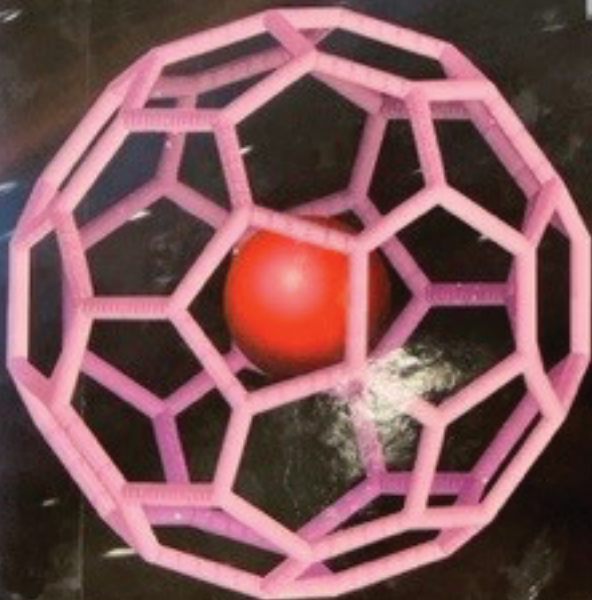


McGraw-Hill
Dictionary of
SCIENTIFIC
and
TECHNICAL
TERMS



Sixth Edition

On the cover: Representation of a fullerene molecule with a noble gas atom trapped inside. At the Permian-Triassic sedimentary boundary the noble gases helium and argon have been found trapped inside fullerenes. They exhibit isotope ratios quite similar to those found in meteorites, suggesting that a fireball meteorite or asteroid exploded when it hit the Earth, causing major changes in the environment. (Image copyright © Dr. Luann Becker. Reproduced with permission.)

McGraw-Hill Dictionary of Scientific and Technical Terms

Over the six editions of the Dictionary, material has been drawn from the following references: G. M. Garrity et al., *Taxonomic Outline of the Prokaryotes*, Release 2, Springer-Verlag, January 2002; D. W. Linzey, *Vertebrate Biology*, McGraw-Hill, 2001; J. A. Pechenik, *Biology of the Invertebrates*, 4th ed., McGraw-Hill, 2000; U.S. Air Force Glossary of Standardized Terms, AF Manual 11-1, vol. 1, 1972; F. Casey, ed., *Compilation of Terms in Information Sciences Technology*, Federal Council for Science and Technology, 1970; *Communications-Electronics Terminology*, AF Manual 11-1, vol. 3, 1970; P. W. Thrush, comp. and ed., *A Dictionary of Mining, Mineral, and Related Terms*, Bureau of Mines, 1968; *A DOD Glossary of Mapping, Charting and Geodetic Terms*, Department of Defense, 1967; J. M. Gilliland, *Solar-Terrestrial Physics: A Glossary of Terms and Abbreviations*, Royal Aircraft Establishment Technical Report 67158, 1967; W. H. Allen, ed., *Dictionary of Technical Terms for Aerospace Use*, National Aeronautics and Space Administration, 1965; *Glossary of Staff Terminology*, Office of Aerospace Research, U.S. Air Force, 1963; *Naval Dictionary of Electronic, Technical, and Imperative Terms*, Bureau of Naval Personnel, 1962; R. E. Huschke, *Glossary of Meteorology*, American Meteorological Society, 1959; *ADP Glossary*, Department of the Navy, NAVSO P-3097; *Glossary of Air Traffic Control Terms*, Federal Aviation Agency; *A Glossary of Range Terminology*, White Sands Missile Range, New Mexico, National Bureau of Standards, AD 467-424; *Nuclear Terms: A Glossary*, 2d ed., Atomic Energy Commission.

McGraw-Hill Dictionary of Scientific and Technical Terms, Sixth Edition

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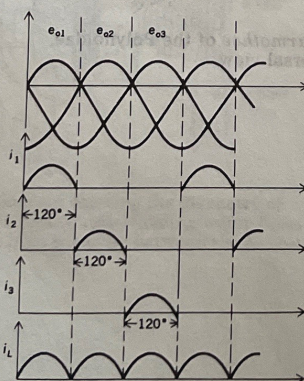
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- Polyodontidae** [INV ZOO] A family of tubicolous, often large-bodied errantian polychaetes with characteristic cephalic and parapodial structures. { 'pāl-ē-ō-dānt-ō-dē }
- polyol** See polyhydric alcohol. { 'pāl-ē-ōl }
- polyolefin** [ORG CHEM] A resinous material made by the polymerization of olefins, such as polyethylene from ethylene, polypropylene from propylene, or polybutene from butylene. { 'pāl-ē-ōl-ō-fēn }
- polyolefin fiber** [MATER] Continuous-strand fiber made from a polyolefin. { 'pāl-ē-ōl-ō-fēn 'fī-bēr }
- polyoma virus** [VIROL] A small deoxyribonucleic acid virus normally causing inapparent infection in mice, but experimentally capable of producing parotid tumors and a wide variety of other tumors. { 'pāl-ē-ō-mō 'vī-rās }
- polyomino** [MATH] A plane figure formed by joining a finite number of unit squares along their sides. { 'pāl-ē-ō-mī-nō }
- polyopia** [MED] A condition in which more than one image of an object is formed upon the retina. { 'pāl-ē-ō-pē-ō }
- Polyopisthocotylea** [INV ZOO] An order of the trematode subclass Monogenea having a solid posterior holdfast bearing suckers or clamps. { 'pāl-ē-ō-pis-thō-kad-ōl-ē-ō }
- polyorrhymenitis** See polyserositis. { 'pāl-ē-ō-rīm-ō-nīd-ās }
- polyoxyalkylene resin** [ORG CHEM] Condensation polymer produced from an oxyalkene, such as polyethylene glycol from oxyethylene or ethylene glycol. { 'pāl-ē-ō-āk-sē-al-kō-lēn 'rez-ōn }
- polyoxyethylene (8) stearate** See polyoxyl (8) stearate. { 'pāl-ē-ō-āk-sē-eth-ō-lēn 'āt 'stīr-āt }
- polyoxyl (8) stearate** [ORG CHEM] A cream-colored, soft, waxy solid at 25°C; soluble in toluene, acetone, ether, and ethanol; used in bakery products as an emulsifier. Also known as polyoxyethylene (8) stearate. { 'pāl-ē-ō-āk-sē-ol 'āt 'stīr-āt }
- polyoxymethylene** [ORG CHEM] $(\text{OCH}_2)_n$ A polymer of formaldehyde that has excellent mechanical and high-temperature properties. Also known as polyacetal; polyformaldehyde. { 'pāl-ē-ō-āk-sē-meth-ō-lēn }
- polyp** [INV ZOO] A sessile cnidarian individual having a hollow, somewhat cylindrical body, attached at one end, with a mouth surrounded by tentacles at the free end; may be solitary (hydra) or colonial (coral). [MED] A smooth, rounded or oval mass projecting from a membrane-covered surface. { 'pāl-ē-ōp }
- polypectomy** [MED] Surgical excision of a polyp. { 'pāl-ē-ō-pek-tō-mē }
- polypeptide** [BIOCHEM] A chain of amino acids linked together by peptide bonds but with a lower molecular weight than a protein; obtained by synthesis, or by partial hydrolysis of protein. { 'pāl-ē-ō-pep-tīd }
- polypetalous** [BOT] Having distinct petals, in reference to a flower or a corolla. Also known as choripetalous. { 'pāl-ē-ō-ped-ōl-ēs }
- Polyphaga** [INV ZOO] A suborder of the order Coleoptera; members are distinguished by not having the hind coxae fused to the metasternum and by lacking notopleural sutures. { 'pō-līf-ō-gō }
- polyphagous** [ZOO] Feeding on many different kinds of plants or animals. { 'pō-līf-ō-gās }
- polyphase** [ELEC] Having or utilizing two or more phases of an alternating-current power line. { 'pāl-ē-ō-fāz }
- polyphase circuit** [ELEC] Group of alternating-current circuits (usually interconnected) which enter (or leave) a delimited region at more than two points of entry; they are intended to be so energized that, in the steady state, the alternating currents through the points of entry, and the alternating potential differences between them, all have exactly equal periods, but have differences in phase, and may have differences in waveform. { 'pāl-ē-ō-fāz 'sār-kat }
- polyphase meter** [ENG] An instrument which measures some electrical quantity, such as power factor or power, in a polyphase circuit. { 'pāl-ē-ō-fāz 'mēd-ēr }
- polyphase rectifier** [ELECTR] A rectifier which utilizes two or more diodes (usually three), each of which operates during an equal fraction of an alternating-current cycle to achieve an output current which varies less than that in an ordinary half-wave or full-wave rectifier. { 'pāl-ē-ō-fāz 'rek-tō-fī-ēr }
- polyphase synchronous generator** [ELEC] Generator whose alternating-current circuits are so arranged that two or more symmetrical alternating electromotive forces with definite

POLYPHASE RECTIFIER



Graphs of transformer voltages e_{01} , e_{02} , e_{03} , diode currents i_1 , i_2 , i_3 , and load current i_L versus time, in a three-phase half-wave rectifier.

- phase relationships are produced at its terminals. { 'sīn-kṛ-ō-nās 'jen-ō-rād-ēr }
- polyphase transformer** [ELEC] A transformer with multiple sets of primary and secondary windings connected in a polyphase circuit. { 'pāl-ē-ō-fāz 'trāns-fōrm-ēr }
- polyphase wattmeter** [ENG] An instrument which measures electric power in a polyphase circuit. { 'pāl-ē-ō-fāz 'wāt-mē-tēr }
- polyphenol oxidase** [BIOCHEM] A copper-containing enzyme that catalyzes the oxidation of phenol derivatives to quinones. { 'pāl-ē-ō-fē-nōl 'āk-sā-dās }
- polyphenyl** [ORG CHEM] Any of a group of compounds used to dye cotton and wool. { 'pāl-ē-ō-fēn-ēl }
- polyphenylene oxide** [ORG CHEM] A polymer consisting of dimethylphenol, $(\text{CH}_3)_2\text{C}_6\text{H}_3\text{OH}$. A polyether with melting point -275 to 375°F (-168 to 191°C), with intermediate viscosity up to 400°F (204°C). { 'pāl-ē-ō-fēn-ēl 'ōx-īd }
- polyphobia** [PSYCH] An abnormal fear of many things. { 'pāl-ē-ō-fō-bē-ō }
- polyphosphazene** [ORG CHEM] A high-molecular-weight, essentially linear polymer with alternating phosphorus and nitrogen atoms in the skeleton and two side groups attached to each phosphorus. { 'pāl-ē-ō-fā-sfā-zēn }
- polyphosphoric acid** [INORG CHEM] $\text{H}_4\text{P}_3\text{O}_{10}$ water-soluble, hygroscopic, water-white liquid; used as concentrated phosphoric acid is needed. { 'pāl-ē-ō-fā-sfōr-īk 'as-ōd }
- polyphyodont** [VERT ZOO] Having teeth which are constantly replaced. { 'pāl-ē-ō-fī-ō-dānt }
- polypide** [INV ZOO] The internal contents of an embryonic bryozoan zooid. { 'pāl-ē-ō-pīd }
- Polyplocophora** [INV ZOO] The thimble, an order of mollusks in the class Amphineura distinguished by an elongated body with a dorsal shell that comprises eight calcareous plates overlapping posteriorly. { 'pāl-ē-ō-plō-kā-fō-rā }
- polyplet** [MATH] A plane figure formed by joining equal line segments either along their sides or at their corners. Also known as polyking. { 'pāl-ē-ō-plēt }
- polyploidy** [GEN] The occurrence of related species possessing three, four, or larger multiples of the haploid set of chromosomes. { 'pāl-ē-ō-plō-īd-ē }
- Polypodiales** [BOT] The true ferns; the largest order of ferns, distinguished by being leptosporangiate and by having small sporangia with a definite number of spores. { 'pāl-ē-ō-pōd-ē-ā-lēz }
- Polypodiatae** See Polypodiopsida. { 'pāl-ē-ō-pōd-ē-ā-tē }
- Polypodiophyta** [BOT] The ferns, a division of the plant kingdom having well-developed roots, stems, and leaves that contain xylem and phloem and show well-developed alternation of generations. { 'pāl-ē-ō-pōd-ē-āf-ōd-ē }
- Polypodiopsida** [BOT] A class of the division Polypodiophyta; stems of these ferns bear several large, spirally arranged compound leaves with sporangia grouped in sori on the undermargins. { 'pāl-ē-ō-pōd-ē-āp-sōd-ē }
- polypore** [MYCOL] Any member of the Basidiomycotina producing basidia that line the numerous tubes or pores of the basidiocarp. { 'pāl-ē-ō-pōr }
- polypropylene** [ORG CHEM] $(\text{C}_3\text{H}_6)_n$ A crystalline thermoplastic resin made by the polymerization of propylene; the product is hard and tough, resists moisture, acids, alkalis, and withstands temperatures up to 170°C, used in molded articles, fibers, film, rope, printing plates, and so on. { 'pāl-ē-ō-prō-pē-lēn }
- polypropylene glycol** [ORG CHEM] $\text{CH}_3(\text{CH}_2\text{CH}_2\text{O})_n\text{CH}_3$ Polymeric material similar to polyethylene glycol, but with greater oil solubility and less water solubility; used as a solvent for vegetable oils, waxes, and resins, and as a chemical intermediate. { 'pāl-ē-ō-prō-pē-lēn 'glī-kōl }
- Polypteridae** [VERT ZOO] The single family of the order Polypteriformes. { 'pāl-ē-ō-ptēr-ē-dē }
- Polypteriformes** [VERT ZOO] An ancient order of bony fish, erythrin fishes distinguished by thick, rhombic scales, with an enamelled covering, a slitlike spiracle behind the operculum, a symmetrical caudal fin, and a dorsal series of five to seven finlets. { 'pāl-ē-ō-ptēr-ē-fōr-mēz }
- polyribosome** See polysome. { 'pāl-ē-ō-rī-bō-sōm }
- polyrod antenna** [ELECTROMAG] End-fire