

GENERAL SCIENCE

Youth Learns Science

High school students through the Science Clubs are cooperating with government agencies in such work as weather observation, tree study and laboratory testing.

By WATSON DAVIS

► IF YOU SEE a boy measuring the depth of water in a tin can after a very hard rain, he is a cooperator of the U. S. Weather Bureau.

If a high school girl is inspecting the trees in your neighborhood with an expert air, she is probably doing it for the U. S. Forest Service.

If a little group of young people in a basement laboratory produce unusual odors, they may be chemists of tomorrow.

These young scientists are representative of a third of a million members of Science Clubs of America who this fall are resuming hobby activities that fit in with their high school studies.

In more than 14,000 junior and senior high schools there are these science clubs, each with a couple of dozen members who have as their guide and sponsor a favorite science teacher.

In Your Region

There are such clubs in your locality. Science Service is cooperating with school officials and scientists throughout the nation in providing the information and know-how for science club organization and activities. Any teacher or interested adult who sponsors a science club can, without any cost whatever, affiliate it with the national Science Clubs of America and receive a hundred-page handbook full of data and aids to science hobby activities.

The young science enthusiasts have fun in carrying out their science projects. But what they do is very far from mere child's play.

Leading science organizations, in government, industry and elsewhere, cooperate in suggested projects. Many of the investigative tasks are of direct, practical benefit to the communities in which the science club members live.

Even FBI agents under J. Edgar Hoover have set up a scientific project in which any club can participate. A group can learn all about taking fingerprints, how to develop chemically latent

prints that can not be seen by the unaided eye, how to make up fingerprint cards that can be filed in the actual FBI files of civilian records. Secrets of examining questioned handwriting, detecting suspected paper, ink, typewriting and other markings are explained. The students of scientific criminal investigation are told how ultra-violet light is used in scientific police work. Testing of blood, firearms, identification of glass smashed in hit-and-run auto cases, and use of spectrographic methods are also included.

The cooperation of science club members by the thousands all over the nation in measurement of sudden and very heavy rainfall is used by the U. S. Weather Bureau in spotting the distribution of torrential rains that could not otherwise be recorded. Officials of the U. S. Weather Bureau have pronounced these observations an aid to future forecasting.

Human lives are saved by the studies that science club members make upon the cause and prevention of automobile accidents in cooperation with the traffic research specialists of the American Automobile Association. Young scientists test drivers to determine their driving skill, and fellow students are helped to avoid spills when they ride their bikes to and from school.

Planted Cork Oaks

Thousands of cork oak trees are now growing in the southern half of the country because science club members have aided in planting seeds and seedlings. In many instances, rare cork oak trees have been discovered growing naturally and protected so that in another national emergency our nation shall not lack this essential raw material.

One group of high school chemists became expert and advanced in complex organic syntheses. They actually set up a small business concern and manufactured in a basement laboratory in their spare time rare chemicals that were needed in the war and were being produced nowhere else.

New kinds of insects are discovered by high school entomologists and they have the privilege of giving them names that become a part of the scientific literature.

In several cases young science club archaeologists studying Indian mounds near their schools have had their scientific papers published in professional journals before they were graduated from high school.

Work Together

Often teams of scientists work up demonstrations in physics, chemistry and biology which are so effective that they take them on tour among the grade schools in the vicinity at the invitation of the teachers. Other clubs give spectacular science shows before the parent and teacher associations of their schools.

In almost every science club there is a young astronomer who is building his own telescope, a young physicist who has a radio set with which he talks to fellow "hams" in other lands, or a young mechanical engineer who is remodeling an old automobile to get better mileage or more speed out of it.

There are young chemists who know all that has been announced about atomic energy and who anticipate the next official releases with intelligent guesses. There are youngsters by the score who



YOUTHFUL ENGINEER — This Science Club member is preparing for the day when he may be designing engines for science and industry.



GEOLOGISTS IN MAKING—Young science club geologists are using microscopes to study minerals they are preparing for exhibit in a Science Fair.

are working hard on the problem that is bigger than atomic energy—the practical understanding of photo-synthesis or the way of capturing the sunshine so that it is used as stored energy.

Science Service cooperates with the science clubs by publishing the latest and most authentic news of science and club activities.

The professional scientists and teachers also do their bit to help this youth movement in science. State science academies, universities, colleges, teacher associations, museums and other organizations are cooperating.

State Science Fairs

State and regional science fairs or congresses for science club members are being held throughout the nation. The projects that are most noteworthy in the judgment of the schools are sent to these larger exhibitions where they often win scholarships and other prizes for the young scientists who did them.

Each year Science Clubs of America conducts the national Science Talent Search which culminates in the award of the Westinghouse Science Scholarships at the Science Talent Institute at Washington. This is a crowning activity of the science clubs and in many cases the seniors who participate have been working on their science hobbies during the whole six years of their junior and senior high school work.

Girls as well as boys are members of the science clubs. Most of the activities can be carried on as effectively by girls as by boys. In the Science Talent Search each year the proportion of girls who win honors is determined by the ratio of girls to boys who enter.

The science club activities of high school students have won approval from national and science leaders as a serious and important aid to the nation's science program.

America finished the war with a realization that there were not nearly enough scientists and development engineers available to discover new basic knowledge, do the necessary industrial and military research and train the oncoming scientific generation.

The report of the President's Scientific Research Board just issued recommends that by 1957 the nation should devote at least one per cent of our national income to research and development in the universities, industry and the government. This means that many thousands of scientists and engineers will be needed in addition to the number that will be trained in colleges and universities if the normal number of past years are produced.

Many of the science club members in the schools of the nation this fall are receiving their first contact with science and its possibilities. The extent to which they and their teachers develop science

club opportunities will determine to a large degree how well the urgent national need for scientists will be answered in the future.

For every club member who will become a professional scientist there are hundreds who will not. For most of the school science hobbyists, science will remain a hobby throughout life, whether they become lawyers, merchants, housewives or some other variety of the great public. For these non-professional scientists of tomorrow, the serious fun they have in science clubs is one of the richest experiences of their youth. They will be better equipped to live in a scientific world and control the results of science so that civilization will progress rather than be wiped out.

Anyone interested in science clubs can get information by writing to Science Service, 1719 N St. N.W., Washington 6, D. C.

Science News Letter, October 4, 1947

The Lincoln soybean, an American cross between Mandarin and Manchu, is the variety now mostly grown in the Midwestern soybean area; it gives a higher yield than its predecessors and has a higher oil content.



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