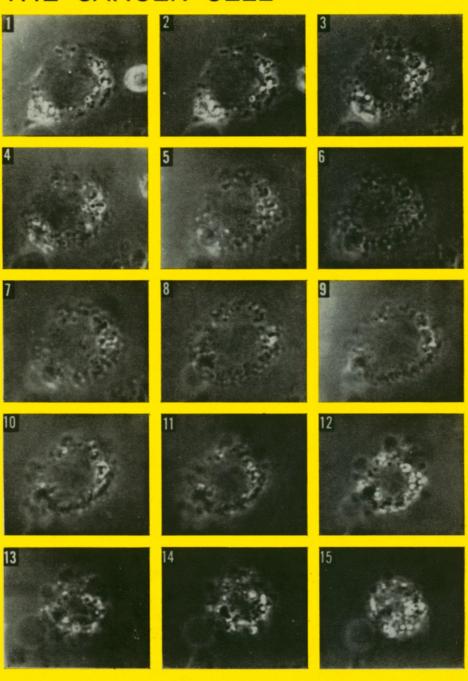
science news

ANTIGENS ON THE CANCER CELL



Holographic movies
Letter from London
carbon fiber fever

TELLER UNUSUAL BARGAINS BY MAIL

A selection of products available by mail for readers of Science News

All merchandise sold on a money-back guarantee. Order direct by Stock No. Send check or M. O.



YOUR MUSIC IN DAZZLING ACTION with





Dramatic Breakthrough In Audio-Visual Enjoyment

Patent Pending.

Adds a spectacular new dimension to the you can actually see your favorite musical selection translated into fantastic patterns of beautiful color—each individual note creating its own unique, twisting, radiating shape . . each shape dancing and prancing, whirling and swirling in perfect time with the music. Science, art and electronics combined with dramatic results. Attaches in seconds to your radio, tape recorder, hi-fi or stereo with two alligator clips. Can be used on small sereens, large walls. Stages and whole auditoriums. Loads of fun! Wonderful for parties! Practical, too! Unlimited special effects for bands, dances, clubs, sales meetings, trade shows—put zip into classroom or private music instruction and appreciation. Available in Cabinet Model, Tube Unit. 8" and 12" sets or build your own Music Vision* with our low-cest Do-It-Yourself Kit—all you'll need is a light source. If you don't have one, the versatile Edmund 35mm 500 Watt Projector is a terrific bargain. Order by stock numbers listed below. Money-back guarantee. Complete information in new catalog. Send 25c in coin for fully illustrated, 16-page Booklet No. 9096Q "Introduction to Music Vision." 8 DOY'S STARTER KIT

Stock No. 7,1,095Q. \$6.00 Ppd.

BOY'S STARTER KITStock	No.	71,095Q\$ 6.00	Ppd.
8" DO-IT-YOURSELF KITStock	No.	71,009Q\$22.50	Ppd.
8" SET (Motiondizer, color wheel, apertures)Stock	No.	71,030Q\$45.00	Ppd.
12" SET (same as above w/larger Motiondizer)Stock	No.	71,032Q\$57.50	Ppd.
500 WATT 35mm PROJECTOR (for above sets)Stock	No.	71,057Q\$24.50	Ppd.
	No.	85.1810 \$99.50	F.O.B.



World's Smallest Bible

World's Smallest Bible
See entire Holy Bible—all 773,746 words
on 1,245 pages—reduced to piece of film
1-5/16' square. Incredible 48,000-to-1 reduction by new photochromic-dye microimage technique that begins where microfilm leaves off. Needs 100x microscope to
read. Astound your friends! Carry in your
wallet or purse. Project it on wall with
'scope and prism. Real conversation piece. Stock No. 70,008Q \$16.50 Ppd.



3" Astronomical Telescope

S' Astronomical Telescope
See moon shots, orbits—stars, phases of
Venus, planets close up 60 to 180 power.
New, improved, aluminized and overcoated
3" diameter f/10 primary mirror, ventilated
cell. Equatorial mount with locks on both
axes. Equipped with 60X eyepiece and
mounted Barlew lens, 3X finder telescope,
hardwood tripod. Included FREE: "STAR
CHART"; 272-page "HANDBOOK OF
HEAVENS"; "HOW TO USE YOUR
TELESCOPE."



Now! Water That Climbs Uphill

Now! Woter That Climbs Uphill
Amaze your friends—loads of fun—perfect
for science fairs. Make water flow up side
of glass and siphon freely into auother
container. To stop flow cut with scissors
and watch water snap back. The secret
is a friction-reducing additive which forms
long molecular chains. Many industrial
and agricultural uses—a pinch makes
goldfish swim faster! Requires only ½
tsp. glass; 3 oz. can, treats 84 pints.
Stock No. 41,086Q ________\$2.00 Ppd.



Big Boom & Flash Cannon

Big Boom & Flash Cannon
Perfectly safe giant noisemaker for sports,
games, the 4th and Just plain fun produces
brilliant flash and loud bang. Completely
harmless—no gun powder, matches or recoil. Easily operated. Beautiful reproduction of regular Army 60 MM cannon in
hefty cast iron. "Ammo" is pulverized
Bangsite combined with water in cannon
producing harmless gas. Cannot be ignited
by hottest flame or heaviest concussion.
Incl. ammo for 200 shots, instr. Wt. 2½
lbs.

Stock No. 70.898Q__ EXTRA AMMO (About 400 Shots) Stock No. P-41,005Q ___\$1.00 Ppd.



3-D LUNAR LANDING

Preview Apollo landing with beautiful, big 11"x14" 3-D plaque, Astronauts in full space gear plant the "colors". Special photography, color printing, rigid lenticular screen give unbelievable picture depth—so realistic you'll almost think you're there. One astronaut appears to teeter on rim of giant gorge—earth visible in background. Great for framing, display, future astronauts.

Stock No. 71,148Q.......\$4.00 Ppd.



Fly 9-Ft. Hot Air Balloon

9 Ft. tall. Rises to amazing heights on just hot air. Supplied with tether attached, so can be used over and over. Easy to make, launeh, fly. Loads of fun. Great for celebrations, science fairs, plain fun. Will lift model gliders, parachutes, instruments, etc.—anything up to ½ b. Approx. 5 ft. diam. when fully inflated. Kit contains 10 pre-eut red & white gores (No. 1 model paper), 6 ft. 14-gage wire for bottom ring, top, "tie-off" cord, complete instructions.

Stock No. 60,691Q......\$2.00 Ppd.



War Surplus Electric Generator

Brand new Signal Corps Electric Generator, Generates up to 90 volts by turning crank, Use in high impedance relay. Charge ground & bring up night crawlers for bait or study, 2 Alnico Magnets alone now worth more than orig, gov't cost of \$15. Wt. 2 lbs. Stock No. 50,225Q \$6.95 Ppd. Mtd. with light, to demonstrate electricity. Stock No. 50,365Q \$11.95 Ppd.



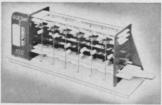
"Fish" With A Magnet

"Fish" With A Magnet
Go treasure hunting on the bottom! Great
idea. Fascinating fun and sometimes tremendously profitable! Tie a line to this
powerful, but lightweight Magnet—drop it
overboard in bay, river, lake or ocean. Troll
along the bottom—your "treasure" haul can
be outboard motors, anchors, fishing tackle—
all kinds of metal valuables. Specially designed plastic coated, horseshoe-shaped with
3½" sa. gripping surface. Tremendous lifting power—over 150 lbs. on land, much
more under water.
No. 71,135Q _ 150 lb. pull ___\$12.50 Ppd.
No. 71,150Q _ 75 lb. pull ___\$8.75 Ppd.



Giant Surplus Balloons
"Balls of fun" for kids, traffic stoppers for stores, terrifie for amateur meteorologists, create a neign meteorologists. Create a neign meteorologists. Create Resident for a mateur meteorologists use to measure cloud heights, wind speed, and temp, Made of heavy duty neoprene. Inflate with vacuum cleaner or auto air hose; or locally available helium for high rise.

Stock No. 60,568Q_____8'___\$2.00 Ppd. Stock No. 60,632Q____16'___\$7.00 Ppd.



Working Model Digital Computer

Working Model Digital Computer
Solve problems, teach logic, play games
with miniature version of giant electronic
brain! Adds, subtracts, multiplies, shifts,
complements, carries, memorizes. Colored
plastic parts easily assembled. 12" x 3½"
x 4¾". Incl. step-by-step assembly diagrams, 32-p. Instruction book covering operation, computer language (binary system)
programming problems & 15 experiments. Stock No. 70,683Q___ ___\$5.98 Ppd.



Wooden Solid Puzzles

Wooden Solid Puzzles
Here's a fascinating assortment of 12 different puzzles to provide hours of pleasure and stimulate ability to think and reason. Animals and geometric forms. Take them apart and reassemble them. Lots of fun for the whole family—young and old. Will test skill, patience and ability to solve problems. Order yours now.

Stock No. 70,205Q..........................\$4.00 Ppd.



New! Projection Kaleidoscope

A low-cost unit with easily interchanged
9" diam. liquid wheel. Projects variety of
color patterns which do not repeat. Specially designed wheel, 3" projection lens
and Edmund Visual Special Effects Projector make it all possible. Easily operated. Large screen image at short projection distance perfect for photo backgrounds,
light shows, parties, dances, etc. Front or
rear projection. Incl: I RPM IISV Motor,
motor bracket, instructions.

Stock No. 71,121 Q. \$94.50 Postpaid
MULTI-COLORED GLASS WHEEL
Stock No. 71,122Q (9" Diam.) \$15.00 Ppd.

FREE CATALOG COUPON

148 Pages! More than 4,000



UNUSUAL BARGAINS!

Packed with huge se-lection of telescopes, microscopes, binocu-lars, magnets, magni-fiers, prisms, photo components, parts, kits, accessories—

kits, accessories—
many hard-to-get surplus bargains. 100's of charts, illustrations, Science Fair Projects. For
hobbyists, experimenters, schools, industry. Mail coupon for FREE
catalog "Q." EDMUND SCIENTIFIC CO., 300 Edscorp Building,
Barrington, New Jersey 08007.

Name		
Address		
City	State	Zip

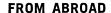
ORDER BY STOCK NUMBER • SEND CHECK OR MONEY ORDER • MONEY-BACK GUARANTEE

300 EDSCORP BUILDING **BARRINGTON, NEW JERSEY 08007**

science news®

OF THE WEEK

- 447 More money for atmospheric test sites
- 448 Welfare residency bows out
- 449 Side effects from an anesthetic Results are in on continental drift
- 450 Transplants: half a whole eye Slow action on environmental quality
- 451 Nixon mends science fences Time running out for cut-rate labs
- 453 Behavioral Sciences: Gonorrhea up, syphilis down; Psychological impairment high in Manhattan children; LSD useless for alcoholism; X-raying an Egyptian mummy; Foreign students fill graduate school gap
- **454 AGU:** Rocks from the Indian Ocean; Drift theory; Breaking a laboratory vortex; More mascons; Drifting volcanoes; Meteor impacts on lunar surface
- 455 URSI: Amplification of low-frequency signals; Radar for the troposphere; X-rays from the Crab; Flow in the polar ionosphere
- 456 Medical Sciences: Chain saw vibration problems; Helmet-type refrigerator; Rare bone marrow operation; Smoking and heart attacks; Outpatient obesity clinic; Treatment for Wilms' tumor



462 Letter from London: The carbon fiber fever

IN SCIENCE FIELDS

457 Cancer: Antigens on the cell

460 Optics: Movies by hologram

444 Films of the Week

444 Letters to the Editor

452 Books of the Week

Halley grades grants (S.C.) (S

The series of 15 microphotographs of a malignant cell in a mouse shows how antibodies attack and destroy it. Through a sequence of steps, an antibody (small, circular agent seen in right center of picture one) latches onto the cancerous cell, penetrates it, destroying its structure and turning it into a mass of protoplasm. p. 457 (American Cancer Society)

science

news

A Science Service Publication Vol. 95/May 10, 1969/No. 19 Science News Letter ©

Watson Davis, 1896-1967 Publisher: E. G. Sherburne Jr.

Editor: Warren Kornberg Managing Editor: Frank Sartwell Ass't. Managing Editor: Carl Behrens

DEPARTMENTS

Aerospace: Jonathan Eberhart
Behavioral Sciences: Marjory Scarlet
Chemistry and Engineering: Edward Gross

Life Sciences: Barbara J. Culliton,

Jay Chamblin

Medicine: Faye Marley

Physical Sciences and Astronomy:

Dietrick E. Thomsen

Illustrations: Marilyn Raleigh Production: Marilyn Binn Books: Margit Friedrich Assistant to the Editor: Nadine Clement

Editorial Assistant: Susan Brouwer

Advertising Director: Louis D. Young Circulation Manager: Marcia Nelson

SCIENCE SERVICE

Institution for the Popularization of Science founded 1921; a non-profit

Board of Trustees—Nominated by the American Association for the Advancement of Science: Athelstan F. Spilhaus, Franklin Institute; Wallace R. Brode (Treasurer), American Chemical Society, Washington, D. C.; Bowen C. Dees, University of Arizona. Nominated by the National Academy of Sciences: Henry Allen Moe, The Clark Foundation; Harlow Shapley, Harvard College Observatory; Allen V. Astin, National Bureau of Standards. Nominated by the National Research Council: Glenn T. Seaborg (President), U.S. Atomic Energy Commission; Leonard Carmichael, National Geographic Society; John R. Whinnery, University of California, Berkeley. Nominated by the Journalistic Profession: O. W. Riegel (Secretary), Washington and Lee University; Gordon B. Fister, Call-Chronicle Newspapers; Peter Clark, Evening News Association, Detroit. Nominated by the Edward W. Scripps Trust; John Troan, Pittsburgh Press; Ludwell Denny, Scripps-Howard Newspapers; Edward W. Scripps II (Vice President), Edward W. Scripps Trust.

Director: E. G. Sherburne Jr.; Assistant Director: Dorothy Schriver; Staff: Youth Division: Howard Weisbrod.