GENERAL SCIENCE

Work of Young Scientists

Science fairs, to which boys and girls from grade schools to high school graduates are entrants, are for some the first step toward recognition as scientists.

By RON ROSS

➤ HERE ARE some of the things youngsters in your neighborhood may be working on:

Conversion of energy by a talking beam of light.

Six-inch reflecting telescope.

Space ship to Mars.

Manufacture of sulfuric acid.

Liquefaction of gases.

Home-made microscope.

These were some of the entries in a Science Fair held last spring in St. Louis. Projects such as these are now being developed by youngsters who will make entries in science fairs in communities all over the nation during the coming school year.

Entrants in science fairs are boys and girls from the grade schools to high school graduates. These young scientists put their projects on display at the fairs held in schools and community centers in their home towns.

New Departure

They are a new departure from the traditional county and state fairs. The girls who once might have entered jams or needlework in a county fair now may present an explanation of some nuclear phenomenon, a demonstration of making plastics or a dissected biology specimen.

Boys who might have entered the more traditional fair with a carefully groomed calf, can now be found explaining the theory of engines, building telescopes or illustrating the laws of chemistry.

Science fairs are generally held in the spring, with the cooperation of schools, newspapers and other institutions in the community. In a large auditorium, the youngsters set up the exhibits of their work. Months and even years of study, collecting and experimenting sometimes go into these exhibits.

Judges award prizes for the best work in the different classifications, while proud parents and other friends tour the exhibits. But the youngsters generally spend most of their time during the fair discussing their work and the other exhibits with their young fellow scientists.

For some of the entrants, the science fair is the first step toward recognition as a scientist, perhaps aided along the way by a scholarship award for a prize project. Others are encouraged toward a satisfying hobby. Some, who have ambitions in science, discover they have greater aptitude in other fields.

Rock collections, model airplanes and such familiar hobbies of young people form only a part of the entries at the fair. A well-informed adult will be startled to discover the scientific achievement of many high school students who enter science fairs.

Still new compared with the more traditional fair, science fairs first began more than two decades ago with those held by the American Institute of the City of New York. These have continued while many other cities and communities have taken up the idea.

Supporting the development of the science fairs is an organization of a third of a million young scientists, Science Clubs of America. These young scientists are members of the 15,000 science clubs in this country and abroad. From this group of science-minded young people in junior and senior high schools come many of the entrants and winners in the science fairs.

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.

Organizations Cooperate

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.

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.

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.

Need of Scientists

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.

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 follow some

SCIENTIST IN THE MAKING—This junior high miss dissects an insect as part of her Science Clubs of America activity.

FOLLOWING IN DAD'S FOOTSTEPS—Paul Condon and his brother Joe, sons of Dr. Edward U. Condon, director of the National Bureau of Standards, display their projects at a Washington, D. C., Science Fair.

other pursuit outside science. 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 scintific world and control the results of science so that civilization will progress rather than be wiped out.

Science fairs are fun for young scientists who enter — and for their parents and friends and the adult sponsors of the fairs—but they are also an important event in building intelligent leaders of the future.

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, November 13, 1948

MEDICINE

Outbreak of Rash Among Sailors Traced to Moths

➤ A SKIN ERUPTION which attacked about two-thirds of an American merchant marine crew which entered a Venezuelan port was traced to a tropical moth. Three Boston physicians suggest that in any outbreak of rash the moth should be suspected, especially in crew members of ships or airplanes which enter South American ports.

On the first night the American crew anchored in port, a swarm of moths invaded the ship. The sailors killed them by crushing them between their fingers. Shortly afterwards some of the men noticed "small white itching bumps" on their skins and on the following morning their bodies were covered with a rash except for the face, palms and soles of the feet.

Other crew members noted the eruption on arising in the morning. This was traced to the bed linen which had been changed the night before. The closet in which fresh sheets were stored was made of meshed metal which permitted the entrance of the moths, several of which were found on the closet floor and some suffocated between the stacked sheets.

Twenty-nine of the 31 sailors who got the rash were treated at the United States Marine Hospital in Brighton, Mass., by Drs. William R. Hill, A. Daniel Rubenstein, and Joseph Kovacs, Jr., who present their report in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (Nov. 6).

The eruption developed from a few minutes to a few hours after contact with the moth or with moth-stained bed sheets, the physicians state. Removal of the patient from the source of contact, a soap and water bath, a change to clean clothing and application of an alkaline wash usually brought relief. The patients became well in four to seven days.

The moth has been identified as the female of the genus Hylesia by V. Nabokov of the Museum of Comparative Zoology, Harvard University. These moths belong to the family Saturniidae, sometimes called, in English, peacock or silk moths, according to the report. They are attracted by light which explains their being on board ship, as the vessel had powerful lights.

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PLANT PHYSIOLOGY

Radioactive Molybdenum Shows Need of It in Plants

➤ MOLYBDENUM, the steel-maker's "seasoning," is also needed in extremely small amounts by plants—as little as ten parts per billion by fresh weight. To trace these minute quantities into and through plants, Drs. P. R. Stout and W. R. Meagher, University of California plant physiologists, have made use of radioactive molybdenum isotopes, supplied to plants that had been deprived of even the slightest speck of the element.

Molybdenum-starved plants show two outstanding symptoms: they lose the green color in their leaves, and they become unable to make use of nitrates taken up by their roots, piling these necessary salts up in their leaves to as much as 12 times normal concentration.

When molybdenum is supplied in even very low concentration these conditions are corrected in a matter of hours. The healthy green color re-develops in the leaves, and the abnormal concentration of nitrates is reduced to a more usual level.

When the radioactive molybdenum was