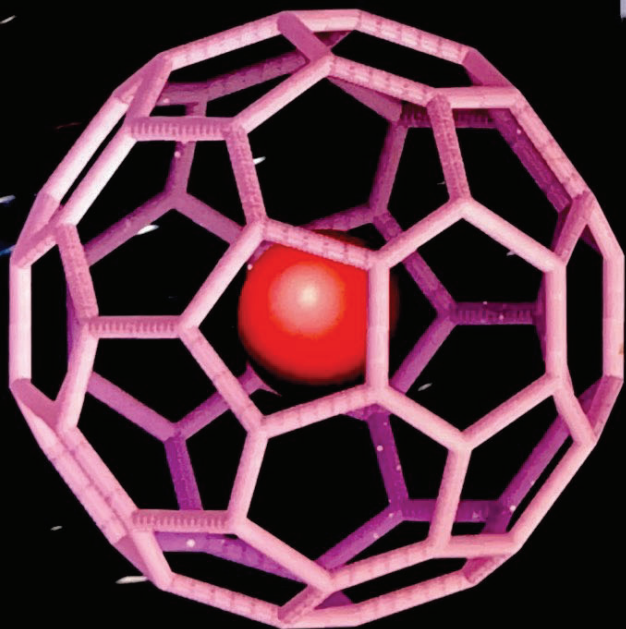


McGraw-Hill
Dictionary of
SCIENTIFIC
and
TECHNICAL
TERMS



Sixth Edition

On the cover photograph of a volcanic eruption, a noble gas atom trapped inside the volcanic front and secondary boundary the noble gases released and upon have been trapped inside bubbles. They contain gases similar to those found in meteorites, suggesting that a bubble mechanism or outburst explosion when it hit the Earth, causing major changes in the environment. (Image copyright © Dr. Lester Becken. Reproduced with permission.)

McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS

**Sixth
Edition**

McGraw-Hill

New York Chicago San Francisco
Lisbon London Madrid Mexico City
Milan New Delhi San Juan Seoul Singapore Sydney Toronto

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.)

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 Stinfo 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**

Copyright © 2003, 1994, 1989, 1984, 1978, 1976, 1974 by The McGraw-Hill Companies, Inc. All rights reserved. Printed in the United States of America. Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of the publisher.

1 2 3 4 5 6 7 8 9 0 DOW/DOW 0 8 7 6 5 4 3 2

ISBN 0-07-042313-X

Library of Congress Cataloging-in-Publication Data

McGraw-Hill dictionary of scientific and technical terms--6th ed.
p. cm.

ISBN 0-07-042313-X (alk. paper)

1. Science--Dictionaries. 2. Technology--Dictionaries. I. Title: Dictionary of scientific and technical terms.

Q123.M15 2002
503--dc21

2002026436

CURCULIONIDAE



Snout beetle. (From T. I. Storer and R. L. Usinger, *General Zoology*, 3d ed., McGraw-Hill, 1957)

junctions; used as an adjunct to anesthesia in surgery. [kyū-rā-rē]

curb [CIV ENG] A border of concrete or row of joined stones forming part of a gutter along a street edge. [MIN ENG] A timber frame, circular or square, wedged in a shaft to make a foundation for walling or tubing, or to support, with or without other timbering, the walls of the shaft. [kərb]

curb roof [ARCH] A roof with a ridge at its center and a parallel lower ridge on both sloping sides. ['kərb, ruf]

curb weight [MECH ENG] The weight of a motor vehicle plus fuel and other components or equipment necessary for standard operation; does not include driver weight or payload. ['kərb, wāt]

Curculionidae [INV ZOO] The true weevils or snout beetles, a family of coleopteran insects in the superfamily Curculionoidea. [kər, kyū-lē-ān-ō, dē]

Curculionoidea [INV ZOO] A superfamily of coleopteran insects in the suborder Polyphaga. [kər, kyū-lē-ā-nōid-ē-ō]

curculionoid larva [INV ZOO] A kind of beetle larva having a highly reduced and grublike body. [kər'kyū-lē-ā-nōid 'lār-və]

Curcubitaceae [BOT] A family of dicotyledonous herbs or herbaceous vines in the order Violales characterized by an inferior ovary, unisexual flowers, one to five stamens but typically three, and a sympetalous corolla. [kər, kər-bā-tās-ē, ē]

Curcubitales [BOT] The ordinal name assigned to the Curcubitaceae in some systems of classification. [kər, kər-bā-tā-lēz]

curd [BOT] The edible flower heads of members of the mustard family such as broccoli. [FOOD ENG] 1. The clotted portion of soured milk or milk treated with an acid or enzyme; used in making cheese. 2. Any food resembling milk curd. [kərd]

cure [CHEM] To change the properties of a resin material by chemical polycondensation or addition reactions. See vulcanization. [ENG] A process by which concrete is kept moist for its first week or month to provide enough water for the cement to harden. Also known as mature. [kyūr]

curet [MED] An instrument, shaped like a spoon or scoop, for scraping away tissue. [kyū-ret]

cure time [CHEM ENG] The amount of time required for a rubber compound to reach maximum viscosity or modulus at a given temperature. ['kyūr, tīm]

currtage [MED] Scraping of the inside of a body cavity or the hollow of an organ with a curet. [kyū-rā-tāzh]

curie [NUCLEO] A unit of radioactivity, defined as that quantity of any radioactive nuclide which has 3.700×10^{10} disintegrations per second. Abbreviated c; Ci. ['kyūr-ē]

Curie balance [ENG] An instrument for determining the susceptibility of weakly magnetic materials, in which the deflection produced by a strong permanent magnet on a suspended tube containing the specimen is measured. ['kyūr-ē, bal-āns]

Curie constant [ELECTROMAG] The electric or magnetic susceptibility at some temperature times the difference of the temperature and the Curie temperature, which is a constant at temperatures above the Curie temperature according to the Curie-Weiss law. ['kyūr-ē, kān-stānt]

Curie point See Curie temperature. ['kyūr-ē, pōint]

Curie principle [THERMO] The principle that a macroscopic cause never has more elements of symmetry than the effect it produces; for example, a scalar cause cannot produce a vectorial effect. ['kyūr-ē, prīn-sā-pāl]

Curie scale of temperature [THERMO] A temperature scale based on the susceptibility of a paramagnetic substance, assuming that it obeys Curie's law; used at temperatures below about 1 kelvin. ['kyūr-ē, skāl əv 'tem-prā-chər]

Curie's law [ELECTROMAG] The law that the magnetic susceptibilities of most paramagnetic substances are inversely proportional to their absolute temperatures. ['kyūr, ēz, lō]

Curie temperature [ELECTROMAG] The temperature marking the transition between ferromagnetism and paramagnetism, or between the ferroelectric phase and paraelectric phase. Also known as Curie point. ['kyūr-ē, tem-prā-chər]

Curie-Weiss law [ELECTROMAG] A relation between magnetic or electric susceptibilities and the absolute temperatures which is followed by ferromagnets, antiferromagnets, nonpolar ferroelectrics, antiferroelectrics, and some paramagnets. ['kyūr-ē, vīs, lō]

curine See bebeerine. ['kyū, rēn]

curing [CHEM ENG] A process in which polymers or oligomers are chemically cross-linked to form polymer networks.

[CIV ENG] A process for bringing freshly placed concrete to required strength and quality by maintaining the humidity and temperature at specified levels for a given period of time. Also known as seasoning. [SCI TECH] Any one of various processes whereby a product is preserved, perfected, or readied for use. ['kyūr-īŋ]

curing agent See hardener. ['kyūr-īŋ, ā-jənt]

curing temperature [CHEM] That temperature at which a resin or adhesive is subjected to curing. ['kyūr-īŋ, tem-prā-chər]

curing time [CHEM] The period of time in which a part is subjected to heat or pressure to cure the resin. [ENG] Time interval between the stopping of moving parts during thermoplastics molding and the release of mold pressure. Also known as molding time. ['kyūr-īŋ, tīm]

curite [MINERAL] $Pb_3U_2O_{17} \cdot 4H_2O$ An orange-red radioactive mineral, occurring in acicular crystals, an alteration product of uraninite. ['kyū, rīt]

curium [CHEM] An element, symbol Cm, atomic number 96; the isotope of mass 244 is the principal source of this artificially produced element. ['kyūr-ē-əm]

curium-242 [NUC PHYS] An isotope of curium, mass number 242; half-life is 165.5 days for α -particle emission; 7.2×10^5 years for spontaneous fission. ['kyūr-ē-əm 'tu'fōrd-ē-ju]

curium-244 [NUC PHYS] An isotope of curium, mass number 244; half-life is 16.6 years for α -particle emission; 1.4×10^6 years for spontaneous fission; potential use as compact thermoelectric power source. ['kyūr-ē-əm 'tu'fōrd-ē-fo]

curl [FOR] A block of timber cut from a crotch for cutting into veneers. [MATER] A defect of paper caused by unequal alteration in the dimensions of the top and underside of the sheet. [MATH] The curl of a vector function is a vector which is formally the cross product of the del operator and the vector. Also known as rotation (rot). [kərl]

curling [MECH ENG] A forming process in which the edge of a sheet-metal part is rolled over to produce a hollow tubular rim. ['kərl-īŋ]

curling dies [MECH ENG] A set of tools that shape the ends of a piece of work into a form with a circular cross section. ['kərl-īŋ, dīz]

curling factor See griseofulvin. ['kərl-īŋ, fak-tər]

curling machine [MECH ENG] A machine with curling dies, used to curl the ends of cans. ['kərl-īŋ, mē-shēn]

Curling's ulcer [MED] An acute gastric ulcer associated with severe skin burns. ['kərl-īŋz, əl-sər]

curly top [PL PATH] A virus disease of sugarbeets and certain other plants that is transmitted by a leafhopper; affected plants are dwarfed and have curled, upturned leaves. ['kər-lē, tɔp]

currant [BOT] A shrubby, deciduous plant of the genus *Ribes* in the order Rosales; the edible fruit, a berry, is borne in clusters on the plant. ['kər-ənt]

currant leaf spot [PL PATH] 1. An angular leaf spot of currants caused by the fungus *Cercospora angulata*. 2. An anthracnose of currants caused by *Pseudopeziza ribis* and characterized by brown or black spots. ['kər-ənt, lēf, spɔt]

current [ELEC] The net transfer of electric charge per unit time; a specialization of the physics definition. Also known as electric current. [PHYS] 1. The rate of flow of any conserved, indestructible quantity across a surface per unit time. 2. See current density. ['kər-ənt]

current algebra [PARTIC PHYS] The application of algebraic relationships among currents derived from approximate symmetries, such as broken SU_3 symmetry, to the study of hadrons. ['kər-ənt, al-jə-brə]

current amplification [ELECTR] The ratio of output-signal current to input-signal current for an electron tube, transistor, or magnetic amplifier, the multiplier section of a multiplier phototube, or any other amplifying device; often expressed in decibels by multiplying the common logarithm of the ratio by 20. ['kər-ənt, am-plə-fə-kā-shən]

current amplifier [ELECTR] An amplifier capable of delivering considerably more signal current than is fed in. ['kər-ənt, am-plə-fī-ər]

current antinode [ELEC] A point at which current is a maximum along a transmission line, antenna, or other circuit element having standing waves. Also known as current loop. ['kər-ənt, 'an-tə-nōd]