GENERAL SCIENCE

# How Young Scientists Get Started

**Doing experiments on their own is effective in getting future scientists started on their careers. A variety of simple experimental kits is available.**

By WATSON DAVIS

➤ GREAT SCIENTISTS of the past started experimenting when they were very young.

A classic example is Thomas A. Edison doing chemical experiments in a baggage car "laboratory" when he was working as a "butcher" on a railroad.

Many of the great electronics experts of the past started in as amateur radio experimenters—"hams"—building their own apparatus in the days when radio was called "wireless."

E. H. Armstrong, the father of FM radio, was one of these hams who created a new kind of radio.

## Experiments on Their Own

Today many thousands of boys and girls, not yet in their teens, are getting into science by doing their own experiments as hobbies, in garages and cellars throughout America. The experience of the past and the showing of science youth projects in science fairs in all parts of the nation give evidence that this "playing" at science is the way that serious interest in physics, chemistry, biology and mathematics is kindled.

Surveys show that on the average young scientists have their interest aroused at the age of 12 although some begin their experimentation before they enter kindergarten.

The newspapers of America report day by day the marvelous achievements of science —space shots, new treatments for diseases, the wonders of power from the atom and dozens of other modern achievements.

Boys and girls, who only a year or two ago learned to read, plunge into this exciting science experimentation, at home encouraged by parents and scientific friends and in school aided by understanding teachers.

Scientific equipment and books have become available in the last few years to spur on this youthful interest in science. For less than a dollar paperback books by scientific authorities, clearly written so that they may be understood by beginners, are available in drugstores and supermarkets.

## Science Kits Have Value

Simple experimental kits have been assembled so that some of the great experiments of the past can be performed by young people.

Observation of the night sky and the making of telescopes are educationally rewarding activities. With the naked eye or with a pair of binoculars much can be seen and understood about the heavens. The grinding of a telescope mirror in the construction of a telescope mount is a popular beginning activity in both physics and astronomy. Simple astronomy and star chart kits are available. One low-cost kit allows the making of a sextant with which latitude can be determined with satisfactory accuracy.

Newton's classic experiment on the composition of light, which showed that white light is made up of the spectrum of colors, can be performed by anyone today. Newton used a prism but plastic gratings of fine lines will serve the same purpose and are easily available.

SCIENCE SERVICE has created experimental kits and produced some simple but authoritative literature that will allow any youngster from 8 to 18 to get started in science, wherever he may be in school and whether or not he has been interested in the possibility of a scientific career.

Each month SCIENCE SERVICE issues a simple experimental kit called THINGS of Science at low cost—$5.00 for 12 kits during a year.

To get started in astronomy, a boy or girl could obtain the kit on astronomy complete with star map and directions for its use. Ask for THINGS Kit 229 (75¢ from SCIENCE SERVICE).

For materials and directions on how to make your own sextant, ask for THINGS Kit 234 (75¢ from SCIENCE SERVICE).

To prove for yourself as Newton did that white light is made up of many colors, ask for THINGS Kit 272, Diffraction Optics (75¢ from SCIENCE SERVICE, Washington, D. C. 20036).

## Many Materials Are Free

Free of charge is a leaflet telling how to start a science project, what courses to take if you are in high school, career ideas and hints. Ask for "How to Get Into Science and Engineering."

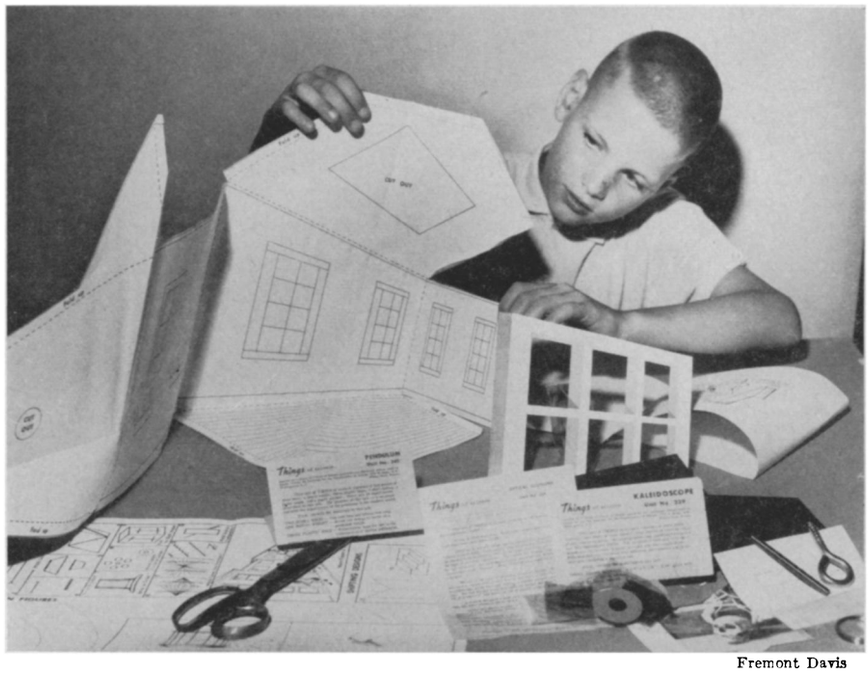
Several low-cost books to start the young scientist are highlighted by the just-published "150 Science Experiments Step-by-Step." Here are fascinating experiments in chemistry, biology, physics and weather with instructions for making your own equipment, 60¢.

"Projects: Space" is the exciting story of U. S. space exploration with reports on 14 student science projects in space age science, 45¢.

Suggestions on planning and carrying out science projects and exhibits, new ideas for research and sources of information and equipment are given in "Science Projects Handbook" at 50¢.

For these low-cost items, write SCIENCE SERVICE, Washington, D. C. 20036.

• Science News Letter, 84:250 Oct. 19, 1963



Fremont Davis

*LEARNING BY DOING—Simple experimental kits, such as those on the pendulum, optical illusions and kaleidoscope, help youngsters and young teen-agers develop an interest in science. The three kits shown can be obtained for $1.50 from Science Service, Washington, D. C. 20036.*