

The Battery That's Used in Guided Missiles Now Released as Government Surplus

For Photography, Aircraft, Models, Searchlights, Radios, etc. \$1.95 ea. Postpaid.

Sintered-plate Nickel-Cadmium alkaline storage batteries designed for "NIKE" Missile and now surplus due to design change. A lifetime battery with no known limit of service over 5000 recharges on test without loss of capacity). Other features: Virtually indestructible, compact & lightweight, withstands heavy shock and vibration. Flat voltage curve during discharge retains charge year or more, high discharge rate up to 60 amps for this cell, no corrosive fumes to harm clothing or equipment, spill-proof construction, discharge in any position, indefinite storage without deterioration, operates in temperatures -60°F to +200°F. Each cell is approx. 6 ampere hour capacity. Nominal voltage per cell is 1.2 volts. (A 6 V. battery requires 5 cells.) Cell size 6" H. x 2" W. x 1/4" T. Wt. 6 oz. ea. Uses Potassium-Hydroxide (30%) electrolyte. Negligible loss during lifetime service. Add only distilled water once a year. A fraction of Government cost.

Used Test Cells \$1.95 ea. Postpaid
Brand New Cells 2.95 ea. Postpaid
24 V. Battery (20 cells)
In metal case Used \$40.00 New \$60.00
All cells guaranteed to your satisfaction or money refunded (less postage).

Plastic battery cases may have slight cracks—repaired easily with household cement or you may add 25¢ to price of each to insure uncracked cases.
ESSE RADIO COMPANY, Dept. N-10
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THE CHEMICAL ELEMENTS

THIS HUGE 3x4 FT. WALL CHART CONTAINS THE FOLLOWING UNBELIEVABLY VAST AMOUNT OF INFORMATION CONCERNING EACH OF THE 102 ELEMENTS

Periodic table (based on atomic numbers)	Coefficient of thermal expansion
Periodic table (based on atomic weights)	Occurrence, preparation, and uses
Group and family	The radioactive elements
Name in English, German, French, and Russian	The Uranium-Radium Series (4n + 2)
Derivation	The Actinium Series (4n + 3)
Discovery: Data, discoverer, nationality	The Thorium Series (4n)
Symbol and atomic number	The Neptunium Series (4n + 1)
Arrangement of electrons in orbits	Map showing production in U.S.A.
Atomic weight	Distribution in earth crust, in ocean, in atmosphere, and in human body
Isotopes (993 in all)	The Electrochemical Series
Valence	Flame and borax bead tests
Crystalline form and color	Mechanical properties of principal metals
Specific gravity or density	Critical constants for gaseous elements
Melting and boiling point	Alchemical symbols
Specific heat	Index to the elements
Heats of vaporization and fusion	
Heat conductivity	
Electrical resistivity	

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\$1.00 Postpaid

THE CHEMICAL ELEMENTS CO.
South Lancaster, Mass.

Books of the Week

(Continued from p. 371)

Praeger, 157 p., illus., \$3.50. Describes the geographical and technical problems involved.

SATELLITES AND SPACE PROBES—Erik Berg-aust, foreword by John P. Hagen—*Putnam*, 48 p., photographs, \$2.50. The history of Explorer, Vanguard, Sputnik and other programs.

SCHIFFERES' FAMILY MEDICAL ENCYCLOPEDIA—Justus J. Schifferes—*PermaBooks*, 619 p., illus. by L. Bush, paper, 50¢. Reprint of Health Education Council Book.

THE SCHOOL AS AGENT FOR CULTURAL RENEWAL—Lawrence K. Frank—*Harvard Univ. Press*, 55 p., \$1.50. 1958 Burton Lecture.

SCIENCE AND TECHNOLOGY IN CONTEMPORARY WAR—Maj. Gen. G. I. Pokrovsky. transl. from Russian & annotated by Raymond L. Garthoff—*Praeger*, 180 p., \$4.50. Soviet military thinking on science and modern warfare.

SHORTWAVE PROPAGATION—Stanley Leinwoll—*Rider*, 151 p., illus., paper, \$3.90. Includes Rider Global Time Conversion Simplifier.

SHOW ME THE WORLD OF SPACE TRAVEL—Julian May—*Pennington*, 62 p., illus. by R. Loew, \$1.95. For boys and girls.

SIXTH INTERNATIONAL CONGRESS AND EXHIBITION OF ELECTRONICS AND ATOMIC ENERGY, Rome, Italy, June 1959: U.S. Papers—*AEC (Off. of Tech. Serv.)*, 81 p., illus., paper, \$2.25. Discusses hazards of radioactive wastes.

SONS OF THE SHAKING EARTH—Eric R. Wolf—*Univ. of Chicago Press*, 303 p., illus., \$5. History of the cultures of the people of Mexico and Guatemala.

SOVIET EDUCATION TODAY—Deana Levin—*De Graff*, 170 p., \$3. Survey of Russian teaching methods, with complete syllabuses.

SPECTRA OF LOW-FREQUENCY OCEAN WAVES—W. H. Munk, F. E. Snodgrass and M. J. Tucker—*Univ. of Calif. Press*, 78 p., paper, \$1.50. Research using computer analyses.

SPEECH AND BRAIN-MECHANISMS—Wilder Penfield and Lamar Roberts—*Princeton Univ. Press*, 286 p., illus., \$6. Neurologists' study of the cerebral mechanisms of speech, and the learning and teaching of language.

STARS IN THE MAKING—Cecilia Payne-Gaposchkin—*Pocket Bks.*—162 p., illus., paper, 50¢. Authoritative account of evolution throughout the universe. Reprint.

THE STORY OF MAPS—Terry Maloney—*Sterling*, 48 p., illus. by author, \$2.50. History of map making for young readers.

THE STORY OF SPIDERS—Dorothy E. Shuttlesworth—*Garden City Bks.*, 57 p., illus. by Su Zan N. Swain, \$2.95. For young naturalists.

STUDIES OF THE HYDROGENATION OF ETHYLENE OVER COPPER-NICKEL ALLOYS—W. Keith Hall and P. H. Emmett—*Mellon Institute*, 9 p., paper, free upon request direct to publisher, 4400 5th Ave., Pittsburgh 13, Pa.

SUGARCANE AND ITS DISEASES—Claude W. Edgerton—*La. State Univ. Press*, rev. ed., 301 p., illus., biblio., \$7.50. Reference book.

SUN AND SHADOW AT ASWAN: A Commentary on dams and reservoirs on the Nile at Aswan, yesterday, today, and perhaps tomorrow—Herbert Addison—*Chapman & Hall*, 166 p., illus., \$2.70. Mainly about Assouan Dam.

TEACHING COMPREHENSIVE MEDICAL CARE: A Psychological Study of a Change in Medical Education—Kenneth R. Hammond and Fred Kern, Jr.—*Harvard Univ. Press*, 642 p., \$10. About the General Medical Clinic.

TRIP CHARACTERISTICS AND TRAFFIC ASSIGN-

MENT—Jacob Silver and others—*Highway Res. Bd.*, Bull. 224, 135 p., paper, \$2.60.

THE VEGETATION OF WISCONSIN: An Ordination of Plant Communities—John T. Curtis—*Univ. of Wis. Press*, 657 p., illus., \$7.50. Definitive survey.

VISION IN MILITARY AVIATION—Joseph W. Wulfeck, Alexander Weisz and Margaret W. Raben—*USAF (OTS)*, 378 p., illus., paper, \$5. Describes capabilities and limitations of vision.

VISUALIZED GENERAL SCIENCE—William Lemkin—*Oxford Bk. Co.*, rev. ed., 410 p., illus., paper \$1.15. Ninth-year course.

THE WEAPON ON THE WALL: Rethinking Psychological Warfare—Murray Dyer—*Johns Hopkins Press*, 269 p., \$6. On mastering "political communication."

YOUR CHILD IN A SCIENTIFIC WORLD—Albertina A. Weinlander—*Doubleday*, 192 p., \$2.95. For parents, how to encourage a child's curiosity at various ages, community resources, bibliography, list of science clubs and materials.

Science News Letter, November 28, 1959

ASTRONAUTICS

Space Capsule Mock-Up Passes Water Tests

See Front Cover

A MOCK-UP of the project Mercury space capsule is being used to train the astronauts in methods of leaving the space vehicle after the first American returns from orbital flight around the earth to a planned landing in the Atlantic Ocean.

The photograph on the cover of this week's SCIENCE NEWS LETTER shows a McDonnell Aircraft Corporation engineer demonstrating one method of exit from the capsule. The test was conducted at the corporation's St. Louis plant where the capsule is being built for the National Aeronautics and Space Administration.

Four large flotation bags are automatically inflated upon landing and give the capsule stability and buoyancy in the water.

Science News Letter, November 28, 1959

Questions

CHEMISTRY—What is the significance of the heterocyclic compounds? p. 359.

MEDICINE—Where is trachoma most prevalent? p. 365.

OCEANOGRAPHY—How high is the submerged "island" found in the Arctic Ocean? p. 360.

RADIO ASTRONOMY—What temperature has been reported for Venus? p. 357.

Photographs: Cover, McDonnell Aircraft Corporation; p. 357, Nathan S. Kline; p. 359, U. S. Coast and Geodetic Survey; p. 376, Eastman Chemical Products, Inc.