

U

ultimate causation

The hypothetical evolutionary explanation for the existence of a certain pattern of animal behavior.

unsaturated fatty acid

A fatty acid possessing one or more double bonds between the carbons in the hydrocarbon tail. Such bonding reduces the number of hydrogen atoms attached to the carbon skeleton.

urea

[Gk. *ouron*, urine]

A soluble form of nitrogenous waste excreted by mammals and most adult amphibians.

ureter

[Gk. from *ourein*, to urinate]

A duct leading from the kidney to the urinary bladder.

urethra

[Gk. from *ourein*, to urinate]

A tube that releases urine from the body near the vagina in females or through the penis in males; also serves in males as the exit tube for the reproductive system.

uric acid

[Gk. *ouron*, urine]

An insoluble precipitate of nitrogenous waste excreted by land snails, insects, birds, and some reptiles.

urine

[Gk. *ouron*, urine]

The liquid waste filtered from the blood by the kidney and stored in the bladder pending elimination through the urethra.

urochordate

A chordate without a backbone, commonly called a tunicate, a sessile marine animal.

uterus

[L. womb]

A female reproductive organ where eggs are fertilized and/or development of the young occurs.

V

vaccine

A harmless variant or derivative of a pathogen that stimulates a host's immune system to mount defenses against the pathogen.

vacuole

[L. *vacuus*, empty]

A membrane-enclosed sac taking up most of the interior of a mature plant cell and containing a variety of substances important in plant reproduction, growth, and development.

vagina

Part of the female reproductive system between the uterus and the outside opening; the birth canal in mammals; also accommodates the male's penis and receives sperm during copulation.

valence shell

The outermost energy shell of an atom, containing the valence electrons involved in the chemical reactions of that atom.

Van der Waals interactions

Weak attractions between molecules or parts of molecules that are brought about by localized charge fluctuations.

vaporization

[L. *vapor*, steam]

The change from a liquid to a gas; evaporation.

variation

Diversity among the members of a population. Variation among individuals can exist at many levels, including genetic, physiologic and behavioral.

vas deferens pl. vasa deferentia

(vass **deff**-er-ens) [L. *vas*, a vessel + *deferre*, to carry down]

The tube in the male reproductive system in which sperm travel from the [epididymis](#) to the urethra.

vascular

[L. *vasculum*, a small vessel]

Containing or concerning vessels that conduct fluid.

vascular bundle

In plants, a group of longitudinal supporting and conducting tissues ([xylem](#) and [phloem](#)).

vascular cambium

[L. *vasculum*, a small vessel + *cambium*, exchange]

A continuous cylinder of meristematic cells surrounding the [xylem](#) and [pith](#) that produces secondary xylem and phloem.

vascular plants

Plants with vascular tissue, consisting of all modern species except the mosses and their relatives.

vascular tissue

Plant tissue consisting of cells joined into tubes that transport water and nutrients throughout the plant body.

vascular tissue system

A system formed by [xylem](#) and [phloem](#) throughout the plant, serving as a transport system for water and nutrients, respectively.

vector

[L. carrier]

In recombinant DNA, a small, self-replicating DNA molecule, or a portion thereof, into which a DNA segment can be spliced and introduced into a cell; generally a plasmid or a virus.

vegetative reproduction

Cloning of plants by asexual means.

vein

[L. *vena*, a blood vessel]

A vessel that returns blood to the heart.

vena cava

(**vee**-na **cah**-va) [L. blood vessel + hollow]

A large vein that brings blood from the tissues to the right atrium of the four-chambered mammalian heart. The superior vena cava collects blood from the forelimbs, head, and anterior or upper trunk; the inferior vena cava collects blood from the posterior body region.

ventilation

Any method of increasing contact between the respiratory medium and the respiratory surface.

ventral

[L. *venter*, belly]

Pertaining to the undersurface of an animal that holds its body in a horizontal position; to the front surface of an animal that holds its body erect.

ventricle

[L. *ventriculus*, the stomach]

A muscular chamber of the heart that receives blood from an atrium and pumps blood out of the heart, either to the lungs or to the body tissues.

venule

A very small vein. See also [Vein](#).

vertebral column

[L. *vertebra*, joint]

The backbone; in nearly all vertebrates, it forms the supporting axis of the body and protects the spinal cord.

vertebrate

A chordate animal with a backbone: the mammals, birds, reptiles, amphibians, and various classes of fishes.

vesicle

[L. *vesicula*, a little bladder]

A small, intracellular membrane-bound sac.

vessel element

[L. *vas*, a vessel]

A specialized short, wide cell in angiosperms; arranged end to end, they form continuous tubes for water transport.

vestigial organ

A type of homologous structure that is rudimentary and of marginal or no use to the organism.

viable

[L. *vita*, life]

Able to live.

villus pl. villi

[L. a tuft of hair]

In vertebrates, one of the minute, fingerlike projections lining the small intestine that serve to increase the absorptive surface area of the intestine.

viroid

(vy-roid)

A plant pathogen composed of molecules of naked RNA only several hundred nucleotides long.

virulent

Capable of overcoming a host's defense mechanisms and causing a disease sometimes of rapid onset and severe symptoms.

virus

[L. slimy, liquid, poison]

A submicroscopic, noncellular particle composed of a nucleic acid core and a protein coat (capsid); parasitic; reproduces only within a host cell.

viscera

[L. internal organs]

The collective term for the internal organs of an animal.

visceral muscle

Smooth muscle found in the walls of the digestive tract, bladder, arteries, and other internal organs.

visible light

That portion of the electromagnetic spectrum detected as various colors by the human eye, ranging in wavelength from about 400 nm to about 700 nm.

vitalism

The belief that natural phenomena are governed by a life force outside the realm of physical and chemical laws.

vitamin

[L. *vita*, life]

An organic molecule required in the diet in very small amounts; vitamins serve primarily as coenzymes or parts of coenzymes.

viviparous

(vy-vip-er-us)

Referring to a type of development in which the young are born alive after having been nourished in the uterus by blood from the placenta.

voltage-gated channel

Ion channel in a membrane that opens and closes in response to changes in membrane potential (voltage); the sodium and potassium channels of neurons are examples