

science news

Nov. 27, 1971
vol. 100, no. 22, 351-366

How the bureaucracy shuttered a space camera

Obstacles to scientific earth observations



KEEP PACE WITH SPACE AGE! SEE MOON SHOTS—LANDINGS, SPACE FLIGHTS, CLOSE-UP!

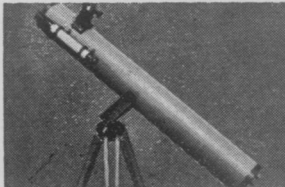


AMAZING SCIENCE BUYS

for FUN, STUDY or PROFIT



See moon shots, orbits, stars, craters!



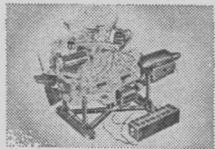
NEW 3" ASTRO-NOMICAL REFLECTOR TELESCOPE

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Amazingly priced Apollo Space Explorer brings the wonders of the universe up close. 3" aluminized & overcoated f/10 mirror. Reaches theoretical limits of resolutions & definition. 60X standard size 1 1/4" O.D. eyepiece. 1/2" F.L. 3X adjustable Barlow. 6X finder telescope; high impact plastic tube; metal fork mount w/ positive locking, 36" hardwood tripod. Included FREE: 272 p. Handbook, Star Chart, Instructions. Best value ever!

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 No. 85,105Q 4 1/2" REFLECTOR \$ 94.50 F.O.B.
 No. 85,086Q 6" REFLECTOR \$239.50 F.O.B.

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Stock No. 70,448Q \$13.50 Ppd.

HELIUM BALLOONS MAKE A "BALL"



Anytime there's a balloon the air is festive. Especially when the "air" is helium, which makes a balloon perky and adventurous. Now here's 25 times the fun—25 various colored balloons of 4, 5, or 6" diameter when inflated. With them, a pressurized (300 lbs./sq. in.) can containing 25 liters of helium

to inflate all 25. For adults or bazaars or just demonstrating "lighter than air." Helium is a safe non-toxic inert gas.

Stock No. 71, 289Q \$3.00 Ppd.

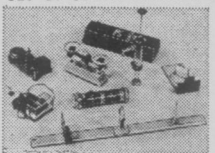
"FISH" WITH A MAGNET



Go treasure hunting on the bottom! Fascinating fun & sometimes profitable! Tie a line to our 5 1/2-lb. Magnet—drop it overboard in bay, river, lake or ocean. Troll it along bottom—your "treasured" haul can be outboard motors, anchors, other metal valuables. 5 1/2-lb. Magnet is way surplus—Alnico V Type—Gov't. cost \$50.

Lifts over 150 lbs. on land—much greater weights under water.
 Stock No. 70,571Q 5 1/2 lbs. \$14.00 Ppd.
 Stock No. 60,215Q 1 1/2 lbs. \$ 5.75 Ppd.
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SET OF SEVEN MIGHTY MINI-LABS



Seven separate science kits offered in one low-cost package even the youngest child will really enjoy. Not only lots of fun but extremely educational. Easily teaches basic scientific concepts while building actual working pinhole camera, electric motor, double-platform balance, transparent flashlight, hydraulic pump, push-button bell, even simple Galilean telescope. Perfect for series of science lectures. Kits available individually for total of \$16.45. Most \$2.35 each.

SUPER Apollo Missions Films



Relive history in your home with 200 Spectacular feet of Official NASA Super 8 full color or b & w films of the Apollo shots—from breathtaking blast-off to touchdown. See Neil Armstrong's "1st step." Apollo 12's return. Alan Shepard's triumphant exploring of Fra Mauro. Fabulous entertainment. Future heirloom.

Color—\$14.95 ea.; b&w—\$6.95 ea., all Ppd.
 Moon-shot Color # R&W #
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 Apollo-12 41,477 Q 41,476 Q
 Apollo-14 41,479 Q 41,478 Q

NEW ELECTRONIC CALCULATOR—\$199.50

Really terrific imported value. Loaded with big machine capabilities. 1st truly personal electronic calculator. Absolutely silent chance from the fascinating world of computers. Easily learn skills and speed of EDP. Think and talk like a computer programming expert after only two rounds. Out-maneuver your opponent with real "flow charts." Use simple math to "bug" other players or to recover from an "interrupt." Game could lead to a programming career. 200 pieces for beginners or advanced challengers.



Stock No. 78,000Q \$199.50 Ppd.

EASY NEW FUN WAY TO LEARN EDP!

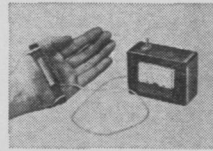
Unique new game of skill and chance from the fascinating world of computers. Easily learn skills and speed of EDP. Think and talk like a computer programming expert after only two rounds. Out-maneuver your opponent with real "flow charts." Use simple math to "bug" other players or to recover from an "interrupt." Game could lead to a programming career. 200 pieces for beginners or advanced challengers.



Stock No. 71,259Q \$6.95 Ppd.

EMOTION METER "TESTS" YOU

Amazing lie detector type device that really works. Reveals hidden likes, dislikes. Easy to use. Sensitive and accurate. Measures changes in body resistance caused by changes in emotional state. Needle movement indicates emotional response (not whether favorable or unfavorable). Effectiveness depends on questions asked and interpretation. Unique 10-oz. set intended strictly for entertainment, education. Great fun at parties. Incls. 9v battery, compl. instrs.



Stock No. 41,422Q \$15.95 Ppd.

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Man's survival depends upon suitable ecological balance. These 5 well planned, experiment kits explore different portions of environment—Introduce factors on which natural balances rely. Perform numerous experiments with materials included (+ few avail. locally). Compl. instruct. Perfect for everyone alive.



No. 71,353Q GREEN LEAVES \$5.00 Ppd.
 No. 71,354Q WATER LIFE \$6.00 Ppd.
 No. 71,355Q PREDATOR PREY \$6.00 Ppd.
 No. 71,356Q LIFE MOVERS \$5.00 Ppd.
 No. 71,357Q LIFE FROM DEATH \$5.00 Ppd.

POWER HORN BLASTS A MILE

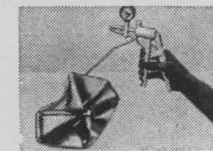
Frighten prowlers, muggers, vicious dogs with 118 decibels. Just press and this Freon powered pocket-sized metal horn can be heard a mile away to signal for help or fun. Great for boating (it floats), hiking, camping, hunting, seashore, rooting for your team; can be heard over traffic and construction noises to sound fire drill, lunch break or emergency. Weighs only 3 oz. but contains up to 100 millipiercing blasts. A real bargain.



Stock No. 41,423Q \$3.25 Ppd.
 2 Refill Cartrs. (P-41,424Q) \$2.75 Ppd.

1st LOW-COST VACUUM PUMP!

Nothing like it! Top-quality hand-held pump produces & maintains 25" of vacuum. Has instant release tab, 1 1/2" diam. stainless gauge (0-30"). 100's of uses—siphon noxious fluids, evacuate bell jars and castings, clean, retrieve, lift sterile objects, demonstrate Magieburgz hemispheres, etc. lifts 40 lbs. incld. "T" lifter (2 1/2" diam. cup).



Stock No. 71,301Q \$12.00 Ppd.
 No. 71,300Q (without gauge/lifter) \$ 5.50 Ppd.

\$8.95 ELECTRONIC STROBE!

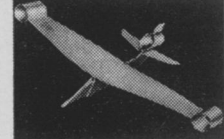
Hand-sized solid state electronic strobe light at fantastically low price. Produces bright psychedelic effects like larger, far more expensive Xenon strobes, yet it's just 2 1/2 X 4 X 1 1/2" thick. Adjustable flash rate, approximately 3-10 flashes per second. Make stop motion effects, posters come alive. Great to take with you to parties, dances, outings, etc. Requires 2 9v transistor batt. (not incl.). Instructions.



Stock No. 41,443Q \$8.95 Ppd.
 4 REPLACEMENT LAMPS - P-41,444Q \$1.00 Ppd.

GREAT INT'L PAPER PLANE BOOK

Official fly-them-yourself book of paper airplanes from SCIENTIFIC AMERICAN'S "1st International Competition." Includes plans of all winning entries, time-of-flight records, photos, technical data, commentaries. Has 20 unusual designs on perforated pages for easy tear-out. You won't believe how some of them fly! Amusing, entertaining. 128 pages. 9" x 11 1/2".



Stock No. 9991Q \$2.95 Ppd.

JUST PRESS . . . and colors bloom!

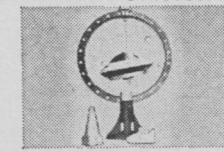
Liquid crystal pressure discs put world of color under your thumb. Just press . . . and presto—full spectrum of colors magically bloom in ever changing shapeless patterns. The secret's the amazing liquid crystals—sealed in vinyl & 3" sq. Plexiglas® disc. Look like liquid—have structure of crystal. Great conversation piece, fantastic coaster, you're own portable "wet show."



Stock No. 41,272Q (set of 2) \$2.25 Ppd.

BATTERY POWERED GYROSCOPE

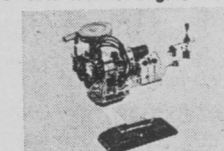
For the first time—have the fun & enjoyment of a gyro without either of constant string winding & pulling. 5" diam. flying-saucer shaped. Spins on its edge, upside-down, on your head, hanging from a string, drives rocket car, races around a ring . . . you'll be amazed at its performance. Even flipping switch to off is an experience—speeds up to 1/4 hr. for almost 3 minutes without power. Terrific accessories including rocket car, pedestal, 9" diameter orbit ring, ring pedestal, cap, chain, loop, instructions. Uses 2 regular "C" batt. (not incl.).



Stock No. 71,161Q \$6.00 Ppd.

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Stock No. 71,424Q (4 1/2" 5" x 9") \$6.75 Ppd.

GIANT WEATHER BALLOONS

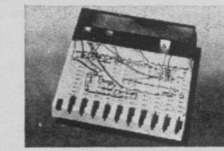
"Balls of fun" for kids, traffic stoppers for stores, terrific for amateur meteorologists. Create a neighborhood sensation. Great backyard fun. Exciting beach attraction. Amateur meteorologists use to measure cloud heights, wind speed, and temp. Made of heavy duty neoprene. Inflate with vacuum cleaner or auto air hose; or locally available helium for high rise.



Stock No. 60,568Q (8" size) \$2.00 Ppd.
 Stock No. 60,632Q (16" size) \$7.00 Ppd.

NEW! ELECTRONIC DIGITAL COMPUTER KIT!

Solve problems, play games, predict weather with this actual working model of giant electronic brains. Amazing new fun way to learn all about computer programming . . . logic, decimal, binary systems. Laws of Sets—even do your own programming after completing simplified 116 page instructive booklet. Includes step-by-step assembly diagrams. Circuits easily changed. Readout from illuminated control panel. Req. 2 "D" batt. (not incl.). Best model we've seen—for home, school, industry.



Stock No. 71,434Q (11" x 12 1/2" x 4") \$31.50 Ppd.

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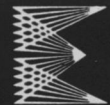
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Environment: Ecologically damaging foreign aid; Making cars last
longer; Converting waste glass

COMMENTARY

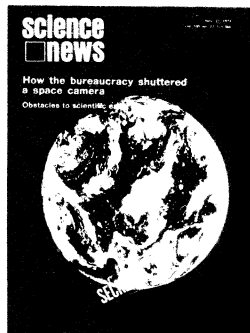
- 354** Space cameras and the public interest

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- 361** **Astronomy:** Kepler's birthday
- 362** **Aerospace:** Politics and a space mapping camera

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The military's passion for secrecy and the frag-
mentation of civilian authority have combined
to obstruct the use for earth resource observa-
tions of an accurate space mapping camera. A
long series of obstacles to scientific use of
remote sensors raises serious questions about
where defense needs end and civilian needs
begin. See p. 362. (Design: E. Cherry Doyle)

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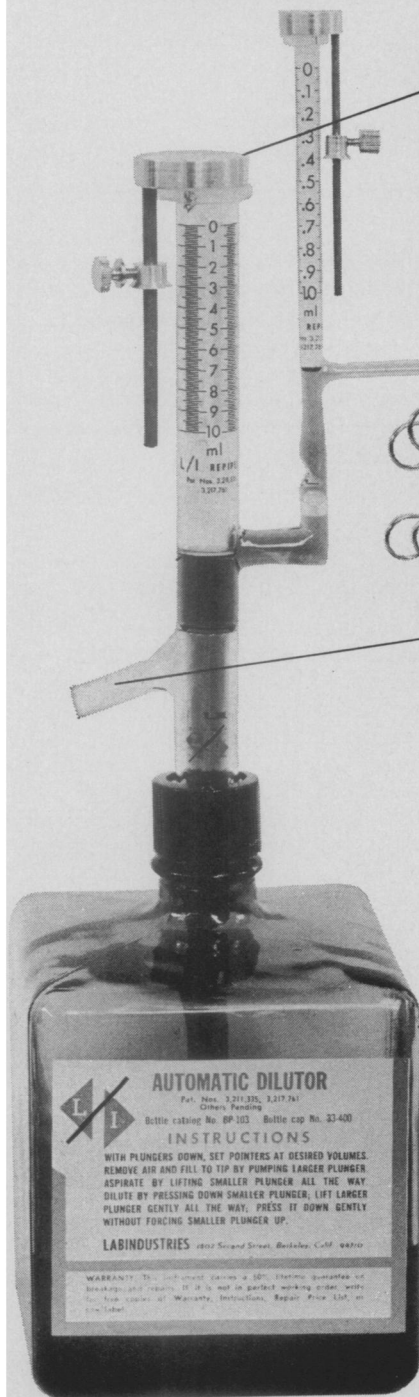
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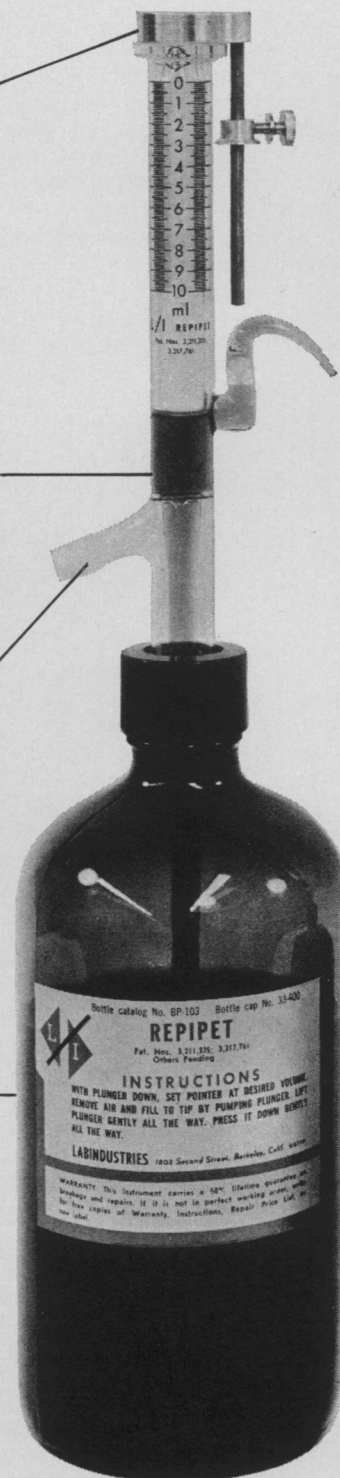
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