

Glossary-Index

Algae (al'-jē) ● an organism that uses photosynthesis to make food, like plants, 23.

Amoeba (ə-mē'-bə) ● a type of protist that crawls along surfaces with pseudopodia, 42, 43, 44.

Amphibia (am-fi'-bē-ə) ● the class under the phylum Mammalia containing organisms that live part of their life in the water and part on land, 51.

Amphibian (am-fi'-bē-ən) ● [Amphi, Gr. "both"; bios Gr. life] a creature with "both lives." Frogs are amphibians because they live both in the water and on land, 51.

Anabaena (an-a-bā'-na) ● member of the cyanobacteria, 24.

Animalia (a-nə-māl'-yə) ● the kingdom in which all animals are grouped. An animal is determined mainly by cell type; animal cells have organelles and no cell wall, 5, 7.

Arthropoda (är-thrə-pō'-də) ● "jointed feet." The phylum under the kingdom Animalia that includes the insects, 7.

Atom ● [atomos, Gr.] fundamental unit of matter composed of protons, neutrons, and electrons, 11.

Biology ● [bios, Gr. "life"; logo, Gr. "description"] the field of science concerned with describing living things, 2.

Canidae (kā'-ni-dā) ● the family that includes all dogs, 7.

Canis familiaris ● a household dog, 8.

Carnivora (kär-ni-və-rə) ● the order under the class Mammalia which includes all meat-eating creatures, 7.

Carpel (kar'-pəl) ● a tall stem in the center of a flower that collects pollen, 30.

Cell wall ● rigid coat of armor that protects plant cells and prokaryotic cells, 15, 18.

Cells ● basic building blocks of life, 4, 11.

Chloroplast (klôr'-ō-plast) ● a tiny organelle inside plant cells that converts the sun's energy to food, 17, 18, 21, 22.

Chlorophyll (klôr'-ō-fil) ● molecules inside chloroplasts that absorb the sun's energy for photosynthesis, 21, 22.

Chordata (kôr-dā'-tə) ● a phylum under the kingdom Animalia that includes all animals that have a backbone, 7.

Cilia (si'-lē-ə) ● small hair-like projections which help some protozoa swim, 42, 44.

Ciliates (si'-lē-āts) ● a group in the kingdom Protista that uses small hair-like projections to swim, 42, 44.

Chrysalis (kri'-sə-ləs) ● the silk casing surrounding the caterpillar as it changes, 59, 60.

Class ● the subgroups that divide the phyla, 7, 9.

Conifer (kon'-i-fər) ● [conus, L. "cone"; ferre, L. "to carry"] a type of tree than carries cones, like evergreen trees, 23.

Cotyledon (cot-ə-lē'-don) ● the area providing food that surrounds the embryo inside a seed, 34.

Cyanobacteria (sī-an-ō-bac-tēr'-rē-ə) ● a prokaryotic cell that uses photosynthesis to make food; once called "blue-green algae," 24.

Cycle ● a series of events that repeats itself, 64.

Cytoplasm (sī'-tō-pla-səm) ● the water and molecules inside a cell, 48.

Didinium (dī-din'-ē-əm) ● a type of protozoa that uses tentacles to catch prey, 49.

Ecosystem ● [oikos, Gr. house] a balanced community of living things, 63.

Egg ● small cell that contains half of the DNA needed to make a new creature like a plant, frog, or butterfly, 30, 52, 58.

Endoplasmic reticulum (en-dō-plas'-mic rə-tic'-yoo-lum) ● organelle inside a cell where proteins are made, 17, 18.

Embryo ● the tiny plant inside of a seed, 34, 38.

Euglena (yoo-glē'-nə) ● a protozoan in the group of flagellates, 42.

Eukaryote (yu-kār'-ē-ōt) ● [*eu*, Gr. "true"; *karyon*, "kernel"] a cell that contains a nucleus, or "sack," that holds the DNA. The kingdoms Plantae, Animalia, Fungi, and Protista are all eukaryotes, 14, 16, 19.

Evergreen ● see conifer.

Eyespot ● see stigma.

Family ● the subgroups that divide the orders, 7, 9.

Felidae (fē'-li-dā) ● the family that includes all the cats, 7.

Felis catus ● a house cat, 8.

Felis rufa ● a bobcat, 8.

Fibrous (fī-brus) root ● a type of root with long thin strings extending in all directions from the plant, like those found on grasses, 28.

Flagella (um) (flə-je'-lā(m)) ● a whip that propels some protists, such as euglena, through the water, 42, 44.

Flagellates (fla-jə'-lāts) ● a group in the kingdom Protista that uses a long whip-like tail to swim, 42, 44.

Flower ● the reproductive part of the plant, 30, 31, 33.

Food vacuole (va'-kyə-wōl) ● a tiny stomach for a paramecium, 47.

Fungi (fun'-ji) ● the kingdom that groups those organisms that are similar to plants, but have some different characteristics. The fungi include mushrooms, toadstools, truffles, and athlete's foot, 6.

Germination (jər-mə-nā'-shən) ● the process of growing from a seed into a seedling, 34.

Genus (jē'-nəs) ● the subgroups that divide the families. The genus name is written in italics and the first letter is upper case, 8, 9.

Green chlorophyll ● see chlorophyll.

Golgi apparatus (gōl'-jē) ● the organelle in eukaryotic cells where proteins are modified or stored, 16, 17, 18.

Homo sapiens ● "man wise," taxonomic name for humans, 8.

Imago (i-mā'-gō) ● [L. an

image] a fully developed insect, 61.

Kingdom ● the largest grouping of living things. The kingdoms are Monera, Protista, Plantae, Fungi, and Animalia, 3, 9.

Larvae (lâr'-və) ● for insects, stage that occurs when the organism hatches from an egg, 58.

Leeuwenhoek (lā-vən'-hook), Anton van ● invented a microscope that could resolve protozoa "animacules." 41

Lepidoptera (lep-ə-däp'-tər-ə) ● [*lepidō*, Gr. "scales"; *pteron*, Gr. a "wing"] the order that includes insects such as butterflies and moths since these have scales on their wings, 57.

Linnaeus (lin-ē'-əs), Carolus ● Swedish physician who began organizing living things. He is considered the founder of taxonomy, 3.

Lysosome (lī'-sō-sōm) ● organelle inside both plant and animal cells where big molecules get digested, 17, 18.

Mammalia (mə-māl'-ya) ● the class under the phylum Chordata that includes those animals which nurse their young and have mammary glands, 7.

Metamorphosis (met-ə-mōr'-fə-sis) ● the process of changing shape or changing form, 53, 55, 60, 61.

Microscope ● an instrument that magnifies very small objects to make them easier to see, 41.

Microtubules ● long protein tubes where other proteins attach and move throughout the cell, 17, 18.

Mitochondria (mī-tō-kon'-drē-ə) ● small organelles in eukaryotic cells that make energy, 17.

Molecule ● two or more atoms put together, 11.

Molting ● for a caterpillar, the process of shedding its old skin, 59.

Monera (mə-nē'-rə) ● the kingdom that includes single-celled organisms such as bacteria, 6.

Nucleic acid (nü-klā'-ik) ● molecules inside cells, such as DNA, which code for proteins and give signals to the cell to tell it when to grow and when to make food, 13.

Nucleoid (nü-klē'-oid) ● the region inside a prokaryotic cell where the DNA is located, 15.

Nucleolus (nü-klē-ō'-ləs) ● the organelle where parts of the ribosome are made, 17, 18.

Nucleus (nü'-klē-əs) ● the "sack" inside eukaryotic cells that holds the DNA, 16, 18.

Oral groove ● the opening used for a "mouth" by a paramecium, 47.

Order ● the subgroups that divide classes, 7.

Organ ● many tissues put together which form a particular structure that serves a special function, such as muscles or the liver, 11, 27.

Organelle (or-gə-nel') ● little "organs" inside cells that perform certain tasks, 16.

Ovary ● for a plant, the base of the flower where the eggs are kept, 30.

Paramecium (pār-ə-mē'-sē-əm) ● a type of protozoa in the group of ciliates, 42.

Panthera leo ● a lion, 8.

Panthera tigris ● a tiger, 8.

Peroxisome (per-äx'-ē-ō-sōm) ● an organelle where toxins are disposed, 16, 17, 18.

Phagocytosis (fa-gō-sī-tō'-sis) ● [*phago*, Gr. "to eat"; *cyto*, "cell"] the process used by amoeba to eat. 48

Phloem (flō'•əm) ● the tissue in the stem and roots of a plant that carry the food made by photosynthesis downward, 29.

Photosynthesis (fō-tō-sin'-thə-sis) ● [*photos*, Gr. "light"; *synthesis*, to make] to make with light. The process by which plants make food, 21, 24.

Phyla(um) (fī'-lə(m)) ● the subgroups that divides kingdoms, 7, 9.

Pili (pi'-lī) ● long threads on prokaryotic cells that help the cell stick to surfaces and other cells, 15.

Plasma membrane ● a thin, soft, and greasy film that surrounds all cells, 15.

Plantae (plan'-tā) ● the kingdom in which all true plants are grouped. A plant is determined mainly by the cell type. Plants have plant cells, 5.

Podophyra (pō-dō-fī'-rə) ● a type of protozoa that uses tentacles to catch prey and remove their insides, 49.

Pollen ● small grains found on the ends of stamens in a flower that carry DNA, 30.

Pores ● small tunnels that go through the walls of cells that allow molecules to go in and out of the cell, 13.

Prokaryote (prō-kār'-ē-ōt) ● [*pro*, Gr. "before"; *karyon*, kernel] a cell that does not contain a nuclear "sack" that holds the DNA. All bacteria are prokaryotes, 14, 15, 19.

Protein (prō'-tēn) ● large molecules made of many amino acids in the cell that perform special tasks such as moving molecules from place to place or cutting or repairing molecules, 13.

Protista (prō-tē'-stə) ● the kingdom that includes mostly microscopic organisms that have both plant-like and animal-like cells. This group includes amoeba, paramecia, and euglena, 6.

Protozoa (prō-tə-zō'-ə) ● see Protista, 40.

Pseudopodia (sü-də-pō'-dē-ə) ● [*pseudo*, Gr. "false"; *podia*, Gr. "foot"] an extension of the membrane of an amoeba that is used for movement, 43, 44,48.

Pupa (pyoo'-pə) ● the caterpillar wrapped in a cocoon; pupa means "doll," 60.

Ribosome (rī'-bə-zōm) ● a sophisticated protein machine that makes other proteins. Ribosomes attach to the rough endoplasmic reticulum, 16, 18.

Roots ● the part of a plant that lives below the soil and is used for anchoring and absorbing water and minerals, 27, 28, 31.

Root system ● see roots.

Rough endoplasmic reticulum (en-dō-plas-mic rə-tic'-yoo-lum) ● the place inside eukaryotic cells where proteins are made, 16, 17, 18.

Seed ● the result when an egg and pollen combine. The seed holds the new plant, 30, 33, 34.

Seed coat ● the tough outer shell protecting the seed, 34.

Seedling ● a young plant, 34, 38.

Shoot system ● the portion of the plant that is above the soil and includes the leaves, stem, and flowers, 29.

Signals ● for plants, cues from gravity and sunlight, that tell the plant how to grow, 35, 38.

Spawning ● when adult female frogs lay large quantities of eggs, 52.

Species ● the subgroups that divide the genus. The species names are written in italics and the first letter is lower case, 8, 9.

Stamens (stā'-mens) ● tall stems that hold the pollen, 30.

Stem ● the part of the plant above the soil that holds the leaves and flowers and are made of two tissues — xylem and phloem, 29, 31.

Stigma ● a shallow cup on a euglena that detects light, 46.

Sugar ● molecule found inside the cell that provides energy, 13.

Tadpole ● an early stage of a frog that swims with a tail and has gills, 52.

Taproot ● a central root that extends deep into the soil and has additional root branches growing on it, 28.

Taxonomy ● the branch of biology concerned with naming and classifying living things, 3.

Thylakoid (thī'-kə-loid) ● the area inside the chloroplast where the chlorophyll molecules are stacked, 22.

Tissue ● many cells put together to form a particular structure such as muscle tissue or skin tissue, 11.

Tympanic (tim-pa'-nik) membrane ● a thin membrane behind the eye of a frog that vibrates and serves as an ear, 54.

Xylem (zī'-lum) ● the tissue inside the stems and roots that transport water and minerals upward, 29.

Pronunciation Key

a	add	i	it	oo	pool	z	zebra
ā	race	ī	ice	p	pit	ə	a in above
ä	palm	j	joy	r	run		e in sicken
â(r)	air	k	cool	s	sea		i in possible
b	bat	l	love	sh	sure		o in melon
ch	check	m	move	t	take		u in circus
d	dog	n	nice	u	up		
e	end	ng	sing	ü	sue		
ē	tree	o	odd	yoo	few		
f	fit	ō	open	v	vase		
g	go	ô	jaw	w	way		
h	hope	oi	oil	y	yarn		

