



On the cover: Photomicrograph of crystals of vitamin B<sub>1</sub>.  
(Dennis Kunkel, University of Hawaii)

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front of an avalanche of dry snow or in front of a landslide. { 'av-ə, lanch, wind }

**avant-corps** [ARCH] That part of a building which projects prominently from the main mass, for example, a pavilion. { ä, vänt'kór }

**AVC** See automatic volume control.

**aV/cm** See abvolt per centimeter.

**aven** [GEOL] See pothole. [MIN ENG] A vertical shaft leading upward from a cave passage, sometimes connecting with passages above. { 'av-ən }

**Avena** [BOT] A genus of grasses (family Gramineae), including oats, characterized by an inflorescence that is loosely panicle, two-toothed lemmas, and deeply furrowed grains. { ə'ven-ə }

**avenin** [BIOCHEM] The glutelin of oats. { ə'ven-ən }

**aventurine** [MINERAL] 1. A glass or mineral containing sparkling gold-colored particles, usually copper or chromic oxide. 2. A shiny red or green translucent quartz having small, but microscopically visible, exsolved hematite or included mica particles. { ə'vench-ə, rēn }

**average** See arithmetic mean. { 'av-rj }

**average acoustic output** [ENG ACOUS] Vibratory energy output of a transducer measured by a radiation pressure balance; expressed in terms of watts per unit area of the transducer face. { 'av-rj ə'kü-stik 'aüt,püt }

**average assay value** [MIN ENG] The weighted result of assays obtained from a number of samples by multiplying the assay value of each sample by the width or thickness of the ore face over which it is taken and dividing the sum of these products by the total width of cross section sampled. { 'av-rj 'a,sä ,val-yü }

**average bisector** [NAV] A line extending through a four-course radio range station into opposing quadrants and midway between the lines (and their extensions) bisecting these two quadrants; used when the courses are not symmetrical. { 'av-rj 'bi,sek-tər }

**average bond dissociation energy** [PHYS CHEM] The average value of the bond dissociation energies associated with the homolytic cleavage of several bonds of a set of equivalent bonds of a molecule. Also known as bond energy. { 'av-rj 'bänd di-sō-se'ā-shən ,en-ə-rjē }

**average-calculating operation** [COMPUT SCI] A common or typical calculating operation longer than an addition and shorter than a multiplication; often taken as the mean of nine additions and one multiplication. { 'av-rj 'kal-kyə,lä-dij ,äp-ə,rā-shən }

**average curvature** [MATH] For a given arc of a plane curve, the ratio of the change in inclination of the tangent to the curve, over the arc, to the arc length. { 'av-rj 'käv-ə-čär }

**average deviation** [MATH] In statistics, the average or arithmetic mean of the deviation, taken without regard to sign, from some fixed value, usually the arithmetic mean of the data. Abbreviated AD. Also known as mean deviation. { 'av-rj ,dē-vē'ā-shən }

**average discount factor** See discount factor. { 'av-rj 'dis ,kaünt ,fak-tər }

**average-edge line** [COMPUT SCI] The imaginary line which traces or smooths the shape of any written or printed character to be recognized by a computer through optical, magnetic, or other means. { 'av-rj 'ej ,līn }

**average effectiveness level** See effectiveness level. { 'av-rj i'fek-tiv-nəs ,lev-əl }

**average gradient** [GRAPHICS] A measure of contrast in a photographic image, expressed as the slope of a straight line joining two density points on the sensitometric curve. { 'av-rj 'gräd-ē-ənt }

**average heading** [NAV] The average heading flown for a given period; it should be the same value as desired heading if the drift was predicted accurately. { 'av-rj 'hed-ij }

**average igneous rock** [PETR] A hypothetical rock whose composition is thought to be similar to the average chemical composition of the outermost 10-mile (16-kilometer) shell of the earth. { 'av-rj 'ig-nē-əs 'rāk }

**average information content** [COMMUN] The average of the information content per symbol emitted from a source. { 'av-rj ,in-fər'mā-shən ,kän-tent }

**average life** See mean life. { 'av-rj 'lif }

## aviation weather observation

**average molecular weight** [ORG CHEM] The calculated number to average the molecular weights of the varying-length polymer chains present in a polymer mixture. { 'av-rj mə'lek-yə ,lör 'wät }

**average noise figure** [ELECTR] Ratio in a transducer of total output noise power to the portion thereof attributable to thermal noise in the input termination, the total noise being summed over frequencies from zero to infinity, and the noise temperature of the input termination being standard (290 K). { 'av-rj 'nōiz ,fig-yər }

**average outgoing quality limit** [IND ENG] The average quality of all lots that pass quality inspection, expressed in terms of percent defective. Abbreviated AOQL. { 'av-rj 'aüt,gō-ij 'kwäl-əd-ē ,lim-ət }

**average power output** [ELECTR] Radio-frequency power, in an audio-modulation transmitter, delivered to the transmitter output terminals, averaged over a modulation cycle. { 'av-rj 'päu-ər 'aüt,püt }

**average sample number** [IND ENG] An anticipated number of pieces that must be inspected to determine the acceptability of a particular lot. { 'av-rj 'səmp-əl ,nəm-bər }

**average wind** [NAV] In air navigation, the resultant wind which would produce, or has produced, the same wind effect during a given period as the summation of the actual winds which will affect, or have affected, the flight of an aircraft. { 'av-rj 'wind }

**averaging** [CONT SYS] The reduction of noise received by a robot sensor by screening it over a period of time. { 'av-rj ij }

**averaging device** [ENG] A device for obtaining the arithmetic mean of a number of readings, as on a bubble sextant. { 'av-rj-ij di'vis }

**averaging pitot tube** [ENG] A flowmeter that consists of a rod extending across a pipe with several interconnected upstream holes, which simulate an array of pitot tubes across the pipe, and a downstream hole for the static pressure reference. { 'av-rj-ij ,pē,tō ,tüb }

**aversion therapy** [PSYCH] A behavior therapy technique intended to suppress undesirable behavior by pairing a stimulus associated with an undesirable behavior together with a painful or unpleasant stimulus. { ə'vər-zhən ,ther-ə-pē }

**aversive behavior** [PSYCH] Avoidance behavior. { ə'vər-iv bi'hāv-yər }

**Aves** [VERT ZOO] A class of animals composed of the birds, which are warm-blooded, egg-laying vertebrates primarily adapted for flying. { 'ä,vēz }

**avgas** See aviation gasoline. { 'av,gas }

**avlanize** [VIROL] To attenuate a virus by repeated culture on chick embryos. { 'av-ē-ə,niz }

**avian leukosis** [VET MED] A disease complex in fowl probably caused by viruses and characterized by autonomous proliferation of blood-forming cells. { 'av-ē-ən lü'kō-səs }

**avian pneumoencephalitis** See Newcastle disease. { 'av-ē-ən 'nü-mō-in,sēf-ə'līd-əs }

**avian pseudoplague** See Newcastle disease. { 'av-ē-ən 'süd-ō,pläg }

**avian tuberculosis** [VET MED] A tuberculosis-like mycobacterial disease of fowl caused by *Mycobacterium avium*. { 'av-ē-ən tə,bər-kyə'lō-səs }

**aviation** [AERO ENG] 1. The science and technology of flight through the air. 2. The world of airplane business and its allied industries. { ,ä-vē'ā-shən }

**aviation gasoline** [MATER] Stable fuel with high volatility and high octane, especially suited for use in aircraft reciprocating engines. Abbreviated avgas. { ,ä-vē'ā-shən ,gas-ə'lēn }

**aviation medicine** See aerospace medicine. { ,ä-vē'ā-shən 'med-ə-sən }

**aviation method** [ENG] Determination of knock-limiting power, under lean-mixture conditions, of fuels used in spark ignition aircraft engines. { ,ä-vē'ā-shən 'meth-əd }

**aviation mix** [MATER] Antiknock fluid containing tetra ethyllead, ethylene dibromide, and dye; used in aviation gasoline. { ,ä-vē'ā-shən 'miks }

**aviation weather forecast** [METEOROL] A forecast of weather elements of particular interest to aviation, such as the ceiling, visibility, upper winds, icing, turbulence, and types of