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Illustrated in Color



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- effects of sound fields or mechanical vibrations on living organisms.
- bi-o-ac-tive** (bī'ō-āk'tiv). Referring to a substance that can be acted upon by a living organism or by an extract from a living organism.
- bi-o-as-say** (bī'ō-as'ā). Determination of the potency or concentration of a compound by its effect upon animals, isolated tissues, or microorganisms, as compared with an analysis of its chemical or physical properties.
- bi-o-as-tro-nau-tics** (bī'ō-as-trō-naw'tiks). The study of the effects of space travel and space habitation on living organisms.
- bi-o-a-vail-a-bil-i-ty** (bī'ō-ā-vāl'ā-bil'i-tē). The physiological availability of a given amount of a drug, as distinct from its chemical potency; proportion of the administered dose which is absorbed into the bloodstream.
- bi-o-bur-den** (bī'ō-ber'den). Degree of microbial contamination or microbial load; the number of microorganisms contaminating an object.
- bi-o-cat-a-lyst** (bī'ō-kat-ā-list). A substance of biologic origin that can catalyze a reaction; e.g., an enzyme.
- bi-o-ce-no-sis** (bī'ō-se-nō'sis). An assemblage of species living in a particular biotope. SYN biotic community. [bio- + G. *koinos*, common]
- bi-o-chem-i-cal** (bī'ō-kem'i-kāl). Relating to biochemistry.
- bi-o-chem-is-try** (bī'ō-kem'is-trē). The chemistry of living organisms and of the chemical, molecular, and physical changes occurring therein. SYN biologic chemistry, physiologic chemistry.
- bi-o-chem-or-phic** (bī'ō-kem-ōr'fik). Denoting the relationship between biologic action and chemical structure, as in food and drugs.
- bi-o-chrome** (bī'ō-krōm). SYN natural pigment. [bio- + G. *chrōma*, color]
- bi-o-cid-al** (bī'ō-sī'dāl). Destructive of life; particularly pertaining to microorganisms. [bio- + L. *caedo*, to kill]
- bi-o-cli-ma-tol-o-gy** (bī'ō-klī-mā-tol'ō-jē). The science of the relationship of climatic factors to the distribution, numbers, and types of living organisms; an aspect of ecology.
- biocompatibility** (bī'ō-kom-pat-i-bil'i-tē). The relative ability of a material to interact favorably with a biological system. [bio- + compatibility]
- bi-o-cy-ber-net-ics** (bī'ō-sī-ber-net'iks). The science of communication and control within a living organism, particularly on a molecular basis.
- bi-o-cy-tin** (bī'ō-sī'tin). ε-N-Biotinyl-L-lysine; biotin condensed through its carboxyl group with the ε-amino group of a lysyl residue in the apoenzymes to which biotin is the coenzyme; the predominant linkage in which biotin is found. SYN biotinyllysine.
- bi-o-cy-tin-ase** (bī'ō-sī'tin-ās). An enzyme in blood that catalyzes the hydrolysis of biocytin to biotin and lysine (or, lysyl residue if the lysine is in a protein).
- bi-o-de-grad-a-ble** (bī'ō-dē-grād'ā-bl). Denoting a substance that can be chemically degraded or decomposed by natural effectors (e.g., weather, soil bacteria, plants, animals).
- bi-o-de-gra-da-tion**. SYN biotransformation.
- bi-o-dy-nam-ic** (bī'ō-dī-nam'ik). Relating to biodynamics.
- bi-o-dy-nam-ics** (bī'ō-dī-nam'iks). The science dealing with the force or energy of living matter. [bio- + G. *dynamis*, force]
- bi-o-e-col-o-gy** (bī'ō-ē-kol'ō-jē). SYN ecology.
- bi-o-el-e-ment** (bī'ō-el'ē-ment). An element required by a living organism.
- bi-o-en-er-get-ics** (bī'ō-en-er-jet'iks). 1. The study of energy changes involved in the chemical reactions within living tissue. 2. The study of energy exchanges between living organisms and their environments.
- bi-o-en-gi-neer-ing** (bī'ō-en-jin-ēr'ing). SEE biomedical engineering.
- bi-o-feed-back** (bī'ō-fēd'bak). A training technique that enables an individual to gain some element of voluntary control over autonomic body functions; based on the learning principle that a desired response is learned when received information such as a

recorded increase in skin temperature (feedback) indicates that specific thought complex or action has produced the desired physiological response.

EMG b., a form of b. that uses an electromyographic measure of muscle tension as the physical symptom to be deconditioned, such as tension in the frontalis muscle in the head which can cause headaches.

bi-o-fla-vo-noids (bī'ō-flāv'on-oydz). Naturally occurring flavone or coumarin derivatives commonly found in citrus fruits, having the activity of the so-called vitamin P, notably rutin and esculin.

bi-o-gen-e-sis (bī'ō-jen'ē-sis). 1. Term given by Huxley to the principle that life originates from preexisting life only and new life from nonliving material. SEE spontaneous generation, recapitulation theory. 2. SYN biosynthesis. [bio- + G. *genesis*, origin]

mitochondrial b., the process by which mitochondria increase their ability to make adenosine triphosphate by synthesizing additional respiratory enzyme complexes.

bi-o-ge-net-ic (bī'ō-jē-net'ik). Relating to biogenesis.

bi-o-gen-ic (bī'ō-jen-ik). Produced by a living organism.

bi-o-ge-o-chem-is-try (bī'ō-jē-ō-kem'is-trē). The study of the influence of living organisms and life processes on the chemical structure and history of the earth.

bi-o-grav-ics (bī'ō-grav'iks). That field of study dealing with the effect on living organisms (particularly humans) of abnormal gravitational effects produced, e.g., by acceleration or by free fall in the former case, heavier than normal weight is induced, and in the latter weightlessness. [bio- + L. *gravis*, weight]

bioinformatics. A scientific discipline encompassing all aspects of biologic information acquisition, processing, storage, distribution, analysis, and interpretation that combines the tools and techniques of mathematics, computer science, and biology with the aim of understanding the biologic significance of a variety of data.

bi-o-in-stru-ment (bī'ō-in'stroo-ment). A sensor or device usually attached to or embedded in the human body or other living animal to record and to transmit physiologic data to a receiving and monitoring station.

bi-o-ki-net-ics (bī'ō-ki-net'iks). The study of the growth changes and movements that developing organisms undergo. [bio- + G. *kinēsis*, motion]

bi-o-log-ic, **bi-o-log-i-cal** (bī'ō-loj'ik, -loj'i-kāl). Relating to biology.

bi-ol-o-gist (bī-ol'ō-jist). A specialist or expert in biology.

bi-ol-o-gy (bī-ol'ō-jē). The science concerned with the phenomena of life and living organisms. [bio- + G. *logos*, study]

cellular b., SYN cytology.

molecular b., study of phenomena in terms of b. molecular (or chemical) interactions; traditionally, the focus of molecular b. is more specific than biochemistry in that it has an emphasis on chemical interactions involved in the replication of DNA, the "transcription" into RNA, and its "translation" into or expression as protein, i.e., in the chemical reactions connecting genotype and phenotype.

oral b., that aspect of b. devoted to the study of biological phenomena associated with the oral cavity in health and disease (e.g., dental caries, mastication, periodontal disease).

pharmaceutical b., SYN pharmacognosy.

radiation b., field of science that studies the biological effects of ionizing radiation.

bi-o-lu-mi-nes-cence (bī'ō-loo-min-es'ens). 1. Light produced by certain organisms from the oxidation of luciferins through the action of luciferases and with negligible production of heat, the chemical energy being converted directly into light energy, such as cold light (1). 2. Any light produced by a living organism. [bio- + L. *lumen* (-inis), light]

bi-ol-y-sis (bī-ol'i-sis). Disintegration of organic matter through the chemical action of living organisms. [bio- + G. *lysis*, dissolution]

bi-o-lyt-ic (bī-ō-lit'ik). 1. Relating to biolysis. 2. Capable of destroying life.