

GLOSSARY AND CREDITS

The Animalia kingdom is a very diverse group of organisms. In fact, you are included in the Animalia kingdom, along with insects, worms, mollusks, birds, and many other groups. In this unit, you'll explore the different groups or phyla under the Animalia kingdom and see how different animal and human bodies work—from specialized cells and tissues to the organ systems like digestion and respiration.

VOCABULARY

acoelomate	an animal without a body cavity
action potential	an electrical nerve impulse sent by nerve fibers to the central nervous system for interpretation
alimentary canal	parts of the body through which food passes
alveoli	tiny sacs within the lungs which increase the surface available for gas exchange
amylase	a digestive enzyme that breaks down starches and glycogen into sugars
androgen	male hormone
antibody	a protein produced by the body to combat foreign particles
antigen	a substance that stimulates the production of an antibody
atria	the two thin-walled chambers that receive blood into the heart from the veins
auricle	the outer ear structure used for catching and directing sound waves
axon	the part of the neuron that carries the cell's message away from the cell
bronchi	the two tubes into which the trachea divide to go into each lung

capillary	a tiny vessel through which diffusion takes place between the blood and the body tissues
cell body	the part of the neuron that contains the nucleus and cytoplasm
cephalization	development of an apparent head end of an animal
cerebellum	part of the brain that coordinates movement
cerebrum	part of the brain responsible for thinking and sensory interpretation
chemoreceptors	neurons that detect chemicals such as those found in food
chitin	a polysaccharide-based substance that forms the exoskeleton of arthropods
choanocyte	flagellated cell lining the inside of a sponge
choroid	layer of the eye between the sclera and retina that reduces the scattering of light
cochlea	part of the inner ear that translates sound vibrations for the nervous system to interpret
coelomate	an animal with a fluid-filled body cavity that lies within the mesoderm
compound eyes	type of eyes many arthropods have; eyes that protrude outward and consist of many lenses
corticoid	hormone secreted by the adrenal cortex; regulates metabolism and balances salt and water within the body
cytokine	a chemical that acts on its local tissue environment
diaphragm	muscle below the lungs used for breathing
dendrite	the part of the neuron that receives the message
deuterostomes	organisms that form by radial cleavage and develop an anus from the first indentation of the gastrula stage of embryonic development; includes echinoderms, chordates, and vertebrates

duodenum	the first piece of the small bowel into which the bile and pancreatic juices empty
ectoderm	"outer skin"; layer of cells that develop on the outside of the embryo
effector	the structure that gives the response to an environmental change
electroreceptors	neurons that detect electrical fields
embryo	an early stage in the development of an animal or plant
endocrine	secretion of hormones into the blood stream to affect distant processes
endoderm	"inner skin"; layer of cells that develop on the inside of the embryo
endometrium	the lining of the uterus wall
epididymis	a narrow coiled structure that is attached to the testes and stores sperm
epidermis	outer layer of cells
epinephrine	an adrenal hormone (adrenaline) that stimulates autonomic nerve action; gives a person the ability to respond quickly and with added strength when frightened or angry
epithelial	a thin layer of tissue that covers surfaces and lines hollow organs
erythrocyte	a red blood cell
esophagus	tube connecting the mouth to the stomach
exocrine	outward secretion of chemicals through ducts
extensor	a muscle that straightens a joint
fallopian tube	one of the tubes taking the egg from the ovary to the uterus
flexor	a muscle that bends a joint
ganglia	a mass of nerve tissue not part of the brain
gastrulation	process in early embryonic development that forms layers of cells

generator potential	a stimulus that must reach a certain threshold before a nerve impulse is sent
gestation period	the period of time offspring is carried in the womb before birth
gonad	gamete-producing organ in animals
hemoglobin	a red pigment that allows the erythrocytes to pick up and drop off oxygen molecules
hemolymph	a fluid of lymph and blood that circulates within invertebrates
hormone	a chemical messenger produced in one part of the body and having an effect on another part
hydroskeleton	support and movement structure of animals that is maintained by water or body fluid
hypothalamus	part of the brain that regulates autonomic systems of the body; releases hormones that regulate the pituitary gland
ileum	the distal half of the small bowel
insertion	point of skeletal muscle attachment on the body part the muscle moves
interferons	protein cells that assist in fighting infection and disease
jejunum	the middle part of the small bowel
larva	an early growth stage or phase of life of an organism that undergoes metamorphosis
leukocyte	a white blood cell
lymphocyte	type of leukocyte that makes up the specific immunity system; capable of building immunity to a disease
macrophage	white blood cell that eats pathogens and cellular debris
Malpighian tubules	excretory tubules in insects and spiders that empty into the intestine

mechanoreceptors	neurons that detect mechanical stimuli like touch and pressure
Meissner's corpuscles	mechanoreceptors that are sensitive to light touch; highly concentrated in extra sensitive areas like the fingertips or tongue
Merkel's disks	mechanoreceptors of the skin that are sensitive to light touch
mesoderm	"middle skin"; layer of cells that develops between the ectoderm and endoderm; turns into organs, muscle, and circulatory vessels
metamorphosis	the transformation of a larva to an adult; occurs only in animals having great differences in form between the larva and adult
monotreme	type of mammal that lays eggs
muscle fiber	a very long, contracting cell that makes up the muscles of our body
myofibrils	components of a muscle
nephron	the functioning unit of the kidney that produces urine
nephridia	tubes in flatworms and earthworms that excrete waste
neuron	a nerve cell
nymph	the part of certain insect life cycles in which the young animal has no wings or reproductive organs
olfactory receptors	neurons that detect smells and other airborne chemicals
origin	point of skeletal muscle attachment on an anchored body part
Pacinian corpuscles	mechanoreceptors of the skin that are sensitive to deep pressure
parathyroid gland	four small endocrine glands within the thyroid gland in the neck; produce PTH
phagocyte	type of leukocyte that engulfs foreign material and bacteria; part of nonspecific immunity of an animal
phagocytosis	the process of a cell engulfing its food; literally, "cell eating"
pharynx	the back part of the mouth and nasal cavity

photoreceptors	neurons that detect light stimuli
pituitary gland	master endocrine gland that affects all hormonal functions
protease	a digestive enzyme that breaks down proteins into smaller polypeptides and amino acids
protostomes	organisms that form by spiral cleavage and develop a mouth from the first indentation of the gastrula stage of embryonic development; includes most invertebrates
pseudocoelomate	an animal with a false body cavity separating the mesoderm and endoderm
pupa	the developmental stage between larva and adult in insects undergoing metamorphosis; usually a resistant stage with a thick layer of material protecting the insect from drying out or being harmed by outside influences or forces of various kinds
receptor	the structure that is sensitive to an environmental change and relates the change to the central nervous system
retina	a delicate light-sensitive membrane covering the inside of the eyeball and connected by the optic nerve to the brain
sclera	a structure composed of fibrous tissue surrounding the eye and giving it shape
scrotum	bag of skin that contains the testes
segmentation	a characteristic of animals that have subdivisions of repeated body parts
seminiferous tubules	sperm producing organs in the testes
setae	structures on roundworms that contain its mechanoreceptors
spermatozoon	a sperm cell or male gamete

spiracles	holes that open and close for respiration in insects and spiders
synapse	the junction between two nerve cells
testes	the male gonad which produces sperm
thermoreceptors	neurons that detect temperature changes
thymus	a gland located in the neck area; aids in the production of lymphocytes
thyroid gland	a gland in the neck region that produces the hormone thyroxine, which increases the rate of body metabolism
trachea	"windpipe" or tube that transports air to the bronchi
tympanic membrane	the membrane in the outer ear that vibrates to sound
uterus	the organ in the woman's body that contains the fetus during pregnancy
vagus nerve	the major autonomic nerve controlling the body's automatic functions
vas deferens	a duct in the male's body that carries sperm from the epididymis
ventricle	the two thick, muscular cavities in the heart that pump the blood
villi	finger-like projections on the inner lining of the small intestine that transport materials in and out of the digestive system