

# ODYSSEY HIGH SCHOOL BIOLOGY VOCABULARY

These are the vocabulary words and definitions used throughout the Biology course. They are listed in alphabetical order.

Vocabulary Word	Definition
abiotic	physical, or nonliving, factor that shapes an ecosystem
abiotic factor	physical, or nonliving, part of an ecosystem
accurate	the closeness of a measurement to the actual value
acoelomate	having no body cavity
acoelomic	lacking a body cavity
acquired traits	traits that develop as a result of an organism's experiences in the world
activation energy	the energy needed to start a reaction by exciting a stable molecule and making it a reactive molecule
active transport	the energy-requiring process of moving or pumping a substance across the plasma membrane against an electrical or concentration gradient (moving from low to high concentration)
adapt	to change to suit a new purpose
adaptation	a variation in a plant or animal that increases its chance of survival in its environment
adaptive radiation	evolutionary divergence of members of a single phyletic line into many different niches
adenine	purine base that pairs with thymine in DNA or uracil in RNA
adrenal gland	a small gland that produces steroid hormones, adrenaline and nonadrenaline, which helps control heart rate, blood pressure
adventitious roots	roots growing from an unusual spot, like the stem
aerobic respiration	cellular process of producing energy in the form of ATP and carbon dioxide from food (glucose) and oxygen; occurs in the mitochondria
air	the mixture of gases that make up the atmosphere
aldosterone	a corticosteroid hormone that is secreted by the cortex of the adrenal gland
algae	any of the various non-vascular, plant-like organisms that usually produce energy through photosynthesis
allantois	fetal membrane important in the formation of the umbilical cord and placenta in mammals; also present in eggs of reptiles and birds
allele	one of the two copies of a gene that occupies the same position on chromosomes
allergen	any substance that can cause an allergy
alternation of generations	cycling between haploid and diploid stages of life cycle; occurs in plants, fungi, and plant-like protists
alveoli	tiny air sacs at the end of a bronchiole in the lungs that provides surface area for gas exchange to occur
amino acid	the basic building block of proteins. Structurally made up of a carboxyl group, an amine group, a hydrogen, and an R group side chain. There are 20 natural amino acids.

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amnion	the thin innermost membranous sac enclosing the developing embryo of higher vertebrates (reptiles, birds and mammals)
amniotic egg	an egg composed of shell and membranes that create a protected environment in which the embryo can develop out of the water
amoeba	any of the organisms in the protozoan Amoeba genus that are microscopic, single-celled, move by forming pseudopods, and do not have a consistent shape
amoebas	any of the organisms in the protozoan Amoeba genus that are microscopic, single-celled, move by forming pseudopods, and do not have a consistent shape
amphibian	any cold-blooded vertebrate typically living on land but breeding in water; aquatic larvae undergo metamorphosis into adult form
anaerobic respiration	cellular process of metabolizing food(glucose) without oxygen to form energy(ATP) and lactic acid; also known as fermentation
anaphase	stage of mitosis or meiosis where the sister chromatids begin to separate and begin move to the opposite poles of the spindle
anatomy	the structure of an animal or plant or of any of its parts
angiosperm	a vascular plant whose sex organs are enclosed by flowers and seeds are enclosed by an ovary (fruit)
animal cell	the eukaryotic cells that make up animal tissues. Animal cells lack cell walls and chloroplasts
Annelida	segmented worms: earthworms; lugworms; leeches
annelids	worms with cylindrical bodies segmented both internally and externally
antennae	one of a pair of mobile appendages on the head of e.g. insects and crustaceans; typically sensitive to touch and taste
antheridium	the male sex organ of spore-producing plants; produces antherozoids; equivalent to the anther in flowers
antibody	any of a large variety of proteins normally present in the body or produced in response to an antigen which it neutralizes, thus producing an immune response
anticodon	group of three bases on a tRNA molecule that are complementary to an mRNA codon
antigen	any substance that stimulates an immune response in the body
aquatic	relating to, living in or growing in water
Archae	a group of bacteria that share more similarities with eukaryotes than with common bacteria; also known to have alternative ways to obtain energy and like living in alternative environments
Archaeobacteria	microorganisms of the Archaea domain including methane-producing, red halophilic, and acidophilic forms
archegonium	a female sex organ occurring in mosses, ferns, and most gymnosperms
arthropod	invertebrate having jointed limbs and a segmented body with an exoskeleton made of chitin
artificial selection	selection by humans for breeding of useful traits from the natural variation among different organisms

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artificial selection	changing a species so that certain desirable traits are represented in the new generations; used to breed domestic dogs
asexual reproduction	to reproduce by cell division, spore formation, fission, or budding without the union of individuals or gametes
asthma	a lung disorder characterized by wheezing, coughing and shortness of breath caused by constriction of airways
asymmetry	a lack of symmetry
atherosclerosis	the narrowing of the walls of the arteries caused by deposits of fatty substances especially cholesterol
atmosphere	the mixture of gases that surrounds the Earth or some other celestial body. It is held by the force of gravity and forms various layers at different heights.
atom	the basic building block of elements. Atoms are indivisible by chemical means and are composed of protons, neutrons, and electrons
ATP	adenosine triphosphate; energy molecule of living things that is produced from food by respiration
atrium	any chamber that is connected to other chambers or passageways (especially one of the two upper chambers of the heart).
autotroph	an organism that is capable of synthesizing its own organic food molecules from only carbon dioxide, simple inorganic nitrogen, and light or ATP
axon	a long nerve process that carries nerve impulses away from the cell body
B cells	a lymphocyte derived from bone marrow that provides humoral immunity; it recognizes free antigen molecules in solution and matures into plasma cells that secrete immunoglobulin (antibodies) that inactivate the antigens
bacilli	a term used to describe rod-shaped bacteria
bacteria	a prokaryotic microorganism without a cell membrane or nucleus. Bacteria usually reproduce by fission or spores and may cause disease.
bacteriophage	a virus that infects bacteria
base pairing	the process of nitrogen bases pairing up when forming DNA molecules or during replication; adenine pairs with thymine (base A pairs with base T) and guanine pairs with cytosine (base G pairs with base C)
behavioral isolation	form of reproductive isolation in which two populations have difference in courtship rituals or other types of behavior that prevent them from interbreeding
biceps	the muscle at the front of the upper arm that bends the elbow. The biceps has two points of attachment to the bone at one end.
bilateral	having two sides or parts
bilateral symmetry	an organism that is divided into two equal parts
binary fission	a type of asexual reproduction in which a cell divides into genetically identical cells
binomial nomenclature	a species name made up of two words: a genus and a species
biodiversity	the diversity of an environment shown by number of different species of plants and animals
biodiversity hotspots	a threatened or endangered location that is highly diversified

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Vocabulary Word	Definition
bioremediation	organic molecules, like proteins and nucleic acids, that are produced in living organisms
biotic	caused by or relating to a living organism
biotic factor	biological influence on organisms within an ecosystem
birth rate	the ratio of live births in an area to the population of that area; expressed per 1000 population per year
Bivalva	class of gastropods known as clams and oysters
body cell	any diploid cells that are part of the body that are not gametes
brain	an organ of the nervous system made up of neurons and other tissues that processes information, controls autonomic function, directs movement, and learns
breathing	the bodily process of inhalation and exhalation; the process of taking in oxygen from inhaled air and releasing carbon dioxide by exhalation
bronchi	either of the two main branches of the trachea leading to the lungs
bryophytes	non-flowering plants of the division Bryophyta including mosses and liverworts
bulbs	a modified bud consisting of a thickened globular underground stem serving as a reproductive structure
calcitonin	thyroid hormone that tends to lower the level of calcium in the blood plasma and inhibit resorption of bone
calibrations	the act of checking or adjusting (by comparison with a standard) the accuracy of a measuring instrument
Calvin cycle	dark reactions, or light-independent reactions, of photosynthesis that use the ATP from the light reactions to convert carbon dioxide into sugar; occur in the chloroplasts
capillaries	the smallest of blood vessels that connects arterioles to venules and is the sight of gas and nutrient exchange between the body and blood
capsid	the viral protein coat that covers the virus' genetic material
carbohydrate	a chemical compound such as sugars or starches that is made up of carbon, nitrogen, and oxygen
carbon	the sixth element in the periodic table. carbon has six protons and is a major part of organic molecules and living things. the chemical symbol for carbon is C
carbon cycle	flow of carbon between all living and non-living things on Earth
cardiovascular system	the group of organs and tissues responsible for transport and delivery of blood, nutrients, oxygen, wastes, and other materials
carnivore	any animal that feeds on flesh
carrying capacity	the maximum population an area can support
cartilage	elastic tissue that makes up the skeleton of vertebrate embryos and other structures such as joints, respiratory passages, and ears
catalyst	a substance that lowers the activation energy of a reaction, allowing the reaction to proceed faster or more easily. the catalyst itself is not affected by the reaction.

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catalyze	a change to a substance that lowers the activation energy of a reaction, allowing the reaction to proceed faster or more easily. the catalyst itself is not affected by the reaction.
cell	the smallest functional unit of a living organism that is bound by a semipermeable membrane and contains various intracellular organelles
cell body	the central part of a nerve cell that contains the nucleus
cell cycle	the process of cell growth, replication of genetic material, and cell division; divided into 4 parts: G1, S, G2, and mitosis
cell membrane	the cellular structure that surrounds the cell separating the inside of the cell from the external environment. the cell membrane controls what goes in and out of the cell. Many proteins are embedded in the cell membrane. Also, known as the plasma membrane.
cell reproduction	the process of producing new cells from parent cells
cell theory	the theory that cells are the basic building block of all living things
cell wall	the rigid, outer structure of plant cells that gives the cells shape and strength
cellular respiration	process cells use to produce carbon dioxide and energy in the form of ATP from food and oxygen
central nervous system	the portion of the vertebrate nervous system consisting of the brain and spinal cord
centriole	one of two tiny structures located in the cytoplasm of animal cells; produces spindle fibers during cell division
centromere	the area where the chromatids of a chromosome are attached
centrosome	small region of cytoplasm adjacent to the nucleus; contains the centrioles and serves to organize the microtubules
cephalization	concentration of sense organs and nerve cells at the front of an animal's body
Cephalopoda	octopi, squid, cuttlefish and pearly nautilus
cerebrum	the large, highly developed upper portion of the brain
chlorophyll	the green photosynthetic pigment found in plant chloroplasts
Chlorophyta	a division of photosynthetic marine algae that store food as starch that usually green in color
chloroplast	a plant organelle that contains chlorophyll and is the site of photosynthesis
chordates	any animal of the phylum Chordata having a notochord or spinal column
chorion	outermost membranous sac enclosing the embryo in higher vertebrates
chromatin	the complex of DNA and proteins that condenses to form chromosomes in mitosis
chromosomal mutation	any event that changes genetic structure; any alteration in the inherited nucleic acid sequence of the genotype of an organism
chromosome	DNA-containing structures in the nucleus that contains the cell's genes
ciliates	protozoan that uses hair-like microtubules for moving and feeding
circulatory system	the organs and tissues involved in circulating blood and lymph through the body

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Vocabulary Word	Definition
cladogram	a tree diagram used to illustrate phylogenetic relationships
classification	the systematic process of arranging things into groups or categories
climax communities	the final stage of succession in an ecological community where a population can remain stable
cloning	the act of make identical copies of a DNA strand or organism using genetic engineering
cnidarians	radially symmetrical animals having saclike bodies with only one opening and tentacles with stinging structures; they occur in polyp and medusa forms
cocci	a term used to describe sphere-shaped bacteria
codominance	when both alleles of a gene contribute to the phenotype of the organism; example is human blood types
codon	a series of three consecutive mRNA nucleotides that together code for a specific amino acid or stop/starts protein synthesis
coelomate	fluid filled body cavity lined with mesoderm
commensalism	a relationship between two organisms where one benefits from but does not harm the other
common ancestor	most recent ancestor or species from which two different species evolved
communities	the area occupied by a population
communities	more than one population working together in an area
competition	a situation where two or more organisms battle for a limited resource
conclusion	a judgment or decision, usually about the hypothesis, that is made based on the outcome of an experiment
conjugation	fusion of usually similar gametes with ultimate union of their nuclei and sexual reproduction that occurs in most fungi and in some algae (as green algae) b: temporary cytoplasmic union with exchange of nuclear material that is the usual sexual process in ciliated protozoans
connective tissue	any tissue made up of various cells and fibers that supports, surrounds, or binds tissue
conservation	the careful use, management, protection, and preservation of a resource
consumer	an organism that can not produce its own food and must feed on producers or other consumers
contaminants	a substance that contaminates
contractile vacuole	a cytoplasmic vesicle in unicellular organism that collects excess water from the cell then contracts to expel the water from the cell
control	a comparative standard in an experiment by which variables are judged
convergent evolution	the evolutionary tendency of unrelated organisms in the same or similar environments to independently develop similar adaptations or traits
cooperation	a situation where two or more organisms work together for mutual benefit
cortex	the layer of tissue external to the vascular tissue and internal to the corky or epidermal tissues of a green plant that carries water
co-transport	moving one substance across a membrane while simultaneously moving another substance across that membrane; may be active or passive

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Vocabulary Word	Definition
cuticle	a thin waxy film on the surface of most plants that waterproofs that plant
cuttings	a part (sometimes a root or leaf or bud) removed from a plant to propagate a new plant through rooting or grafting
cyanobacteria	photosynthetic bacteria that were previously classified as blue-green algae
cytokinesis	division of cytoplasm, often called cleavage, occurs after mitosis
dark reactions	chemical reactions of photosynthesis that use the ATP from the light reactions to convert carbon dioxide into sugar; also known as the Calvin Cycle or light-independent reactions, occur in the chloroplasts and do not require light
data	information gathered, evidence from observation
daughter cell	a cell formed by the division or budding of another cell
death rate	the ratio of deaths in an area to the population of that area; expressed per 1000 per year
decomposer	an organism that recycles organic matter back into the food chain by feeding on other dead organisms
decomposition	the process of decay caused by bacterial or fungal action
deletion	a type of genetic mutation where one or more nucleotide bases is missing or deleted from a nucleic acid
dendrite	the branching extensions of a neuron's cell body that conduct nerve signals toward the cell body
deoxygenated blood	blood lacking oxygen
deoxyribose	5-carbon sugar lacking an oxygen at the 2 position; part of DNA nucleotides
depletion	to reduce significantly to the point that availability is in danger
derived characters	a characteristic that appears in recent parts of a lineage, but not in its older members
dermal layer	the inner layer of skin; also known as dermis
dermal tissue	an outer protective layer of cells that helps defend against injury and invasion by foreign organisms. Also known as the epidermis.
desert	an arid land ecosystem with a warm climate, little rainfall, and sparse vegetation
dialysis	the separation of substances in solution by means of their unequal diffusion through semipermeable membranes
diatoms	any of the single-celled algae that live in water and have a hard silica shell
dichotomous key	a key for identifying organisms based on a series of choices between alternative characters
diffusion	the movement of a substance across a membrane following the electrical or concentration gradient (from high concentration to low concentration); does not require energy; also known as passive transport.
digestive system	the organ system responsible for ingestion, digestion, absorption, and excretion of food
dinoflagellates	an order of marine planktonic protozoans that have flagella and a cellulose covering

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Vocabulary Word	Definition
diploid	a body cell having two haploid sets of homologous chromosomes
disease	a condition of a living animal or plant that alters or impairs normal functioning and usually exhibited by diagnostic signs and symptoms
diversity	the evolutionary tendency of organisms with a common ancestor to develop different adaptations or traits and become less related
diversity	to be made up of many different and unique parts
DNA	the abbreviation for deoxyribonucleic acid. DNA is the blueprint for life, is bundled into chromosomes found in the nucleus of cells and is made up of nucleotides joined together to form a complex double helix structure
DNA replication	the process of duplicating DNA using each strand of the double helix to create new complimentary strands; yields two DNA molecules each having one old strand and one new strand
DNA reverse transcriptase virus	virus that codes DNA into RNA and then back into DNA before replication with host cell
DNA virus	virus with DNA as its genetic material
domains	the highest taxonomic category ranking above kingdom. Also, known as a superkingdom.
dominant trait	an allele that is expressed and suppresses the other recessive allele
echinoderms	marine invertebrates with tube feet and five-part radially symmetrical bodies
ecological succession	the progressive development of a community from it's initial stage until a climax community is established
ecosystem	an ecological unit made up of an environment and the organisms in that environment
electron	an elementary particle with negative charge
electron transport chain	the last phase of cellular respiration in the mitochondria where electrons are transferred from carbohydrates to oxygen and ATP is produced
element	a chemical substance made up of a single type of atom that can not be divided into simpler parts by chemical means. elements make up the periodic table
embryo	an unborn animal in the early stages of growth and differentiation
embryology	the scientific study of embryos and their development
emphysema	a lung disorder characterized by shortness of breath caused by enlargement of the alveoli and loss of lung elasticity
endocrine gland	any of the glands of the endocrine system that secrete hormones directly into the bloodstream
endocytosis	the process of the cell bringing something from the environment in and surrounding it with the plasma membrane
endoplasmic reticulum	organelle system of membranes within cells that transport material around the cell; two types: rough and smooth
endosymbiotic theory	theory that eukaryotic cells formed from a symbiosis among several different prokaryotic organisms
energy	transferable ability or power to do work
energy flow	the passing of energy from the sun throughout an ecosystem



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energy pyramid	a graphical method of illustrating the number and energy in the trophic levels of an ecosystem
envelope	the lipoprotein outer layer of viruses
environment	the area in which something exists or lives
enzyme	complex protein that begins chemical reactions in living cells
enzymes	complex protein that begins chemical reactions in living cells
epiglottis	a flap of cartilage that covers the windpipe while swallowing
epithelial tissue	membranous tissue covering internal organs and other internal surfaces of the body
eradication	the complete destruction of every trace of something
esophagus	a muscular tube that connects the mouth to the stomach
essential amino acid	amino acids that humans must consume in their diet because they can not be synthesized by the body; essential amino acids include: isoleucine, leucine, lysine, threonine, tryptophan, methionine, histidine, valine and phenylalanine
essential vitamins	the thirteen vitamins required for proper nutrition
estrogen	a female steroid hormone secreted by the ovaries that stimulates the development of female sex characteristics and promotes growth and maintenance of the female reproductive system
ethics	the philosophical study of moral values and rules
Eubacteria	a major group of prokaryotes that includes microorganisms with simple, undifferentiated cells and rigid cell walls that are considered true bacteria
euglena	a genus of the green, single-celled algae that live in freshwater and move using a flagellum
euglenoids	any of the green, single-celled algae that live in freshwater and move using a flagellum
Eukarya	domain of all organisms whose cells have nuclei, including protists, plants, fungi, and animals
eukaryote	higher order organisms made up one or more cells with visible nuclei and organelles; examples are plants, animals, protists, and fungi
eukaryotic	classification of cell that includes nuclei
evolution	the change in a population's gene pool over generations
evolve	the process of changing or developing through natural evolutionary processes
excretion	the bodily process of discharging waste matter.
excretory system	system used to remove wastes from the body; includes urinary system
exocytosis	is the process of the cell sending out something throughout the plasma membrane.
experiment	test done by scientist to see if a hypothesis or idea is true
facilitated diffusion	the diffusion of a substance across the cell membrane with the help of a carrier. Facilitated diffusion does not require energy

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Vocabulary Word	Definition
fat	an organic lipid that is usually solid at room temperature. Fats are triglycerides formed from a glycerol molecule and three fatty acid molecules
fermentation	cellular process of metabolizing food(glucose) without oxygen to form energy (ATP) and lactic acid; also known as anaerobic respiration
fibrous roots	part of a root system in which roots branch to such an extent that no single root grows larger than the rest
filtration	the process whereby fluids pass through a filter or a filtering medium
first-order	the initial level of a consumer; the consumer that eats the producer
fitness	good physical condition; being in shape or in condition
flaccid	without rigidity, to be soft or weak. In plants, occurs when water is lost from the cell and the cell loses shape.
flagella	a long, tail-like cellular structure that allows for movement
flagellates	a usually nonphotosynthetic free-living protozoan with whiplike appendages; some are pathogens of humans and other animals
fluid mosaic model	a model used to explain the structure of the cell membrane and that the phospholipids and proteins in the membrane are able to move side to side
folding	the process of forming a protein's complex structure
food chains	a series of producers and consumers in an ecosystem and how energy or food flows between them
food web	a group of interrelated food chains, producers and consumers in an ecosystem and how energy or food flows between them
food webs	a groups of interrelated food chains, producers and consumers in an ecosystem and how energy or food flows between them
forest	a large land ecosystem with many large trees and significant undergrowth that usually has a moderate to cool climate and receives ample rainfall
frameshift mutation	a mutation that shifts the reading frame of the genetic message by inserting or deleting a nucleotide
free oxygen	oxygen in its molecular form, O <sub>2</sub>
fresh water ecosystem	a functioning ecological unit of a population and its environment that occurs in freshwater
frog	any of various tailless stout-bodied amphibians with long hind limbs for leaping; semiaquatic and terrestrial species
FSH	follicle stimulating hormone – a pituitary hormone that stimulates follicle growth in the ovaries and sperm formation in the testes
gamete	haploid male or female germ cells that combine in sexual reproduction to form a new diploid offspring
gametophyte	the haploid form of an organism with alternation of generations that begins with a spore and produces a diploid zygote
Gastropoda	snails and slugs and their relatives
gemmule	group of archaeocytes surrounded by a tough layer of spicules; produced by some sponges
gene	portion of DNA on a chromosome that is responsible for the expression and inheritance of a specific trait

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gene pool	all the genes that exist within the members of a population
gene replication	process of duplicating DNA. One DNA molecule produces two new molecules each containing one new strand and one old strand from the original molecule.
genes	a segment of DNA that is involved in producing a polypeptide chain; it can include regions preceding and following the coding DNA as well as introns between the exons; it is considered a unit of heredity.
genetic material	the nucleic acids contained inside the virus
genotype	the genetic makeup of an organism
geographic isolation	the form of reproductive isolation in which two populations are separated physically by geographic barriers such as rivers, mountains, or stretches of water
germ layer	any of the 3 layers of cells differentiated in embryos following gastrulation.
gill slits	opening for organ in aquatic animals specialized for the exchange of gases with water
global warming	an increase in atmospheric and oceanic temperatures due pollution and the greenhouse effect
glycolysis	first process in cellular respiration that converts glucose to pyruvate and produces ATP
Golgi apparatus	organelle system of membranes within cells associated with sorting, modification, packaging, and transport of cell products that come from the endoplasmic reticulum
gradualism	part of the evolutionary theory that states species evolve slowly and continuously over long periods of geological time
grafting	the act of grafting something onto something else
grassland	a large land ecosystem with few trees that is populated by grasses and small plants
gravitropism	directional growth of a plant organ in response to gravity. Shoots exhibit negative gravitropism and grow upward. Roots exhibit positive gravitropism and grow downward.
greenhouse gases	any of the gases that produce the greenhouse effect by absorbing solar radiation reflected back from the Earth
ground tissue	tissue of plants; examples include cortex and pith
guard cells	one of a pair of cells that surround the stomata and control the rate of gas and water exchange
gut	the part of the alimentary canal between the stomach and the anus
gymnosperm	a vascular plant that produces naked seeds that are not enclosed in an ovary
habitat	the type of environment in which an organism or group normally lives or occurs
hair follicle	a small tubular cavity containing the root of a hair; small muscles and sebaceous glands are associated with them.
haploid	sex cell having a single set of homologous chromosomes; haploid human cells have 23 unpaired chromosomes

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heliotropism	phototropism wherein sunlight is the stimulus
hemoglobin	the red, iron-containing pigment of red blood cells that carry oxygen and aids in carbon dioxide transport in respiration
herbivore	any animal that feeds chiefly on grass and other plants
heterotrophic	an organism that requires complex organic food molecules from autotrophs or other heterotrophs. Heterotrophs are incapable of producing their own food.
heterotroph	an organism that depends on complex organic substances for nutrition
heterozygous	having different alleles or genes for a trait; also known as hybrid
homeostasis	the ability of an organism to maintain stability, also known as equilibrium. Temperature regulation is an example of homeostasis.
homologous chromosomes	pair of chromosome with the same alleles or genes arranged in same order or position
homologous structure	anatomical structures that perform similar functions in different species and evolved from a common ancestor
homozygous	having identical alleles or genes for a trait; also known as purebred
law of segregation	
hormone	a biomolecule produced and released into the blood by one cell to produce an effect by binding to a receptor on another cell
hydrogen	the first element in the periodic table. Hydrogen has one proton, is the simplest element, is a major part of organic molecules and living things and is an odorless, colorless, highly flammable gas.
hydrogen bond	type of chemical bond used to hold DNA nucleotides together; allows DNA molecule to be "unzipped" for replication
hypertonic	condition where the solution surrounding a cell has a higher concentration than the concentration inside the cell; cause cells to shrink as water moves out of the cell by osmosis
hyphae	long structural threads that together make up the mycelium of a fungus
Hypothalamus	brain structure that acts as a control center for recognition and analysis of hunger, thirst, fatigue, anger, and body temperature
hypothesis	an idea that is formed and tested to explain a problem or predict an outcome
hypotonic	condition where the solution surrounding a cell has a lower concentration than the concentration inside the cell; cause cells to swell as water moves into the cell by osmosis
ice age	any period of time during which glaciers covered a large part of the earth's surface
impulses	the electrical discharge that travels along a nerve fiber
incomplete dominance	when one allele is not completely dominant over another; often referred to as blending
infer	to conclude by reasoning; in logic
inference	a conclusion drawn from evidence
inflammatory response	the nonspecific defense reaction to tissue damage caused by injury or infection

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ingestion	to take in for digestion
inner membrane	internal portion of the mitochondrial membrane that encloses the mitochondrial matrix; has many proteins that are important for mitochondrial function
insertion	a type of genetic mutation where one or more nucleotide base is added into the normal nucleic acid strand.
insoluble	incapable of being dissolved
insulin	hormone secreted by the isles of Langerhans in the pancreas; regulates storage of glycogen in the liver and accelerates oxidation of sugar in cells.
integumentary system	the skin and its appendages
interdependence	to be mutually dependent of each other
intermembrane	the space between inner membrane and outer membrane in the mitochondria
interphase	the 3 stages of the cell cycle that occur between mitotic divisions
inversion	a kind of mutation in which the order of the genes in a section of a chromosome is reversed
isotonic	condition where the solution surrounding a cell has the same concentration as the inside of the cell; do not change the size of cells because osmotic flow in and out of the cell is equal
jawless	of animals having no jaw
karyotype	the appearance, size, number, arrangement, and structure of the chromosomes in a somatic cell
kidney	a urinary organ that collects urine and discharges it to the bladder through the ureter
kingdoms	the taxonomic category ranking below domain and above phylum
Kreb's cycle	the process in cellular respiration that converts pyruvate to carbon dioxide and produces ATP; also known as the citric acid cycle
land ecosystem	a functioning ecological unit of a population and its environment that occurs on land
lichen	a symbiotic growth on a rock or solid surface that is made up of a fungus and an alga
light reactions	chemical reactions in photosynthesis that use light energy to convert water to oxygen and produce ATP for use in the dark reactions; occur in the thylakoid; also known as light dependent reactions
light sensor	sensory organelle in protist; used to detect light
limiting factors	an ecological characteristic that tends to restrict population growth
lipid	insoluble organic molecules such as fats, oils, waxes made mostly of fatty acids
lungfish	air-breathing fish having an elongated body and fleshy paired fins; certain species construct mucus-lined mud coverings in which to survive drought
lungs	either of two saclike respiratory organs in the chest of vertebrates; serves to remove carbon dioxide and provide oxygen to the blood

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lymphatic system	the interconnected system of spaces and vessels between body tissues and organs by which lymph circulates throughout the body
lysogenic cycle	the reproductive cycle of a virus where the virus infects a cell and incorporates its own viral DNA into the cell's DNA so that the viral DNA is replicated and transmitted to the daughter cells
lysosome	organelle containing powerful digestive enzymes used to break down cell wastes, food, or engulfed particles
lytic cycle	the reproductive cycle of a virus wherein the virus infects a cell, uses the cell to reproduce and assemble new viruses, and then causes cell death/lysis to release the new virions
macromolecule	very large, complex molecule usually made up of protein, carbohydrates, or nucleic acids
mammary glands	milk-secreting organ of female mammals
marine ecosystem	ecosystem involving salt water
mass extinction	event in which many types of living things become extinct at the same time
matrix	area inside the inner membrane; contains many of the enzymes and substances needed for cellular respiration
mean	the average of all the values in a dataset calculated by adding all the values of each term in the set and dividing the total number of terms
median	the middle value in an ordered set of number in a data set. if there is an even number of terms in the set, the median is the average of the two middle numbers
medusa	motile stage of the life cycle of a cnidarian that has a bell-shaped body
meiosis I	first part of meiosis that occurs after DNA replication in which the cell divides but the chromosomes do not
meiosis II	second cell division of meiosis in which the 2 diploid cells produced in meiosis I divide to produce 4 haploid cells
meristematic tissue	developing cells in the tips of growing stems and roots that form new tissues
mesophyll	a layer of chlorophyll-containing cells
metabolism	set of chemical reactions through which organisms builds up or breaks down material as it goes through life
metamorphosis	the marked and rapid transformation of a larva into an adult that occurs in some animals
metaphase	the stage of mitosis or meiosis where the chromatids align in the center of the cell between the spindle poles
microscopic	too small to be seen except under a microscope
mitochondria	rod-shaped organelle, in all cells, that produces energy for the cell through respiration
mitochondrion	rod-shaped organelle, in all cells, that produces energy for the cell through respiration
mitosis	process of cell division where one cell divides to produce two daughter wells with the same number of chromosomes as the parent cell; consists of 4 stages: prophase, metaphase, anaphase, and telophase
mode	the value in a dataset that occurs most often

# ODYSSEY HIGH SCHOOL BIOLOGY VOCABULARY

Vocabulary Word	Definition
molds	a woolly or hair-like fungus that grows on the surface of damp or decaying matter
molecule	smallest particle of a substance that has all the properties of the substance and is made up of one or more atoms
monohybrid cross	genetic cross that consists of mating one organism that is homozygous dominant for a trait and one organism that is homozygous recessive for a trait; yield all heterozygous offspring with the dominant phenotype in the F1 generation. The F2 generation has a 3:1 ratio of heterozygous to homozygous recessive offspring.
monomer	single chemical molecules that can join together to form a polymer
monosaccharide	a single sugar molecule that can not be broken into smaller, simpler sugars
motor neurons	a neuron that transmits nerve impulses from the CNS to muscles and controls movement
mouth	the opening of the digestive system through which food enters
mRNA	abbreviation for messenger ribonucleic acid; is a single stranded RNA produced in transcription and used in translation as a template to produce proteins
mucus	protective secretion of the mucous membranes; in the gut it lubricates the passage of food and protects the epithelial cells; in the nose and throat and lungs it can make it difficult for bacteria to penetrate the body through the epithelium
multicellular	consisting of many cells
multiple alleles	three or more alleles of the same gene; an example is human blood types
muscle	animal tissue consisting predominantly of contractile cells
muscle tissue	tissue that controls the internal movement of materials in the body, as well as external movement
muscular system	skeletal, smooth, and cardiac muscle that are responsible for movement, posture, and heat production
mutation	a change in an organism's DNA or mRNA codons. Mutations may have positive or negative results. Mutations in the gametes can be passed on to offspring.
mutualism	a relationship between two organisms where both organisms benefit without causing harm
mycelium	the mass hyphae that forms parts of the thallus of a fungus
mycorrhizae	symbiotic association of plant roots and fungi
myelin sheath	a fatty substance that covers the axon of some nerve cells
natural selection	a process in nature where traits and organisms that are best adapted to the environment survive and reproduce
nematodes	unsegmented worms with elongated rounded body pointed at both ends; mostly free-living but some are parasitic
nervous system	body system made up of the brain, spinal cord, and nerves that sends, receives and interprets stimuli to and from the effector organs and sensors
nervous tissue	tissue composed of neurons

# ODYSSEY HIGH SCHOOL BIOLOGY VOCABULARY

Vocabulary Word	Definition
neuron	a nerve cell that is the basic unit of nervous tissue
nitrogenous base	nucleotide bases adenine, thymine, guanine, cytosine, and uracil; otherwise known as purines or pyrimidines
node	in a nerve cell, a gap in the myelin sheath between which nerve impulses pass
non-disjunction	a mistake in meiosis in which the homologous chromosomes do not separate
non-vascular	plants that do not have tissues or vessels to carry sap, water, nutrients, or minerals
notochord	a flexible rod like structure that forms the supporting axis of the body in the lowest chordates and lowest vertebrates and in embryos of higher vertebrates
nucleic acid	the basic building block of DNA and RNA. Structurally made up of a nucleotide base, a sugar molecule, and a phosphate all linked to form a linear chain.
nucleolus	a small, round protein part of the nucleus where RNA is made
nucleotide	the basic structural group of nucleic acids made up of a ribose sugar, a nitrogen base, and a phosphate
nucleus	the central part of the cell that controls the cell and contains genetic material (DNA). The nucleus has 3 parts: the nuclear envelope, the chromatin, and the nucleolus.
observation	a judgment or decision, usually about the hypothesis, that is made based on the outcome of an experiment
offspring	the product of reproduction
organ	a bodily structure made up of cells and tissues that performs a specific function
organ system	a group of organs that function together to perform a bodily function
organ systems	a group of organs that function together to perform a bodily function
organelle	a specialized cell structure that performs a specific function such as the nucleus, ribosomes, mitochondria, etc.
organic	a fertilizer that is derived from animal or vegetable matter
organic molecule	molecule usually composed of carbon atoms in rings or chains, to which other atoms like hydrogen, oxygen, and nitrogen are attached
organism	a living being
organization	the arrangement of cells, tissues, and organs into functional groups necessary to carry out bodily functions
osmosis	the diffusion of water across a cell membrane from the area of low solute concentration (high water concentration) to the area of high solute concentration (low water concentration); does not require energy
outer membrane	outside part of a chloroplast's double membrane system; freely permeable to the flow of substances in and out of the chloroplast plant cell: eukaryotic cells that make up plant tissues; have cell walls and chloroplasts, but lack centrioles



# ODYSSEY HIGH SCHOOL BIOLOGY VOCABULARY

Vocabulary Word	Definition
oxygen	the eighth element in the periodic table. Oxygen has 8 protons, is a pale blue liquid or an odorless and colorless gas that makes up 20% of atmospheric air; a key part of organic molecules and has the chemical symbol "O."
oxygen cycle	the process by which oxygen is released into the atmosphere by photosynthetic organisms and is taken up by aerobic organisms while carbon dioxide is released to be taken up for photosynthesis
palisade mesophyll (layer)	a tall layer of column shaped mesophyll cells, under the top layer epidermis
paramecium	a freshwater protozoan that is oval shaped and ciliated
parasitism	a relationship between two organisms in which one harms and benefits from the other
passive transport	the movement of a substance across a membrane following the electrical or concentration gradient (from high concentration to low concentration); does not require energy; also known as diffusion.
pH	a measure of acidity or alkalinity on a scale of 0-14 where 0 is acidic, 14 is basic, and 7 is neutral
phagocytes	a cell that engulfs and digests debris and invading microorganisms
phenomenon	any state or process known through the senses rather than by intuition or reasoning
phenotype	the observable appearance of an organism based upon its genotype
phloem	a tissue in some plants' vascular systems that includes sieve tubes and elongated parenchyma cells and functions in movement, support, storage and food transport
phosphate group	PO <sub>4</sub> group that is part of nucleic acid
phospholipid bilayer	the basic two-layer structure of phospholipids that form the cell membrane
photosynthesis	the process plants use to make carbohydrates and oxygen from water and from carbon dioxide in the air in the presence of light
phototropism	tropism where light is the stimulus
phylogenetic tree	a family tree showing the evolutionary history of an organism
phytoplankton	small, free-floating marine plants
pilus	a hair-like structure on the surface of a prokaryotic cell
pituitary gland	the master gland of the endocrine system located at the base of the brain
plant cell	eukaryotic cells that make up plant tissues; have cell walls and chloroplasts, but lack centrioles
plantlets	a young or small plant
plasma	a colorless, watery fluid made up blood and lymph containing no cells and in which erythrocytes and leukocytes and platelets are suspended.
plasmid	a circular piece of viral or bacterial DNA often used in genetic engineering to transport new genes into cells. Plasmids can replicate on their own or be added into a host's DNA.
plasmolyzed	severe shrinkage of the plasma membrane and internal contents of the cell caused by excess water loss from a plant cell

# ODYSSEY HIGH SCHOOL BIOLOGY VOCABULARY

Vocabulary Word	Definition
platelets	tiny bits of protoplasm found in vertebrate blood; essential for blood clotting
Platyhelminthes	flatworms
point mutation	a type of genetic mutation where a single base is changed, inserted, or deleted
pollen	yellow, powdery grains that contain the male reproductive cells of most plants
pollination	transfer of pollen from the anther to the stigma of a plant
pollinator	an insect that carries pollen from one flower to another
pollutants	waste matter that contaminates the water or air or soil
pollution	the contamination of the environment by man-made wastes
polymer	a naturally occurring or synthetic compound consisting of large molecules made up of a linked series of repeated simple monomers
polyp	one of two forms that coelenterates take (e.g. a hydra or coral) that is usually sedentary and has a hollow cylindrical body usually with a ring of tentacles around the mouth
polypeptide	an organic molecule made up of several amino acids joined by peptide bonds
polysaccharide	a large carbohydrate polymer of many monosaccharides
population	a group of interbreeding plants or animals of the same species that occupy a community or area
populations	groups of interbreeding plants or animals of the same species that occupy a community or area
precise	the ability of a measurement to be reproduced with the same outcome
primary succession	the development of a community in an environment where no organisms live
procedure	the steps or instructions of a process
producer	an autotrophic organism that is a source of food for consumers
producers	an autotrophic organism that is a source of food for heterotrophs
products	substances that are produced from reactants through a chemical reaction
progesterone	a female steroid hormone secreted by the corpus luteum to stimulate endometrial growth. Progesterone is also secreted by the placenta during pregnancy to prevent rejection of the embryo/fetus
prokaryote	a single celled microorganism, like bacteria, that lacks a visible nuclei or membrane-bound organelles
prophase	the beginning of mitosis or meiosis where the chromosomes condense to form two sister chromatids, the nucleolus and nuclear membrane disappear, and the mitotic spindle develops
protein	a complex organic molecule made up of many amino acids joined by peptide bonds
protein coat	the proteins that enclose the genetic material of a virus. The capsid is a type of protein coat.
protein synthesis	process in cell that produces proteins from DNA

# ODYSSEY HIGH SCHOOL BIOLOGY VOCABULARY

Vocabulary Word	Definition
protist	a diverse kingdom of eukaryotes that includes protozoans, most algae, and some fungi
proton	a stable particle with positive charge equal to the negative charge of an electron
pseudocoelomate	a body cavity between the endoderm tissue and the mesoderm tissue that is somewhat lined with mesoderm tissue
psuedocoelomic	possessing a "false" body cavity
PTH	the parathyroid hormone; used to maintain body's calcium levels
punctuated equilibrium	a theory of evolution holding that evolutionary change in the fossil record came in fits and starts rather than in a steady process of slow change
Punnett square	square table used in genetic crosses to calculate the genotypic and phenotypic ratios
purine	a group of nitrogen bases, specifically adenine and guanine in both DNA and RNA
pyrimidine	a group of nitrogen bases, specifically thymine and cytosine in DNA and uracil and cytosine in RNA
question	a statement to gain information by asking or inquiring
radial	similar to spokes of tire or how pizza is sliced
radial symmetry	a body plan that can be separated along any part, through the central axis, into equal parts
radius	the outer and slightly shorter of the two bones of the human forearm
range	the difference between the largest and smallest value of a dataset
ratio	relation between two similar things
reabsorption	when liquid is taken back into a vessel
reactants	substances that enter a chemical reaction
receptor	a cell or tissue that receives a stimulus
receptor proteins	proteins on the cell membrane
recessive trait	allele that is suppressed by a dominant and not expressed; to be expressed, a recessive allele must be paired with another recessive allele
recycling	to reuse or reprocess something for reuse
red blood cells	hemoglobin-containing cells that carry oxygen and give blood its red color
reflexes	an automatic, instinctive and unlearned reaction to a stimulus
reproduction	the process of generating offspring
reproductive isolation	separation of species or populations so that they cannot interbreed and produce fertile offspring
reptile	any cold-blooded vertebrate of the class reptilia including tortoises, turtles, snakes, lizards, alligators, crocodiles and extinct forms
resources	something valuable or useful that is available for utilization

# ODYSSEY HIGH SCHOOL BIOLOGY VOCABULARY

Vocabulary Word	Definition
respiration	the cellular process of producing energy in the form of ATP and carbon dioxide from food (glucose) and oxygen. Respiration occurs in the mitochondria
respiratory rate	the rate at which a person inhales and exhales; usually measured to obtain a quick evaluation of a person's health
respiratory system	the group of organs and tissues responsible for respiration
response	a single, specific reaction to stimulus
rhizoid	any of various slender filaments that function as roots in mosses and ferns and fungi
rhizome	a horizontal plant stem with shoots above and roots below serving as a reproductive structure
rhizomes	a horizontal plant stem with shoots above and roots below serving as a reproductive structure
Rhodophyta	a division of marine algae that are multicellular and usually red in color
ribose	five-carbon sugar with an oxygen at the 2 position; part of RNA nucleotides
ribosomal RNA	form of RNA found in all cells that helps decode mRNA and interacts with tRNA in translation; also known as rRNA
ribosome	two subunits of mRNA; located on rough ER or free floating in cell
RNA	abbreviation for ribonucleic acid; differs from DNA because it contains ribose and uracil
RNA reverse transcriptase virus	virus that codes RNA into DNA before replication with host cell
RNA virus	virus with RNA as its genetic material
root system	the network of roots a plant develops
rough endoplasmic reticulum	rough looking part of the endoplasmic reticulum that has ribosomes on its surface; ribosomes cause the rough looking appearance
runners	a horizontal branch from the base of plant that produces new plants from buds at its tips
salamander	any of various typically terrestrial amphibians that resemble lizards and that return to water only to breed
saliva	a clear liquid secreted into the mouth by the salivary glands and mucous glands of the mouth; moistens the mouth and starts the digestion of starches
secondary succession	The sequence of events that occurs after a community is disturbed
second-order	the second level of a consumer; the consumer that eats the first-order consumer
seed	a mature fertilized plant ovule consisting of an embryo and its food source and having a protective coat or testa
seedless vascular plants	plants that have a vascular structure to transport water and nutrients but do not reproduce by seeds
segment	to divide or split up
segmented	having the body divided into successive metameres or segments, as in earthworms or lobsters
segregation	separation of alleles that occurs in meiosis

# ODYSSEY HIGH SCHOOL BIOLOGY VOCABULARY

Vocabulary Word	Definition
selective breeding	a way to improve the next generation by allowing only those individual organisms with desired characteristics
sense organs	organs or part of an organ that is sensitive to stimulus such as sound, touch or light
sensory neurons	a nerve that transmits impulses from sensory organs to the CNS
sex chromosome	X or Y chromosome; XX is female genotype; XY is male genotype
sex-linked trait	gene which is located on the X or Y chromosome
sexual reproduction	where haploid male or female germ cells that combine to form a new diploid offspring
shell	hard outer covering or case of certain organisms such as arthropods and turtles
shoot system	the plant stem, leaves, flowers and other structures that are usually found above ground
sieve cells	tubular cells in the phloem that are stacked to form sieve tubes
sieve elements	a phloem cell that is joined end to end to similar cells to form a continuous sieve tube
simple diffusion	the diffusion of a substance across the cell membrane without the help of a carrier. Simple diffusion does not require energy.
sister chromatid	two identical parts of a duplicated chromosome
skeletal muscle	striated, voluntary muscle that is used for movement and is usually attached to bone
skeletal system	an internal network of bones and tissue that supports and gives shape to an organism
small intestine	a portion of the digestive system found between the stomach and colon that secretes digestive enzymes and absorbs nutrients
smooth endoplasmic reticulum	smooth looking part of the endoplasmic reticulum that does not have ribosomes on its surface
soluble	having the ability of being dissolved in some solvent
species	a taxonomic category referring to organisms that can reproduce with one another, have similar characteristics, and have a common gene pool
spike	viral surface proteins that participate in binding and entry into host cells
spinal cord	a cord of nerve tissue that runs down the spine from the brain then sends nerves out into the body and communicates signals between the body to the brain
spirilli	a term used to describe spiral-shaped bacteria
spleen	a large dark-red oval organ on the left side of the body between the stomach and the diaphragm; produces cells involved in immune responses
SPONCH	an acronym for Sulfur, Phosphorus, Oxygen, Nitrogen, Carbon, Hydrogen, the key elements that compose living things
spongy mesophyll	loose tissue beneath the palisade layer of a leaf with a lot of air space between the cells
spores	a dormant cell or reproductive body produced by plants, fungi, and some microorganisms that can produce a new individual alone or by combining with another spore

# ODYSSEY HIGH SCHOOL BIOLOGY VOCABULARY

Vocabulary Word	Definition
sporophyte	the diploid form of an organism with alternation of generations that begins with a zygote and produces a haploid spore
stimuli	something that excites an organism into changing to suit a new purpose
stolon	a horizontal branch from the base of plant that produces new plants from buds at its tips
stomach	a portion of the digestive system found between the esophagus and the small intestine that secretes digestive enzymes and acids to break down food into smaller, absorbable parts
stomata	a small opening in the bottom of a leaf that allows carbon dioxide and oxygen to diffuse into and out of the leaf
stroma	colorless protein matrix of the chloroplast that holds the grana
substitution	an event in which one thing is replaced with another
succession	the progressive development of a community from its initial stage until a climax community is established
surface protein	proteins found on the surface on the viral envelope
sweat gland	any of the glands in the skin that secrete perspiration
sweat glands	any of the glands in the skin that secrete perspiration
symbiosis	a close relationship between two unrelated organisms
symbiotic	a cooperative relationship between two unlike organisms
symmetry	balance or similarity in body structures of organisms
synapse	a gap between two neurons that a neurotransmitter crosses to carry a nerve impulse
T cells	lymphocytes that act to defend the body against disease by connecting foreign antigens to receptors on the surface of their cell
taproot	main root of a plant growing straight downward from the stem
taxonomy	a system of classifying organisms based on their structural, genetic, and evolutionary relationships
tears	drops of the clear salty saline solution secreted by the lacrimal glands
teeth	hard projections attached to the jaw that are used for tearing and chewing food
telophase	final phase of mitosis where the spindle disappears and the nuclear membrane reforms around each new set of chromosomes
temperature	a measurement of heat
tendons	a tough, fibrous band of connective tissue that connects a muscle to bone
tenet	part of a belief or doctrine believed to be true by all members of the group or profession
terrestrial	of or relating to, or characteristic of, the planet Earth or its inhabitants
testosterone	a male steroid hormone secreted by the testes that stimulates the development of male sex characteristics and promotes growth and maintenance of the male reproductive system

# ODYSSEY HIGH SCHOOL BIOLOGY VOCABULARY

Vocabulary Word	Definition
thallus	a plant or fungal body that is not differentiated into separate parts like stems, roots, and leaves
thigmotropism	a plant's reaction to a touch
third-order	the third level of a consumer; the consumer that eats the second-order consumer
three-chambered heart	heart with right and left atrium, but only one ventricle; occurs in amphibians and most reptiles
thylakoid	part of chloroplast that contains chlorophyll; site of photosynthesis; stacked to form granum
thylakoid membrane	membrane of a thylakoid; site of the light reactions in photosynthesis
thymine	pyrimidine base that pairs with adenine and is found in DNA
thyroid	located near the base of the neck
thyroid gland	two lobbed glands that release hormones that are important for cell metabolism and normal growth and development
thyroxin	hormone produced by the thyroid glands to regulate metabolism by controlling the rate of oxidation in cells
tissue	part of an organism consisting of an aggregate of cells having a similar structure and function
tissues	a group of related cells that are joined together to form organs and structures of living organisms
toad	any of various tailless stout-bodied amphibians with long hind limbs for leaping; semiaquatic and terrestrial species
tracheids	a long, tubular, pitted xylem cell that carries water and has closed, tapered ends.
transcription	the process of producing mRNA from a DNA template
translation	the ribosomal process of translating mRNA to produce protein
translocation	an exchange of chromosome parts
transmission	the process of passing a virus from one host to another
transpiration	the release of water vapor from the leaves of plants
triceps	any skeletal muscle having three origins
tRNA	the abbreviation for transfer ribonucleic acid, the small RNA molecule that delivers amino acids to the ribosome for addition to the growing polypeptide chain
trophic level	a step in the food chain or food web
tube feet	cuplike suction structure attached to radial canals of endodermis, used for walking and opening shells
tubers	a fleshy underground stem or root serving for reproductive and food storage
tundra	a rolling, mossy, marshy land ecosystem that has few trees and a cold climate with frozen subsoil
turgid	to be swollen or distended. In plants, occurs when water is absorbed into the cell and the cell swells; this is "normal" to a plant cell.
uracil	pyrimidine base that pairs with adenine and is found in RNA

# ODYSSEY HIGH SCHOOL BIOLOGY VOCABULARY

Vocabulary Word	Definition
vaccination	to deliver a drug product intended to produce or increase immunity to an infectious disease
vacuole	a cavity or vesicle in the cytoplasm of a cell that usually stores food or water
variable	factors or characteristics that are measured or observed in an experiment
variation	differences in the structure or characteristics of a single organism compared to the other members of a population or species
vascular	plants that have tissues or vessels to carry sap, water, nutrients or minerals
vascular tissue	tissue that conducts water and nutrients through the plant body in higher plants
ventricle	a chamber of the heart that receives blood from an atrium and pumps it to the arteries
vertebrae	individual parts of the backbone that surround and protect the spinal cord
vertebrate	animals with a backbone
vertebrates	animals with a backbone
vessel elements	xylem cells that form part of a continuous tube through which water can go back and forth
vestigial structures	a small part of a functional structure that indicates shared ancestry
virus	a submicroscopic, ineffective organism made up of a protein coat covering genetic material that is only capable of reproducing in a living host cell
vocal cords	either of two pair of folds of mucous membrane projecting into the larynx
water	the clear, odorless, tasteless molecule of hydrogen and oxygen that is a universal solvent and required for life
water cycle	the distribution and flow of Earth's water through vapor, liquid, and ice phases
wetland ecosystem	an area where water covers the soil or is present or near the surface of the soil for at least part of the year
white blood cells	blood cells that engulf and digest bacteria and fungi; an important part of the body's defense system
xylem	a tissue in some plants' vascular system that includes vessels, tracheids, or both and functions in water/mineral conduction, support and food storage
yolk	nutritive material of an ovum stored for the nutrition of an embryo (especially the yellow mass of a bird or reptile egg)
yolk sac	membranous structure enclosing the yolk of eggs in birds reptiles marsupials and some fishes; circulates nutrients to the developing embryo
zooflagellates	a flagellated protist that engulfs its food and is not photosynthetic