine glandshypothalamus, pituitary, pineal gland, thyroid, parathyroid and adrenal glands, ovaries and testiclesExocrine systemvarious functions including lubrication and protectionceruminous glands, lacrimal glands, sebaceous glands and mucusLymphatic systemreturn lymph to the bloodstream, aid immune responses, form white blood cellslymph, lymph nodes, lymph vessels, tonsils, spleen and thymusNervous systemsensing and processing information, controlling body activitiesbrain, spinal cord, nerves, sensory organs and the following sensory systems (nervous subsystems): visual system, olfactory system, taste (gustatory system) and hearing (auditory system)Reproductive systemsex organs involved in reproductionovaries, fallopian tubes, uterus, vagina, vulva, penis, testicles, vasa deferentia, seminal vesicles and prostateOther animals have similar organ systems to humans although simpler animals may have a lot of organs in an organ system or even fewer organ systems.Root and shoot systems in a eudicotPlants have two major organs systems. Vascular plants have two distinct organ systems: a shoot system, and a root system. The shoot system consists stems, leaves, and the reproductive parts of the plant (flowers and fruits). The shoot system generally grows above ground, where it absorbs the light needed for photosynthesis. The root system, which supports the plants and absorbs water and minerals, is usually underground.[3] Organ systemDescriptionComponent organs Root systemanchors plants into place, absorbs water and minerals, and stores carbohydratesrootsShoot systemstem for holding and orienting leaves to the sun as well as transporting materials between roots and leaves, leaves for photosynthesis, and flowers for reproductionstem, leaves, and flowers^ Betts, J Gordon; etal. (2013). 1.2 Structural Organization of the Human Body - Anatomy and Physiology. Openstax. ISBN978-1-947172-04-3. Archived from the original on 2023-03-24. Retrieved 14 May 2023.^ Wakim, Suzanne; Grewal, Mandeep (August 8, 2020). "Human Organs and Organ Systems". Archived from the original on November 24, 2020. Retrieved October 7, 2020.^ Hillis, David M.; Sadava, David; Hill, Richard W.; Price, Mary V. (2014). "The plant body". Principles of Life (2nded.). Sunderland, Mass.: Sinauer Associates. pp.521536. ISBN978-1464175121.Retrieved from " System Of Organs Definition Understanding the intricate workings of the human body is essential for anyone interested in biology, health sciences, or even just curious about the inner workings of our complex organism. At the heart of this understanding lies the concept of a system of organs, a fundamental idea in anatomy and physiology. This article aims to provide an in-depth exploration of the definition, function, and significance of systems of organs, shedding light on this fascinating aspect of the human body. In the realm of human biology, a system of organs refers to a group of interconnected organs that work together harmoniously to perform specific physiological functions, contributing to the overall maintenance and survival of the organism. These organ systems are intricately designed, each with a unique purpose and role, yet they are all interconnected, forming a complex network that keeps the body functioning optimally. For instance, the digestive system, comprising organs such as the stomach, intestines, liver, and pancreas, is responsible for breaking down food into nutrients that the body can utilize for energy and growth. Similarly, the respiratory system, made up of the lungs and associated structures, ensures the body receives oxygen and expels carbon dioxide, a vital process for sustaining life. The Function: A Symphony of Physiological HarmonyThe function of a system of organs is nothing short of remarkable. Each organ system is designed to perform a specific set of tasks, contributing to the overall health and homeostasis of the body. These systems work in harmony, with each organ contributing its unique capabilities to the overall function. Take the cardiovascular system, for example. This intricate network, consisting of the heart, blood vessels, and blood, is responsible for circulating blood throughout the body. The heart pumps blood, carrying oxygen and nutrients to various organs and tissues, while also transporting waste products away for elimination. This continuous circulation ensures that every cell in the body receives the necessary nutrients and can dispose of waste, maintaining optimal cellular function. Another fascinating example is the nervous system, which includes the brain, spinal cord, and an extensive network of nerves. This system is responsible for transmitting signals and coordinating bodily functions, from simple reflexes to complex cognitive processes. It allows us to perceive the world around us, respond to stimuli, and control our movements. The significance of systems of organs extends far beyond their individual functions. These interconnected organ systems form the very foundation of our existence, ensuring our bodies can adapt, respond to challenges, and maintain a state of balance known as homeostasis. For instance, when we engage in physical activity, multiple organ systems work together seamlessly. The muscular system contracts to generate movement, the respiratory system increases oxygen intake to meet the body's heightened energy demands, and the cardiovascular system accelerates blood circulation to deliver oxygen and nutrients to working muscles. This coordinated effort allows us to perform physical tasks efficiently and effectively. Furthermore, the concept of systems of organs highlights the importance of balance and regulation in the body. For example, the endocrine system, comprising various glands that secrete hormones, plays a crucial role in regulating bodily functions. Hormones act as chemical messengers, influencing processes such as growth, metabolism, and reproduction. The delicate balance of these hormones is essential for maintaining overall health and well-being. A Table: A Snapshot of Organ Systems Organ System Key Organs Function Digestive System Stomach, intestines, liver, pancreas Breaking down food into nutrients for absorption Respiratory System Lungs, trachea, bronchi Gas exchange: supplying oxygen and removing carbon dioxide Cardiovascular System Heart, blood vessels, blood Circulating blood to transport oxygen, nutrients, and waste products Nervous System Brain, spinal cord, nerves Transmitting signals, controlling bodily functions, and coordinating movement Endocrine System Pituitary gland, thyroid, adrenal glands Regulating bodily functions through hormone secretion The concept of systems of organs showcases the incredible complexity and harmony of the human body, highlighting the interconnectedness of its various parts. This understanding is crucial not only for those studying biology but also for anyone interested in maintaining optimal health and well-being. How many organ systems are there in the human body? + The human body consists of 11 major organ systems, each with its unique functions and contributions to overall health. Can organ systems work independently of each other? + While each organ system has its specific functions, they all work in an interconnected manner, with the overall health and homeostasis of the body being the primary goal. What happens when an organ system malfunctions? + Malfunction or disease in one organ system can have repercussions on other systems, as they are all interconnected. This can lead to various health issues and disorders. How do organ systems adapt to changes in the bodys environment? + Organ systems have built-in mechanisms to adapt to changes in the bodys internal and external environment, ensuring homeostasis and optimal functioning. scoresvideosteachers In biology, an organ is a structure composed of a group of different tissues that work together to perform a specific function. Most multicellular organisms have one or more organs. The stomach, liver, lungs, and heart are examples of organs found in animals. Stems and leaves are two types of organs found in plants. In higher organisms, organs are grouped into organ systems.Encyclopdia Britannica, Inc. Organs and organ systems represent two levels in the structural hierarchy of living things. The hierarchy is composed of five levels of organization that interact within the body to maintain homeostasis. The most basic level of organization is the cell. From the cell, in order of increasing complexity, the other levels are the tissues, organs, organ systems, and the organism itself. The major organs in higher animals include the brain, heart, lungs, kidneys, liver, stomach, intestines, and skin, as well as the reproductive organs.Encyclopdia Britannica, Inc. The brain is the control center of the body, directly and indirectly regulating all vital functions, including breathing and the beating of the heart. The heart serves as a pump that circulates blood throughout the body. The lungs function in gas exchange; they are responsible for adding oxygen to and removing carbon dioxide from the blood. The kidneys maintain water balance and help rid the body of metabolic wastes. The stomach and the intestines are the primary sites for the digestion of food and the absorption of nutrients.One of the most important organs is the liver. Among its many functions are removing wastes and toxic materials from the blood, synthesizing proteins needed for blood clotting, and storing glycogen and vitamins.Like the liver, the skin has a variety of important functions. It is the main barrier between the inner body and the environment and is the bodys first line of defense against foreign invaders, such as allergens and infectious organisms. Skin also functions to some extent in gas exchange, especially in amphibians.All animals have reproductive organs, though these vary in complexity depending upon the animal. In humans and other mammals, the female reproductive organs include the uterus and ovaries; the primary reproductive organs in males are the testes and the penis.Encyclopdia Britannica, Inc. Lower animals have many of the same organs as those found in higher animals, though the organs may exhibit differences in structure or complexity. For example, the brain in many insects and other invertebrates may consist of several simple nerve clusters, or ganglia. Beata Becla/Shutterstock.com The leaf, root, stem, and reproductive organs are the major organs in plants. The primary function of the leaf is to produce food for the plant through photosynthesis. Leaves also play a critical role in gas exchange and in controlling water loss through transpiration.The stem is the stalk of a plant or the main trunk of a tree. The stem conducts water, minerals, and food to other parts of the plant; it may also store food, and green stems themselves can produce food through photosynthesis. In most plants the stem is the major vertical shoot; in some plants, however, the stem may be inconspicuous. In still other plants, the stem may be modified and resemble other plant parts; for example, underground stems such as rhizomes look like roots.Encyclopdia Britannica, Inc. The roots of a plant anchor the plant to the substrate (most often, soil); they also absorb water and mineral salts and store nutrients. The primary root, or radicle, of a plant is the first organ to appear when a seed germinates. Dr. Morley Read/Shutterstock.com The reproductive organs in plants include the seeds, spores, and, in flowering plants (angiosperms), structures within the flowers. In lower plants, such as bryophytes (mosses, hornworts, and liverworts) and ferns, the female reproductive organ is called the archegonium, and the male reproductive organ is the antheridium.Encyclopdia Britannica, Inc. In most higher animals and plants, the organs are grouped into organ systems. An organ system contains two or more distinct organs that work together to perform a similar function.(Left) Nancy Kennedy/Shutterstock.com; (center) ilkka kukko/Fotolia; (right) anweber/Fotolia Plants have two organ systemsthe root system and the shoot system. The root system includes the parts of the plant below the ground. This includes roots and underground modified stems such as tubers and rhizomes. The shoot system comprises all of the above-ground parts of the plantthe stems, leaves, flowers, and reproductive organs.Encyclopdia Britannica, Inc.Encyclopdia Britannica, Inc. In the more advanced animals, there are usually 10 organ systems: integumentary (skin), skeletal, muscular, nervous, endocrine (hormonal), digestive, respiratory, circulatory, excretory (urinary), and reproductive. For an overview of these systems in humans, see human anatomy.Encyclopdia Britannica, Inc. Simple organ systems are found in many lower animals. In flatworms, for example, the nervous system is composed of two cerebral ganglianerve clusters in the head that function as the brainconnected to nerve cords that extend throughout the body. However, some animals, such as jellyfish, lack organs altogether. In these animals, all functions are handled at the cellular or tissue level.

Organ system definition biology. Organ systemsdefinition biology. What is an organ system short answer. Organ definition biology simple.