

## GENERAL SCIENCE

# Science for Christmas

Young scientists' interests cover a wide range. Anyone contemplating a scientific gift should consider the challenge it will present to the recipient, Forrest Snakenberg reports.

► DOTING parents, grandparents, uncles, and aunts are determined to help Santa make this an unforgettable Christmas for their favorite young scientist. Their problem will not be that of finding something suitable, but rather choosing from the vast array of scientific treasures available.

Mail order Christmas books have brightened the eyes of children in remote areas for years, and this year's editions are keeping up the long tradition. One house offers scale models of the mightiest dinosaurs and cavemen that ruled the world millions of years ago. A factual booklet and 50 models cost but \$3.88. At \$2.88 they offer a starter chemistry set. (1) Another major house boasts an atomic submarine with a polaris missile capable of firing 37 inches for \$7.44, while their water-powered rocket at \$3.66 will zoom 250 feet. (2)

A firm specializing in kits covering a variety of scientific interests offers a magnetism discovery lab and an electricity discovery lab at \$25 each this year. (3) These are designed for grades one to six. They also offer an automat kit consisting of 1,300 precision-engineered components, a bargain at \$195.

## Science Treasure Chest

Another firm serving the science experimenter offers Science Treasure Chests at \$5 and \$10 with a fascinating introduction to all areas of science. They also offer a solar cell experiment kit at \$8.95, an 8 power telescope kit for youngsters of six or seven at \$3, while older students will enjoy their three-inch reflecting telescope at \$29.95. Their catalogue contains a wealth of other scientific offerings, too. (4)

Anatomical model kits still are very popular and are available almost everywhere. Prices for most subjects range from \$3 to \$10.

Do not hesitate to repeat a gift subscription of THINGS of Science, as each month a completely new unit is issued. At \$5 per year, a new kit will arrive each month all year. (5) A collection of 14 choice units will add interest to your tree for only \$7.49, available from the producers of this fine series.

For the math buff, there is a Probability and Statistics Kit at \$16.95 with more than 60 experiments in reliability and chance, (6) or an abacus for only \$1.95 plus 20 cents for mailing. (7)

Atomic energy need not be costly. A Texas firm offers an atomic energy lab complete for \$5.95. (8) Other offerings include an electronics lab for \$17.80, an optics and photography lab for \$11.95, a complete photo-relay unit at \$7.95, or a weather station which retails at \$6.95. You may opt

to take their package deal for \$33.60 which consists of eight monthly kits, including the five listed here.

Your budding space scientists will be thrilled by a space travel package at \$2.65 which includes recorded sounds of all the major space efforts, with wall charts and a planetary information slide rule. (7) His more down-to-earth counterpart may prefer a volcano model which will erupt, realistic as Kilauea but much less costly at \$2.98. (9)

If money is no object, and you want something special for that advanced science student on your list, you may be interested in a gas chromatograph at \$1,175 or an ultrasonic cleaner at \$375. Vacuum pumps range from \$52.50 to \$195. (10)

Microscopes are a must for potential scientists, and are available from scientific suppliers everywhere. Depending on quality, microscopes run from as little as \$10 or \$15 on into the hundreds. Last year's gift microscope will be even more useful with this year's gift of accessories.

For a closer look at plants and animals, prepared microscopic slides may be the answer to a shopper's quandary. These are available from major biological supply houses, which also offer kits for embedding scientific specimens in plastic, and a complete line of other equipment for the science enthusiast's home lab. (11 & 12)

## Pets Popular

Pets are loved by young and old, and perhaps most of all by prospective scientists. For something a bit more personal than bacteria slides, you might want to give ten live bats, available for \$10, or a dozen salamanders would only set you back \$7.50. (13) You can buy a special observation beehive (14) or even flying squirrels (15) by mail. Local pet shops can supply you with horned toads, guinea pigs, hamsters, or white rats and mice.

Recordings always are popular gifts. Small children will appreciate the Singing Science series, 33 1/3 rpm, at \$3.95 each. Current titles include Space Songs, Energy and Motion Songs, Nature Songs, Weather Songs, and More Nature Songs. Somewhat more sophisticated is the Living Things series, at \$5.95 each, including Sounds of



Mattel

**TALKING TOY BRINGS CHRISTMAS JOY**—The little girl is thrilled with her bunny which talks without batteries or electricity. The rabbit says 10 phrases for \$13, or is silent for \$6.

Insects, Sounds of Animals, Sounds of the Sea, and Sounds of Sea Animals. Older students would enjoy the Scientists Speak series, also \$5.95, featuring Dr. Edward Teller and Dr. Polykarp Kusch. Dr. Teller discusses the nature of the universe and the theory of relativity while Dr. Kusch develops new insights into the world of science and the nature and structure of matter. (3)

Books are well received by the budding scientist, and paperbacks on every scientific subject from anthropology through zoology are available in drug stores and book stalls for modest outlays of from 50 to 95 cents. Your local librarian has lists of good appropriate books, and can be most helpful in advising your selection.

Do not overlook scientific magazines. Gift subscriptions are pleasing gifts to receive, and easy to give. Polls of National Science Fair-International Finalists reveal the most-read publications of this choice group include Science News Letter, Science, Scientific American, Popular Science, Science Digest, Popular Electronics, Science World, Radio-TV News, Popular Mechanics, Sky and Telescope, and journals of professional societies.

#### Librarian Can Help

Your librarian can help you find the professional society in the field of your young scientist. Many of these also have junior memberships available. The Superintendent of Documents, Washington 25, D. C., can send you a check list of U. S. Government publications at moderate price in a specific area of interest.

Amateur radio equipment costing as little as \$100 or as much as \$2,600 can open the door to a fascinating hobby. Amateur television, quite advanced electronically, is a possible ham sideline although it still is mostly on a trial and error basis. Costs here range from \$200 up. For a common sense start, get professional guidance. (16)

Other kits available include a basic transistor lab for \$7.95, or an analog computer kit for \$29.95 from such an unusual source as a household appliance manufacturer. (17) A West Coast supplier has an interesting array of kits on electricity, motors, generators, weather, soil and water, conservation, etc. (18) A novelty at \$2.50 is their battery-powered electricity kit which can be used to electrify a doll house. Another of their offerings is a turbine generator kit at \$25.15 which can produce electricity from water power. A stream of water from a faucet will produce enough electricity to light a lamp or ring a buzzer.

Scientifically accurate models are interesting toys while also serving as collector's items. Among such models available are railroads, planes, ships, and both antique and modern automobiles. Construction sets can complement the models in the building of roads and bridges for realistic layouts. Hobby shops, department stores, and toy stores will have a wide range of such materials on display.

The many Christmas customs have evolved through the years and emerged as full-fledged traditions. It now appears that scientific gifts definitely are taking their place alongside such time-honored holiday components as turkey, trees, holly,

(Continued on p. 310)




## Why life science needs both

# ZOOM and 3D

Zoom microscopy gives you the *exact* magnification that best shows what you're looking for. Scan the specimen at low power . . . then zoom up to higher power for larger views of areas of interest . . . with constant focus all the way!

3-Dimensional microscopy shows classroom specimens just as your unaided eyes would see them—in stereoscopic depth, right side up and unreversed—but with the magnification needed to reveal detail. 3-D speeds learning by showing structure more understandably.

And only Bausch & Lomb StereoZoom® Microscopes give you both Zoom and 3-D. Give them a real test . . . in your own classroom . . . and see for yourself.

**BAUSCH & LOMB** 

**BAUSCH & LOMB  
INCORPORATED**  
16035 Bausch Street  
Rochester 2, N. Y.

- Please arrange a free classroom demonstration at my convenience.
- Please send Catalog D-15 with complete information on B&L StereoZoom Microscopes.

Name ..... Title .....

School or College .....

Address .....

City ..... Zone ..... State .....



With artificial satellites already launched and space travel almost a reality, astronomy has become today's fastest growing hobby. Exploring the skies with a telescope is a relaxing diversion for father and son alike. UNITRON's handbook contains full-page illustrated articles on astronomy, observing, telescopes and accessories. It is of interest to both beginners and advanced amateurs.

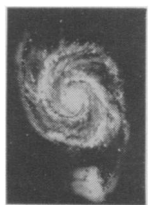
**CONTENTS INCLUDE:**

Observing the sun, moon, planets and wonders of the sky • Constellation map • Hints for observers • Glossary of telescope terms • How to choose a telescope • Astrophotography

**UNITRON**  
INSTRUMENT COMPANY • TELESCOPE SALES DIV.  
66 NEEDHAM ST., NEWTON HIGHLANDS 61, MASS.

Please rush to me, FREE of charge,  
UNITRON'S OBSERVER'S GUIDE and TELESCOPE  
CATALOG # 5G-2

Name \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_



**M-51 CANES VENATICI SPIRAL**

24" x 36" photo-quality print on heavy paper from 200" telescope exposure. \$6.00 unmounted; \$10.00 mounted on heavy board, ready for framing. Nine other subjects from Mt. Wilson & Palomar, Lick and Yerkes Observatories.

**ASTRO-MURALS**

Box 7563, Washington 4, D. C.

**MICRO-ADS**

Equipment, supplies and services of special interest to scientists, science teachers and students, science-minded laymen and hobbyists. 25¢ per word, payable in advance. Closing date 3 weeks prior to publication (Saturday).

SNL, 1719 N St., N.W., Washington 6, D. C.

1,000 CHEMICALS IN SMALL QUANTITIES, laboratory glassware, apparatus. Biology supplies, low-price microscopes, minerals, entomological items. Send 25¢ for new catalog. Winn Science Center, 124-N West 23rd Street, New York 11, New York.

GIFTS OF DISTINCTION FOR MEN AND WOMEN. Order early! Free catalog. Alma, Box 1097SC, Santa Monica, California.

GOVERNMENT SURPLUS RADIOS, AIRCRAFT cameras, lenses, sniperscopes. 50 page illustrated catalog 10¢. Meshna, Malden 48, Mass.

INDEPENDENT THINKERS—INVESTIGATE Humanism, the scientific personal philosophy! Ethical, humanitarian, nonpolitical, nonsupernatural. Free literature. American Humanist Association. Dept. SNL-1, Yellow Springs, Ohio.

MICROSCOPES, ACCESSORIES, PREPARED slides, supplies, etc. Free brochure. New England Science Service, P. O. Box 315, Peterborough, New Hampshire.

NATIONAL GEOGRAPHIC MAGAZINES, 1888-1961, any issue. Periodical Service, Box 465-SN, Wilmington, Delaware.

(Continued from p. 307)

greeting cards, and sidewalk Santas. With these hints for science shopping ease, it is hoped you will have more time for full enjoyment of the festivities and good will of the season. Happy Holidays!

Many of the items mentioned will be found in local department stores, hobby shops, or other establishments. This article is not advertising. Suppliers are listed below as a service to our readers:

1. Montgomery Ward.
2. Sears Roebuck.
3. Science Materials Center, 59 Fourth Ave., New York 3, N. Y.
4. Edmund Scientific Co., Barrington, N. J.
5. Science Service, 1719 N St., N.W., Washington 6, D. C.
6. Berkeley Enterprises, Inc., 815 Washington St., R302, Newtonville 60, Mass.
7. Frey Scientific Co., 273 Orange St., Mansfield 8, Ohio.
8. American Basic Science Club, 501 E. Crockett, San Antonio, Texas.
9. Rowlab, 345 E. Forsyth St., Dept. 2, Jacksonville, Fla.
10. Chemical Rubber Co., 2310 Superior Ave., Cleveland 14, Ohio.
11. Carolina Biological Supply Co., Elon College, N. C.
12. Ward's National Science Establishment, P.O. Box 1712, Rochester 3, N. Y.
13. J. C. Nicholls, Jr., Murphy, N. C.
14. A. I. Root Co., Medina, Ohio.
15. L. E. Greeson, 905 N. Monroe, Arlington, Va.
16. Amateur Radio Relay League, West Hartford 7, Conn.
17. General Electric, Radio Receiver Dept., Utica, N. Y.
18. Science Education Products, 2796 Middlefield Rd., Redwood City, Calif.

Photograph—Mattel Inc., 5150 Rosencrans Ave., Hawthorne, Calif.

• Science News Letter, 82:306 November 10, 1962

**PSYCHOLOGY**

**Sleepy Rats Sought For Sleepy Experiments**

➤ A MOVEMENT is on, in the interest of science, to produce a breed of sleepy rats.

The sleepy rats will be used eventually to find out why people wake up easily or "hate to get up in the morning."

University of Florida psychologist Dr. Wilse B. Webb is searching for the secret of sleep centers and their relationship to hereditary factors. The rats were chosen for the experiments, because of the obvious impracticability of genetic experiments with humans.

In a given group of rats, some will generally sleep more readily and longer than others, despite changes in environment. To demonstrate this, Dr. Webb is trying to produce the sleepy breed.

In addition to genetic factors, Dr. Webb also believes other factors such as training and motivation contribute to an individual's efficiency in awakening.

• Science News Letter, 82:310 November 10, 1962

**PHYSICS**

**Heaviest Heart of Nitrogen Discovered**

➤ A NEW type of nitrogen nucleus, the heaviest yet, has been created and found.

This discovery fits into place one more identifiable member of a strangely puzzling new series of elements having normal chemical properties but unstable nuclei, now called hyper-nuclei.

"This indicates that it may prove possible to make hyper-nuclei that correspond to all normal nuclei," said Dr. Derek Prowse of the University of California, Los Angeles, physics department, where the research was done with the cooperation of staff members of the Lockheed California Company's Biophysics Research Laboratory.

A normal nucleus consists of neutrons and protons. But in a hyper-nucleus one of the neutrons is replaced by a lambda hyperon, a particle that is neutral and that in some ways behaves like a neutron but is actually unstable, so that it decays in one-billionth of a second. Hyper-nuclei can be made only by using high-energy accelerators.

A powerful beam of negatively charged K-meson particles from the University of California, Berkeley, Radiation Laboratory's bevatron was used to bombard a special block of photographic emulsion in which the tracks of individual particles were recorded.

One of these K-meson particles collided with the nitrogen nucleus of a nitrogen atom in the photographic emulsion, changing one of its neutrons into a lambda hyperon and producing at the same time a pion particle. The "new" nitrogen hyper-nucleus traveled a short distance—only about one-thousandth of a centimeter—then it decayed into a normal oxygen nucleus and another pion particle.

The existence of the new nucleus was then established by means of detailed measurements of all the particle tracks in the emulsion. Before the evidence was in hand, however, a great deal of painstaking detective and deductive work was required.

• Science News Letter, 82:310 November 10, 1962

*Do You Know?*

Today there are more than 29 million Latin Americans living in cities of 2,000 or greater population who need water.

The *silverfish*, although neither silver nor a fish, is one of the peskiest of American domestic pests, thriving on starchy items such as bookbindings, wallpaper paste, and pipe insulation.

By 1955, reported cases of infectious *syphilis* had declined to six per cent of the 1947 level.

Approximately 70 millions pounds of *casein* and 45 million pounds of isolated soy protein are used annually for industrial purposes.

• Science News Letter, 82:310 November 10, 1962