

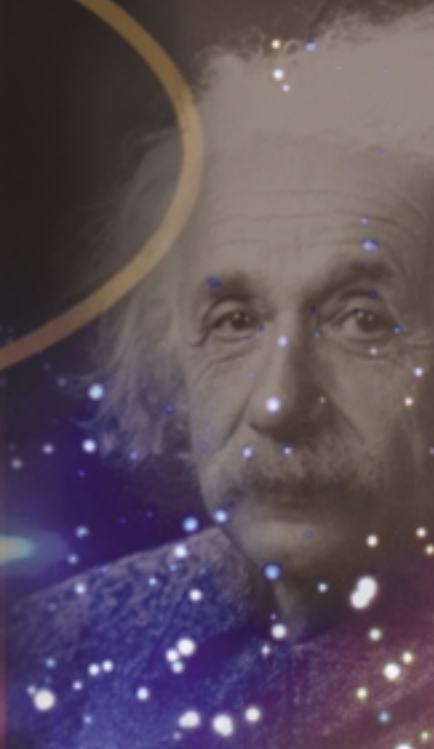
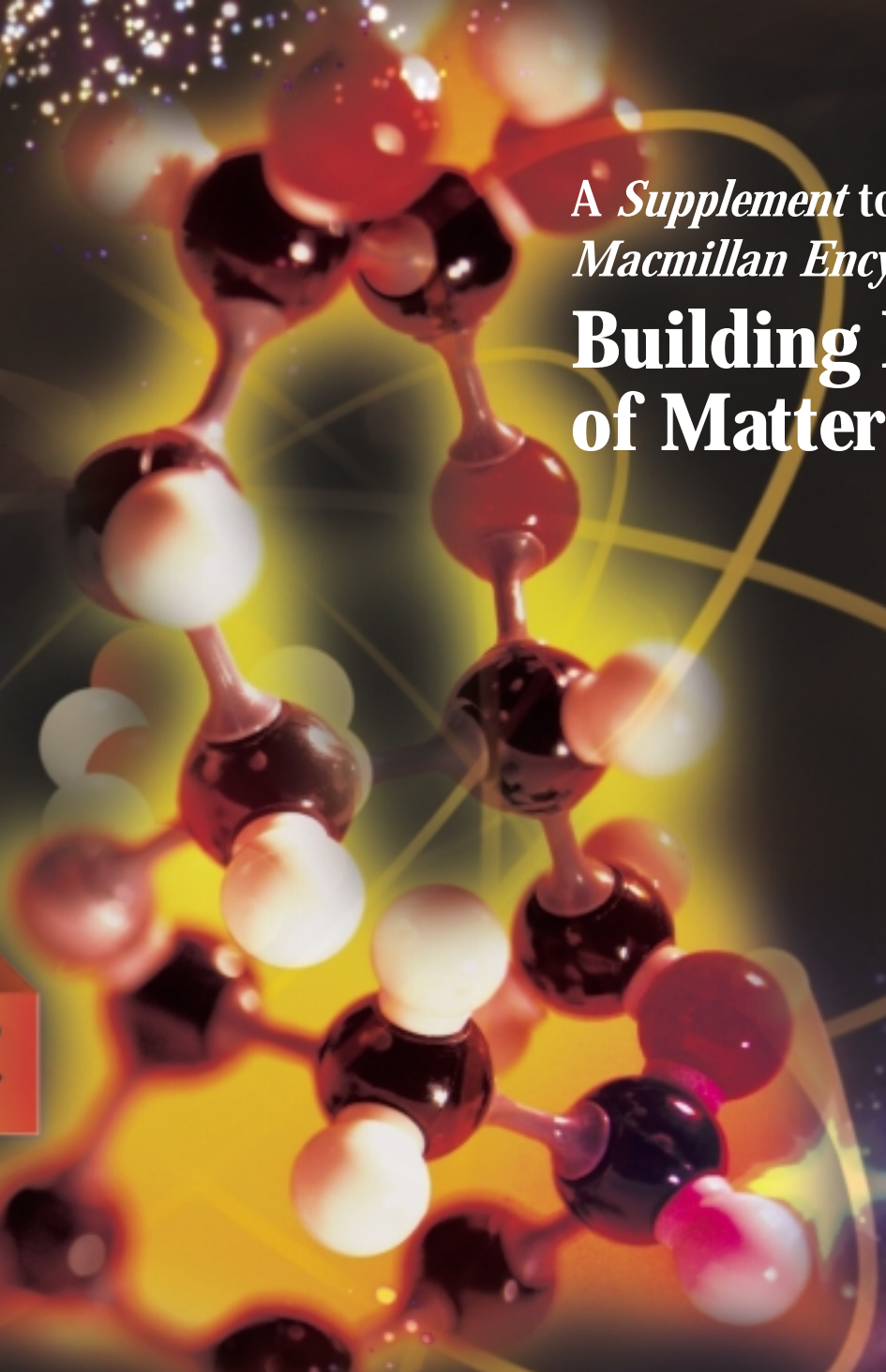
*A Supplement to the  
Macmillan Encyclopedia of Physics*

# Building Blocks of Matter

## ELEMENTARY PARTICLES

	1	2	3	
Quarks	$u$ up	$c$ charm	$t$ top	$\gamma$ photon
	$d$ down	$s$ strange	$b$ bottom	$g$ gluon
Leptons	$\nu_e$ electron neutrino	$\nu_\mu$ muon neutrino	$\nu_\tau$ tau neutrino	$Z$ <del>Z boson</del>
	$e$ electron	$\mu$ muon	$\tau$ tau	$W$ <del>W boson</del>

Three Generations of Matter



# Building Blocks of Matter

**A** *Supplement* to the 1996 *Macmillan Encyclopedia of Physics*, this single volume deals with physics at the subatomic level and contains 153 all-new entries and approximately 200 explanatory diagrams, pictures and tables. Subatomic or particle physics is an area that has undergone important changes in the last five years — so the purchase of this *Supplement* gives new value to the set already on shelves. It also includes topics not covered in the parent set that provide more detail on particle physics. However, for those libraries not yet shelving the *Macmillan Encyclopedia of Physics*, this volume is also a stand-alone reference.

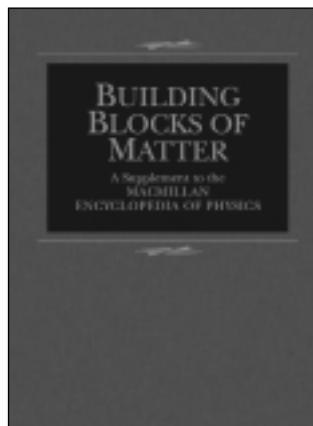
*Building Blocks of Matter* presents the most recent data on particle physics, a field that has seen many important breakthroughs since the publication of the parent title in 1996, including the first direct observation of the “tau neutrino.” The work reviews many of the topics in physics that most interest students — such as antimatter, quantum mechanics, and dark matter. Articles on the “Standard Model” and its particles provide readers with a thorough understanding of the basic constituents of matter known to this day. Articles on advanced topics allow readers with a background in physics to explore particle physics topics in more detail but at the same time allow the less experienced reader to capture a general sense of the topics. Funding and practical applications — hypothetical and actual — are discussed, including articles describing spin-off technologies and how the process of particle physics research was instrumental in the invention of the World Wide Web. Biographies of significant scientists are also featured.

## Who Is the Target Audience?

- Undergraduate and graduate students in physics, chemistry and cosmology
- High school AP students in physics and chemistry

## Features & Benefits

- A glossary defines basic physics terms
- A historical chronology outlines discoveries and theories from ancient to modern times
- Describes the latest research in elementary particles
- Accessible to college undergraduates as well as high school students taking introductory physics courses
- Provides critical information in an accessible format
- Provides visual reinforcement of concepts
- Updates the parent set in the area with the most changes — particle physics



- 1st Ed. About 500 pp.
- Ready June 2003
- ISBN 0-02-865703-9
- MML05502-175664

## Partial Article List

Accelerators	Cyclotron	Neutrino
Anderson, Carl D.	Dark Matter	Neutron, Discovery of
Annihilation and Creation	DESY (Deutsches Elektronen-Synchrotron Laboratory)	Noether, Emmy
Antimatter	Detector Subsystems	Outlook
Antiproton, Discovery of	Detectors	Parity, Nonconservation of Particle
Astrophysics	Devices, Accelerating	Particle Identification
Asymptotic Freedom	Dirac, Paul	Particle Physics, Elementary
Atom	Eightfold Way	Pauli, Wolfgang
Axion	Einstein, Albert	Phase Transitions
B Factory	Electron, Discovery of	Philosophy and Particle Physics
Basic Interactions and Fundamental Forces	Electroweak Phase Transition	Planck Scale
Beam Transport	Electroweak Symmetry Breaking	Positron, Discovery of
Beijing Accelerator Laboratory	Energy	Quantum Chromodynamics
Benefits of Particle Physics to Society	Energy, Center-of-Mass	Quantum Electrodynamics
Big Bang	Energy, Rest	Quantum Field Theory
Boson, Gauge	Experiment: Discovery of the Tau Neutrino	Quantum Mechanics
Broken Symmetry	Experiment: Discovery of the Top Quark	Quantum Statistics
Brookhaven National Laboratory	Experiment: g-2 Measurement of the Muon	Quantum Tunneling
Budker Institute of Nuclear Physics	Experiment: Search for the Higgs Boson	Quark
Case Study: Gravitational Wave Detection, LIGO	Extraction Systems	Quark-Gluon Plasma
Case Study: LHC Collider Detectors, ATLAS and CMS	Family	Quarks, Discovery of
Case Study: Long Baseline Neutrino Detectors, K2K, MINOS, and OPERA	Fermi, Enrico	Radiation, Cherenkov
Case Study: Neutrino Telescope, Super-Kamiokande	Fermilab	Radiation, Synchrotron
CERN: European Laboratory for Particle Physics	Feynman Diagrams	Radioactivity
Chadwick, James	Flavor Symmetry	Reines, Frederick
Charmonium	Funding of Particle Physics	Relativity
CKM Matrix	Gauge Theory	Renormalization
Cooling, Particle	Grand Unification	Resonance
Cornell Laboratory for Elementary Particle Physics	Hadron, Heavy	Rutherford, Ernest
Cosmic Microwave Background Radiation	Higgs Phenomenon	Salam, Abdus
Cosmic Rays	Hubble Constant	Scattering
Cosmic Strings, Domain Walls	Inflation	Schwinger, Julian
Cosmological Constant and Dark Energy	Injection Systems	SLAC (Stanford Linear Accelerator Center)
CP Symmetry Violation	International Nature of Particle Physics	SSC
Culture and Particle Physics	J $\Psi$	Standard Model
	Japanese High-Energy Accelerator Research Organization, KEK	String Theory
	Jets and Fragmentation	SU3
	Kendall, Henry	Supernovae
	Lattice Gauge Theory	Supersymmetry
	Lawrence, Ernest Orlando	Symmetry Principles
	Lepton	Technicolor
	Metaphysics	Thomson, Joseph John
	Momentum	Tomonaga, Sin-itiro
	Muon, Discovery of	Unified Theories
		Universe
		Virtual Process
		Wigner, Eugene
		Wilson, Robert R.
		Wu, Chien-Shiung
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