

# McGraw-Hill DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS

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## Fourth Edition

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EDITOR IN CHIEF

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On the cover: Pattern produced from white light by a computer-generated diffraction plate containing 529 square apertures arranged in a 23 × 23 array. (R. B. Hoover, Marshall Space Flight Center)

On the title pages: Aerial photograph of the Sinai Peninsula made by Gemini spacecraft. (NASA)

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## McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS,

### Fourth Edition

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**aphrodisiac** [PHYSIO] Any chemical agent or odor that stimulates sexual desires. {af-rō'dē-zē,ak}

**Aphroditidae** [INV ZOO] A family of scale-bearing polychaete worms belonging to the Errantia. {af-rō'did-ē,dē}

**Aphrosalpingoidea** [PALEON] A group of middle Paleozoic invertebrates classified with the calcareous sponges. {af-rō,sal,pin'gōid-ē}

**aphrosiderite** See ripidite. {af-rō'sid-ē,rīt}

**aphtha** [MED] White, painful oral ulcer of unknown cause. {af'thə}

**apththalite** [MINERAL]  $(K,Na)_3Na(SO_4)_2$  A white mineral crystallizing in the rhombohedral system and occurring massively or in crystals. {af'thid-əl,īt}

**aphylactic map projection** [MAP] A map projection which is neither conformal nor equal-area. {af'ə'lak'dik 'map prə'jek-shən}

**Aphyllidae** [INV ZOO] An Australian family of hemipteran insects composed of two species; not placed in any higher taxonomic group. {ə'fil-ē,dē}

**aphyllous** [BOT] Lacking foliage leaves. {ə'fil-əs}

**aphyric** [PETR] Of the texture of fine-grained igneous rocks, showing two generations of the same mineral but without phenocrysts. {ə'fir'ik}

**aphytic zone** [ECOL] The part of a lake floor that lacks plants because it is too deep for adequate light penetration. {ə'fid-ik,zōn}

**API** See air-position indicator; armor-piercing incendiary.

**apiary** [AGR] A place where bees are kept, especially for breeding and honey making. {'ap-ē,er-ē}

**apical** [BOT] Relating to the apex or tip. {'ap-i-kəl}

**apical angle** [MECH] The angle between the tangents to the curve outlining the contour of a projectile at its tip. {'ap-i-kəl 'aŋ-gəl}

**apical bud** See terminal bud. {'ap-i-kəl,bəd}

**apical dominance** [BOT] Inhibition of lateral bud growth by the apical bud of a shoot, believed to be a response to auxins produced by the apical bud. {'ap-i-kəl 'dām-ə-nəns}

**apicalia** [INV ZOO] Paired sensory cilia on the head of gnathostomulids. {'ap-ə,kal-yə}

**apical meristem** [BOT] A region of embryonic tissue occurring at the tips of roots and stems. Also known as promeristem. {'ap-i-kəl 'mer-ə,stem}

**apical plate** [INV ZOO] A group of cells at the anterior end of certain trochophore larvae; believed to have nervous and sensory functions. {'ap-i-kəl 'plāt}

**apiculate** [BOT] Ending abruptly in a short, sharp point. {'ə'pik-yə-lət}

**apiculture** [AGR] Large-scale commercial beekeeping. {'ā-pə,kəl-čər}

**Apidae** [INV ZOO] A family of hymenopteran insects in the superfamily Apoidea including the honeybees, bumblebees, and carpenter bees. {'ap-ē,dē}

**Apiceridae** [INV ZOO] A family of orthorrhaphous dipteran insects in the series Brachycera. {'ap-ē-ō'ser-ə,dē}

**apioid** [PHYS] A pear-shaped form taken by a rapidly revolving mass of liquid due to the force of gravity. {'ap-ē-ōid}

**apiology** [INV ZOO] The scientific study of bees, particularly honeybees. {'ā-pe'āl-ə-jē}

**Apis** [INV ZOO] A genus of bees, the type genus of the Apidae. {'ā-pəs}

**API scale** [CHEM ENG] The American Petroleum Institute hydrometer scale for the measurement of the specific gravity of liquids; used primarily in the American petroleum industry. {'ā'pē,ī,skāl}

**Apistobranchidae** [INV ZOO] A family of spioniform annelid worms belonging to the Sedentaria. {'ə'pis-tə;branjk-ə,dē}

**apitong** [MATER] A wood from the Philippine tree *Dipterocarpus grandiflorus*; sold as mahogany although it is not a true mahogany. {'ə'pē,tŋ}

**apjohnite** [MINERAL]  $MnAl_2(SO_4)_4 \cdot 22H_2O$  A white, rose-green, or yellow mineral containing water and occurring in crusts, fibrous masses, or efflorescences. {'ap,jā,nīt}

**APL** [COMPUT SCI] An interactive computer language whose operators accept and produce arrays with homogeneous elements of type number or character.

**Aplocophora** [INV ZOO] A subclass of vermiform mollusks in the class Amphineura characterized by no shell and calcareous integumentary spicules. {'ā,plə'käf-ə-rə}

**aplanatic lens** [OPTICS] A lens corrected for spherical aberration. {'ə'plə'nad-ik 'lenz}

**aplanatic points** [OPTICS] Two points on the axis of an optical system which are located so that all the rays emanating from one converge to, or appear to diverge from, the other. {'ə'plə'nad-ik 'pōins}

**aplanogamete** [BIOL] A gamete that lacks motility. {'ā'plan-ə-gə,mēt}

**aplanospore** [MYCOL] A nonmotile, asexual spore, usually a sporangiospore, common in the Phycomyces. {'ā'plan-ə,spōr}

**aplasia** [MED] Defective development resulting in the virtual absence of a tissue or organ; only a remnant appears. {'ā'plāz-ē}

**aplastic anemia** [MED] A blood disorder in which lymphocytes predominate while there is a deficiency of erythrocytes, hemoglobin, and granulocytes. {'ā'plast-ik ə'nēm-yə}

**aplite** [PETR] Fine-grained granitic dike rock made up of light-colored mineral constituents, mostly quartz and feldspar; used to manufacture glass and enamel. {'ā,plīt}

**aplysiatoxin** [BIOCHEM] A bislactone toxin produced by the blue-green alga *Lyngbya majuscula*. {'ə'plīz-ē,tak-sən}

**apnea** [MED] A transient cessation of respiration. {'ap-nē-ə}

**Apneumonomorphae** [INV ZOO] A suborder of arachnid arthropods in the order Araneida characterized by the lack of book lungs. {'ā,nū-mō,nō'mōr,fē}

**apneusis** [PHYSIO] In certain lower vertebrates, sustained tonic contraction of the respiratory muscles to allow prolonged inspiration. {'ap'nū-səs}

**apo-** [CHEM] A prefix that denotes formation from or relationship to another chemical compound. {'ap-ō or 'ap-ə}

**apoapsis** [ASTRON] The point in an orbit farthest from the center of attraction. {'ap-ō,ap'səs}

**apopatropine** [ORG CHEM]  $C_{17}H_{21}NO_2$  An alkaloid melting at 61°C with decomposition of the compound; highly toxic; obtained by dehydrating atropine. {'ap-ō'a-trə,pēn}

**apob** [METEOROL.] An observation of pressure, temperature, and relative humidity taken aloft by means of an aerometeorograph; a type of aircraft sounding. {'ā,pāb}

**apocarpous** [BOT] Having carpels separate from each other. {'ap-ə,kārp-əs}

**apocenter** See apofocus. {'ap-ə,sen'tər}

**apochromat** See apochromatic lens. {'ap-ə'krō'mat}

**apochromatic lens** [OPTICS] A lens with corrections for chromatic and spherical aberration. {'ap-ə'krō'mad-ik 'lenz}

**apochromatic system** [OPTICS] An optical system which is free from both spherical and chromatic aberration for two or more colors. {'ap-ə'krō'mad-ik 'sis-təm}

**apocodeine** [PHARM]  $C_{18}H_{19}NO_2$  White crystals with a melting point of 124°C; decomposes on melting; soluble in alcohol and ether; used in medicine. {'ap-ə,kō,dēn}

**apocrine gland** [PHYSIO] A multicellular gland, such as a mammary gland or an axillary sweat gland, that extrudes part of the cytoplasm with the secretory product. {'ap-ə'krən 'glænd}

**apocronus** [ASTRON] The farthest point of a satellite in its orbit about Saturn. Also known as aposaturnium. {'ap-ə'krō-nəs}

**Apocynaceae** [BOT] A family of tropical and subtropical flowering trees, shrubs, and vines in the order Gentianales, characterized by a well-developed latex system, granular pollen, a poorly developed corona, and the carpels often united by the style and stigma; well-known members are oleander and periwinkle. {'ə,pās-ə'nās-ē,ē}

**Apoda** [VERT ZOO] The caecilians, a small order of wormlike, legless animals in the class Amphibia. {'ap-ə-də}

**Apodacea** [INV ZOO] A subclass of echinoderms in the class Holothuroidea characterized by simple or pinnate tentacles and reduced or absent tube feet. {'ap-ə'dās-ē-ə}

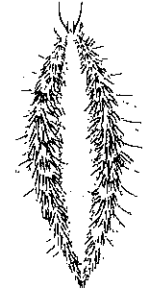
**apodeme** [INV ZOO] An internal ridge or process on an arthropod exoskeleton to which organs and muscles attach. {'ap-ə,dēm}

**Apodes** [VERT ZOO] An equivalent name for the Anguilliformes. {'ap-ə,dēz}

**Apodi** [VERT ZOO] The swifts, a suborder of birds in the order Apodiformes. {'ap-ə,dī}

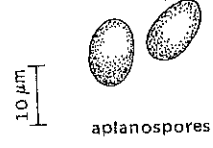
**Apodida** [INV ZOO] An order of worm-shaped holothurian echinoderms in the subclass Apodacea. {'ə'pād-ə-də}

APHRODITIDAE



The sea mouse, *Aphrodita*, of the Aphroditidae.

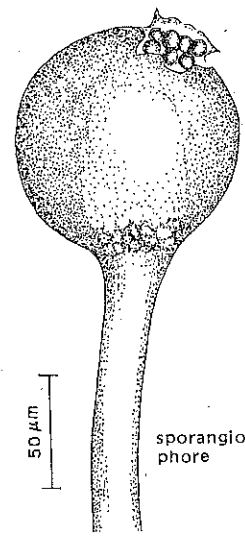
APLANOSPORE



10 μm

aplanospores

SPORANGIUM

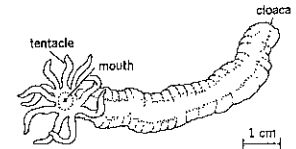


50 μm

sporangio-phore

Several aplanospores and the sporangium that contains them.

APODIDA



1 cm

Typical appearance of an apodid holothurian.