

PHYSICS

# Compute Fallout Pattern

See Front Cover

► A PORTABLE COMPUTER to calculate fallout patterns following atomic and hydrogen bomb explosions in one-twentieth of a second has been developed by the National Bureau of Standards.

Given information on winds at various levels up to the mushroom cloud's top, and the size and nature of the bomb, the analogue computer predicts on an oscilloscope screen the distribution and intensity of radioactivity resulting from the explosion.

Maps can be overlaid on the pattern to find the areas that would be most severely hit. Intensity of the radiation is indicated by the brightness of the light, which can be estimated visually or read with a light meter.

Shown on the cover of this week's SCIENCE NEWS LETTER is a photograph of such a pattern predicted for a hypothetical case.

The computer was demonstrated at the National Bureau of Standards during its Guest Week Program, when leaders from science, industry, education and Government were told of the Bureau's contributions to science.

Idea for the fallout computer was suggested by Dr. Lester Machta of the U. S. Weather Bureau. Its development was supported by the Atomic Energy Commission and it will be used at the AEC's atomic proving grounds to provide extra safety during weapons tests.

The device was designed and built by Dr. H. K. Skramstad, J. H. Wright, Leonard Taback and T. L. Childs.

The Bureau also announced during its Guest Week Program plans to redetermine the acceleration of gravity to an accuracy of one part in a million.

Dr. Allen V. Astin, Bureau director, said the study was part of an "international effort" to obtain a more accurate value for the pull of gravity, or g. It results from the earth's attraction for any mass and can be determined by clocking the time required for a freely falling object to drop a measured distance in a vacuum.

Also revealed by the Bureau during the special program were an automatic weather station built to ride out hurricanes, and a panoramic X-ray machine that takes a single picture of the entire dental arch.

Science News Letter, February 4, 1956

# Questions

**GEOPHYSICS**—How can amateur astronomers and other sky watchers assist during the International Geophysical Year satellite studies? p. 68.

**GERONTOLOGY**—To what factors is slow-down with age believed to be connected? p. 67.

**METEOROLOGY**—What are storm surges? p. 71.

**OCEANOGRAPHY**—How can the age of icebergs be determined? p. 71.

Photographs: Cover, National Bureau of Standards; p. 67, Bell Telephone Laboratories; p. 69, British Information Services; p. 71, Corning Glass Works; p. 80, Bakelite Company.

## Why Wash Your Car?

Hear neighbors ask how you keep your car so shiny clean! Wipe off DRY on nice days with \$2 KozaK Auto DRY Wash Cloth. Takes only minutes. Hose-wash only 2-3 times year if at all. KozaK safely wipes even dirtiest cars to proud beauty, higher trade-ins. Used for 30 years by over 10 million careful buyers like Cadillac owners. Guaranteed safe, easy, or money back. Let \$2 return you fifty in car-wash savings! Sold direct to you. Mail coupon now. ↓

The Original

© **KozaK** 494 S. Lyon St.

Auto DRY Wash Batavia, N. Y.  
Please send me postpaid at once:

REG. \$2 KozaKs SUPER \$3 KozaKs  
(millions use them) (lasts four times longer)

1 for \$2  1 for \$3

SPECIAL DE LUXE OFFER  
2 Reg. (\$4) plus 1 Super (\$3) —  
\$7 value — \$5.00

Cash  Check

"made by people you can depend on to do the right thing"

## TOOL BARGAINS—WONDERFUL VALUES!

### 7 DENTAL INSTRUMENTS

**PENCIL SHAPED TRUE TEMPERED TOOLS.** These dental instruments made to sell for \$1.50 each are ideally suited for working in Metal, Plastic, Wood, Leather, Clay, Stone, etc. The pencil shape permits easy etching, carving, scribbling, forming, modelling and untold number of uses. The quality of the tools is such that they will readily accept and hold reshaping and sharpening. All 7 Instruments of various shapes



Only **\$1.98**  
Plus 20¢ PP

### 12 HONING STONES

Of Various Types — Sizes — Shapes

Govt. Surplus worth many times our low price. A various assortment of sizes, shapes and lengths for sharpening Tools, Instruments, Fish Hooks, Knives, Cutlery and hundreds of other uses. Also used for deburring, removing light scratches. Our assortment of shapes and lengths permits one to hone in hard to get places. Made to sell for up to 75¢ each. Our **LOW PRICE** for all 12 stones



**\$1.98**  
Plus 25¢ PP

### THREE 6" INSPECTION MIRRORS

Complete With Handles  
Govt. Surplus. Permits inspection of parts or part numbers otherwise hidden from sight. Magnifies sizes up to 1" in diameter. A natural for mechanics, Radio & Television repairman, hobbyist. Made to sell for many, many times our **LOW PRICE** OF



**\$1.69**  
For All Three Plus 15¢ PP

### 133 PIECE POWER TOOL ACCESSORY KIT

For: Sanding, Grinding, Polishing, Carving, Burnishing, Etching, Milling, Cleaning, Cutting Off, Hole Cleaning, Deburring, etc. Contains Grinding, Polishing, Cut Off and Buffing Wheels, Sanding Cartridges, and Discs, Steel Cutters, Mandrels, Burnisher, Mounted Stones, Knife Edge Rubber Wheels, etc. All with 3/32" Mandrels. The complete accessory set for any small job. Reg. \$6.00



OUR PRICE **\$1.98**  
Plus 25¢ PP

### ROTO HOLESAW ATTACHMENT FOR ELECTRIC DRILLS

Four Different Size Holes with One Holesaw! Cuts thru any 3/4" Stock . . . Wood, Plastic or Metal! The one and only holesaw attachment for 3/4" electric drills at a low price like this. Cut 1 1/2", 1 3/4", 2" and 2 1/4" holes thru any 3/4" stock. Light, but rugged aluminum arbor and 4 saw blades of top quality, high carbon steel furnished.



**\$4.95**  
Complete  
Add 30¢ pp

### 50-Pc. ACCESSORY KIT WITH 1/4" TURNED DOWN SHANKS

Designed for use with all electric drills for **SANDING, POLISHING, CUTTING, REAMING, BUFFING, GRINDING, HONING, WIRE BRUSHING, RUST REMOVING, ETC.** Polish cars, hollow ware and small appliances. Buff brass, copper, iron, pewter, steel, gold, silver, nickel, chrome, platinum, etc. The kit contains: Large Lambs Wool Bonnet, Large Sanding Discs, Large Rubber Adapter to hold Bonnet and Sanding Discs, Mounted Cut-Off Wheels, Muslin Buffs, Felt Bobs, Grinding Wheels, Polishing Brush, Wire Wheel, Tapered Reamers, Black Emery Paste, Jewelers' Ronge. All brand new accessories and designed to sell for **\$10.00.**

Our Low Price **\$4.50** Plus 35¢ pp.

### RED SABLE ARTISTS BRUSHES

guaranteed to point. For Water Color, Script, Lettering, touch up, ceramics, tray painting, and many, many other uses. Made to sell for up to \$1.75 each. Brand new.

No. 0 Reg. Price \$ .60	Our Price 30¢ ea.
No. 1 Reg. Price .65	Our Price 35¢ ea.
No. 2 Reg. Price .75	Our Price 45¢ ea.
No. 3 Reg. Price 1.10	Our Price 50¢ ea.
No. 4 Reg. Price 1.45	Our Price 55¢ ea.
No. 5 Reg. Price 1.75	Our Price 60¢ ea.

ALL Six Brushes \$2.50

### Flat Camels Hair Brushes

Finest quality Camels Hair. Perfect brush for lettering, Touch Up, Ceramics, Showcard, Model Painting, Figure Painting and many other uses.

Size 1/4" Eight for \$1.00
Size 1/2" Eight for \$1.35
Size 3/4" Eight for \$1.75
Size 1" Eight for \$2.50



MATTHEW DAY CO. INC.

MONEY BACK GUARANTEE  
DEPT. T-215

DUMONT, NEW JERSEY