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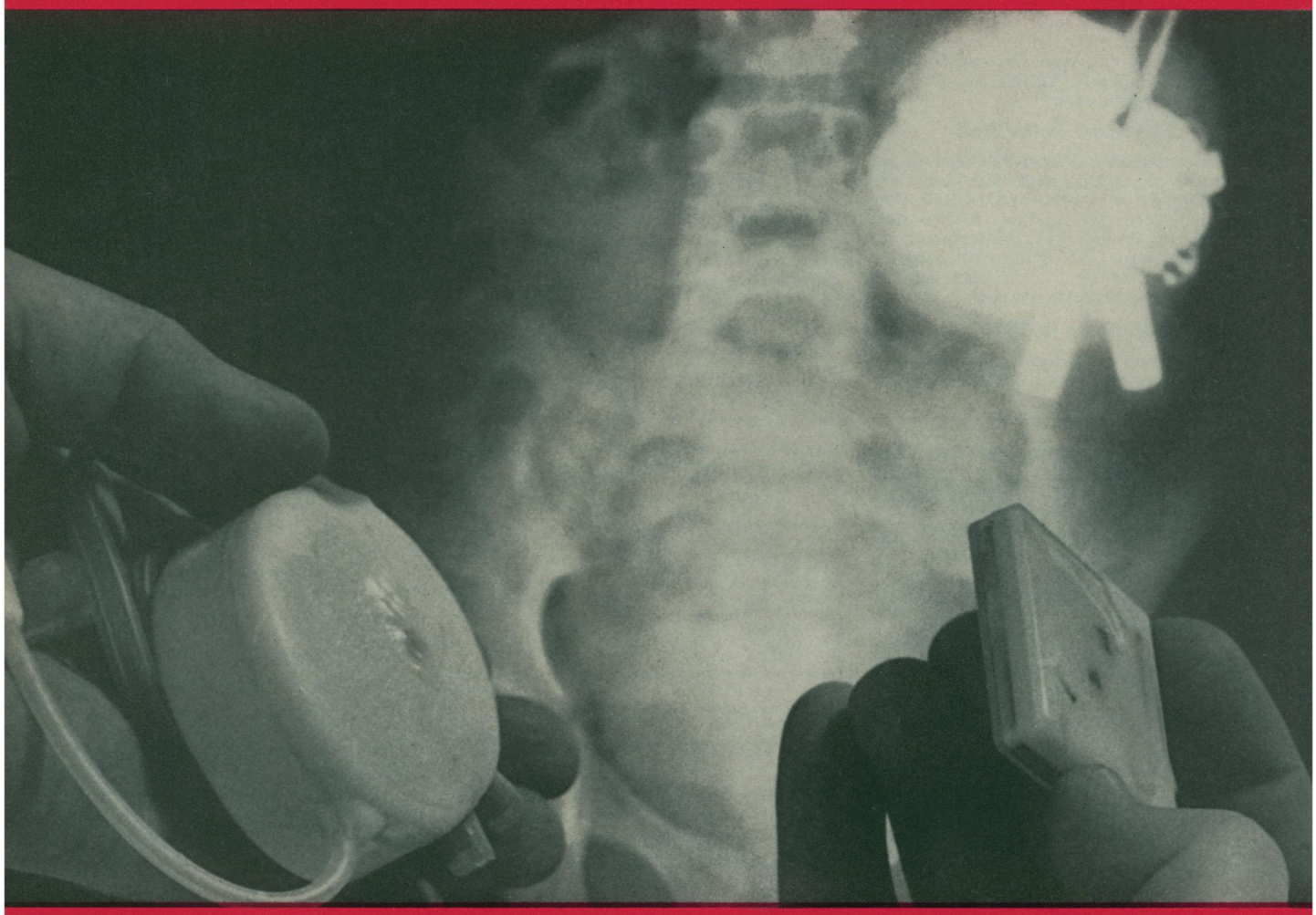
SCIENCE NEWS LETTER

THE WEEKLY SUMMARY OF CURRENT SCIENCE



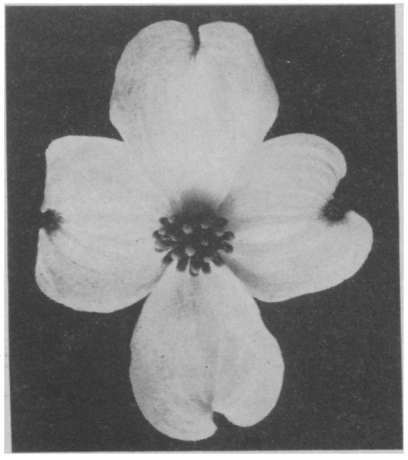
National Institutes of Health

Pacemaker in Place

See Page 169

A SCIENCE SERVICE PUBLICATION

The first general publication of an unusual book for all nature lovers!



TREE FLOWERS OF FOREST, PARK, AND STREET

by Walter E. Rogers $3.00

In 1935, the late Professor Walter Rogers, of the Botany Department of Lawrence College, had this book privately printed in an edition limited to only 1500 copies. He probably had no idea of how popular it was going to be, for in just four years the supply was gone, while orders continued to come in at a steady rate.

"Should be of great value to any nature lover," Saturday Review.

It has taken 30 years, but those orders can now be filled. Better yet, all those nature lovers who never had the chance even to order a copy may now add a complete, unabridged reprint—the first—of this magnificent pictorial encyclopedia of tree flowers to their own libraries.

Because trees are so big and their flowers so small, few people realize the variety of shapes and forms, the delicate coloration, the sheer beauty that can be found in those flowers. In fact, many people don't even realize that trees are flowering plants every bit as much as are roses and lilies. It takes a book like Prof. Rogers' and photographs like the ones he took over a number of years and collected in this volume to help us see and appreciate this aspect of nature.

"Should be in the hands of all persons who love natural beauty," School Arts Mag.

In all, 121 different but fairly common trees—pines, willows, beeches, laurels, plane trees, maples, lindens, buckthorn, elms, olives, sumacs, birches, dogwoods, and many more—are included. For each, there is a full-page photo of a typical flower, unretouched and magnified up to 20 or 30 times natural size. Opposite the plates are brief, thorough descriptions of the flower, where on the branch or twig it is located, when it blossoms, etc. Silhouette drawings show the winter-tree shape for all 121, plus leaf shapes and flowers in their original sizes. These drawings are invaluable identification aides on nature walks, in the park, or even on city streets.

"A very outstanding book," Times (London)

All told, the book is incredibly rich both in information and in beauty—it is a book that even the casual naturalist will enjoy leafing through. But it is also the definitive illustrative work on an unusual but fascinating area of botany and it is, therefore, important to serious amateur botanists and professional foresters alike. Beautifully printed and permanently bound, it is a book that belongs in your library.

Unabridged reprint of original (1935) ed. New dedicatory note. Introduction. Indices of common and scientific names. 121 photographic plates. 121 full-page silhouette drawings and over 200 other ills. by Olga A. Smith. xii + 499pp. 6⅝ x 9¼.

1375. Paperbound **$3.00**

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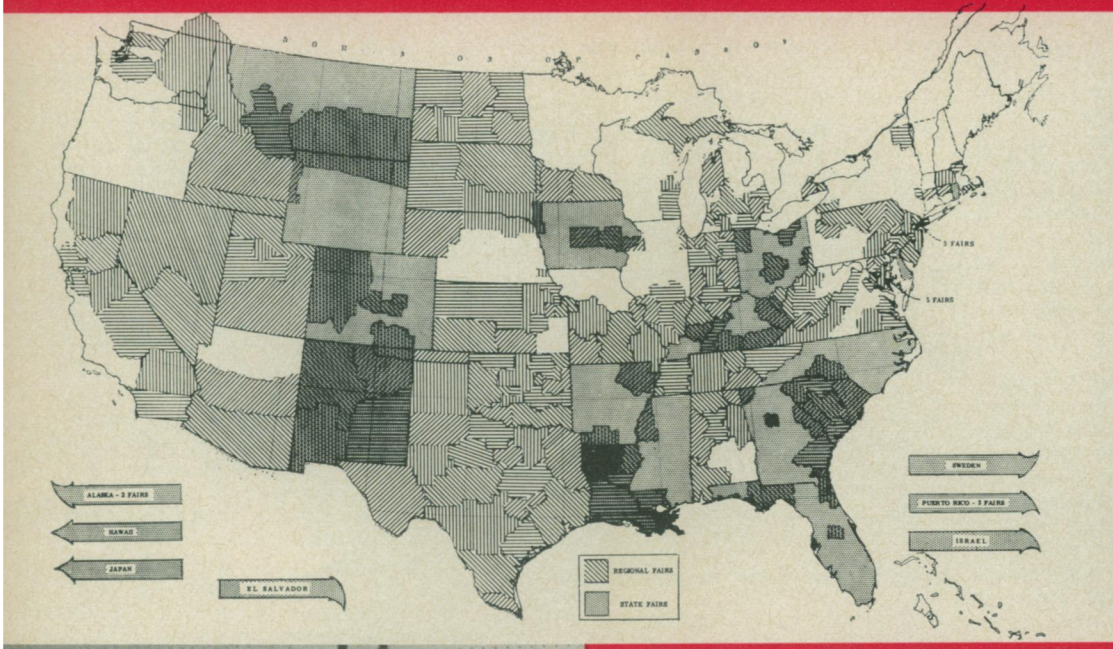
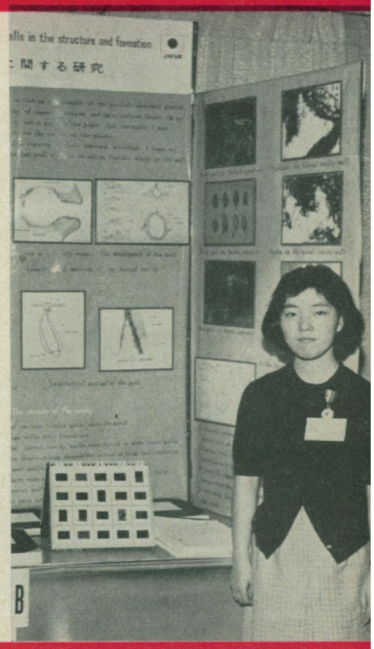
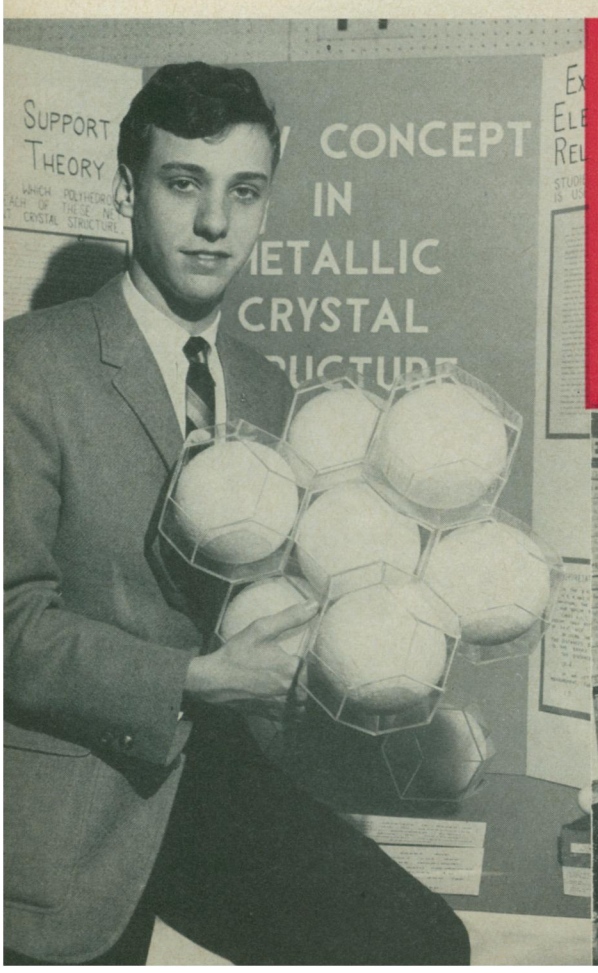
THE **SCIENCE SERVICE**

International Science Youth Program



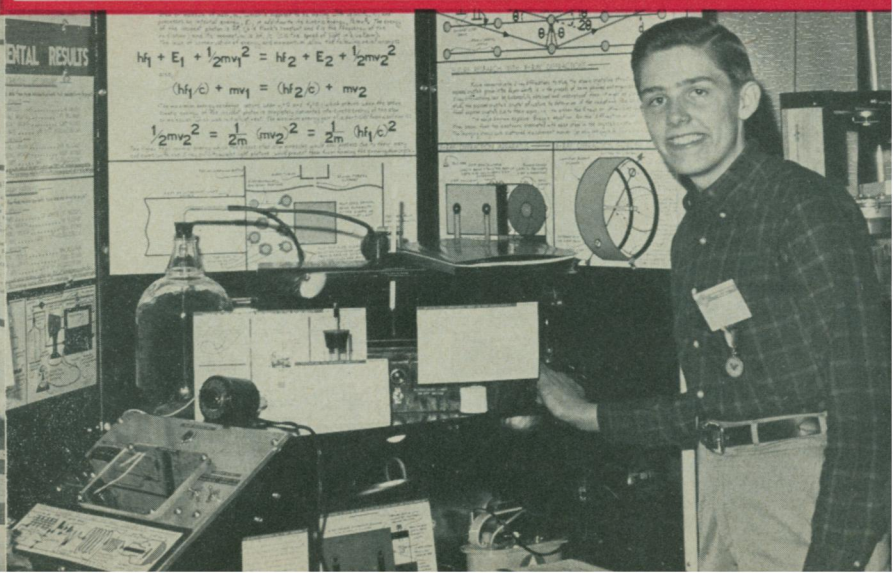




OVER 1,000,000 BOYS AND GIRLS PARTICIPATE

in this international program for encouraging science talent. The Youth of Today will become our Scientists of Tomorrow through the motivation and stimulation of these SCIENCE SERVICE activities . . .

INTERNATIONAL SCIENCE FAIR
SCIENCE CLUBS OF AMERICA • SCIENCE TALENT SEARCH



Fairs: International—National—Local

Science Fairs show graphically and effectively the magnitude of creativeness and scientific enterprise of which young scientists are capable.

THE INTERNATIONAL SCIENCE FAIR has developed to worldwide coverage with over 400 exhibits from over 220 U.S. and other areas since 1950. (See map.) Even more spectacular is the expansion of the science fair program at local and regional levels. Feeding these, or operating independently, are school fairs, numbering over 15,000, with an estimated million exhibits.

A science fair is a collection of exhibits, each of which is designed to show a biological, chemical, physical or technical principle, a laboratory or other procedure, an industrial development, or an orderly collection of anything which can be fitted into the broad concept of any branch of any pure or applied science.

Every year millions of people see science exhibits shown by students at science fairs leading to the international fair.

One reason for this growing student interest in science and technology during the past decade is the exciting advance which science has made and is projecting.

Coupled with this is the awareness of educators, from kindergarten through university, that genuine interest in science is sparked at a very early age, often before the first year of school.

Scientific and technical societies, cognizant of the tremendous shortage of skilled scientists and technicians, are encouraging science fair programs for the purpose of recognizing potentials early and because through them additional motivation becomes more easily possible.

Civic and social groups find that science fairs supply an outlet for constructive creativity of youngsters. The fairs provide a purposeful use for funds accumulated in educational and other accounts.

Newspapers sense the rich educational service which fairs give to the community. They often sponsor the program and take over, or assist, in the promotion, arrangements and financing.

Industry sees the science fair as an exemplification of the American way of free enterprise. It lends technical experts to the cause and helps to finance it.

Educationally Valuable

The whole science program is educationally sound. It allows the student to select freely the project upon which he plans to work. Automatically he leads himself through a study of the bedrock principles of his chosen topic, thus acquiring a basic, fundamental understanding of the facts and techniques involved. All elements of a stiff competition are present to urge the student to do his best, thus reflecting honors on himself, sponsors, school, city and state.

Educators and newsmen cooperating in the International Science Fair are partial to bringing the fair to a different city each year. This makes it possible for a finalist, who returns to the fair each year he is eligible, to visit three different cities, meet the outstanding scientists in each and visit them in their laboratories. Similar cultural values automatically extend to the accompanying educators and press representatives.

How to Conduct a Science Fair

The science club sponsor or teacher, or group of sponsors or teachers, first should get permission from the principal or board of education for holding a science fair to which the public will be invited.

The fair may be designed for operation in one school, or each school of a group of schools can schedule the event to occur substantially at the same time. The best exhibits may then be presented finally at a centralized place.

Additional information on conducting and organizing a science fair will be sent without charge or obligation to anyone requesting it. Write to Science Service, 1719 N Street, N.W., Washington, D. C. 20036.

School, Area or Regional Fairs

The simplest fair is an exhibition of science projects held in the school itself. There are shown all the experiments, collections and displays that have been worked out by students either in class or as extracurricular science club activities. These fairs often are a feature of a meeting or a showing to which the public is invited.

Letantia B. Jankowski, 17, a 16th NSF-I First Award Winner from Lodi, N. J. Project: Chorioallantoic Studies.

Regional science fairs may have several hundred exhibits, viewed by thousands of people who visit an exhibition hall which may be a school or college gymnasium, an armory, a museum or other such area. Some science fairs, even in large cities, accept the maximum number of exhibits the hall will allow. In other cases, the city or area fair receives only an allotted number of exhibits from each school, which holds its own elimination first.

Regional and school science fairs generally use the rules of the international fair or adapt them to fit various local situations.

International Science Fair

From regional or state fairs the best exhibits made by individual students (not groups) are selected for entry into the annual International Science Fair.

The rules of the international fair specify that to be eligible boys and girls must be students in the last three years of public, private, parochial or other secondary schools, and must have been selected for highest honors in a regional fair affiliated with the international organization.

Each affiliated fair is entitled to send two finalists, their exhibits and adult escorts to the international fair, paying their expenses and undertaking responsibility for them.

All exhibits must be individual projects and must be limited in size to 48 inches from side to side and 30 inches from front to back. Height limit: 11 feet, floor to ceiling. Identical repetition of a project exhibited by the student at a previous year's science fair disqualifies the finalist. However, the project may cover the same field of investigation when a substantial amount of new work has been done.

Exhibits must be durable and safely designed and constructed, using approved switches and cords for 110-volt operation. No dangerous chemicals, open flames, explosives or live poisonous reptiles may be exhibited. Live animals must be properly and humanely cared for, and any experimental work that has been done with them must conform with International Science Fair regulations for such experiments. Plants must pass federal and state quarantine regulations.

Judging is based on creative ability, scientific thought, thoroughness, skill, clarity and dramatic value of each exhibit. Scientists designated by Science Service judge the contest and the decision of these judges is final in all cases.

For International Science Fair Awards, the projects of boy and girl finalists are judged separately. First, second, third and fourth place awards are made in a number of scientific categories designated as sections. Special awards also are made by many national organizations, armed forces and Federal agencies.

The National Association of Secondary-School Principals has placed the International Science Fair on the Approved List of National Contests and Activities for 1965-66.

Science Talent Search®

For more than a quarter century science-minded seniors have been offered recognition and scholarship assistance toward careers in scientific research.

MANY STUDENTS in junior high school and the early years of senior high school look forward to and prepare for entering the Science Talent Search for the Westinghouse Science Scholarships and Awards when they reach their senior year of high school. This competition discovers, with essential educational cooperation, the youth of America whose scientific skill, talent and ability indicate potential creative originality. Science club and science fair activities have proved to be excellent preparation and background for success in this scholarship competition.

The Science Talent Search is conducted annually by Science Clubs of America as an activity of Science Service in cooperation with the Westinghouse Educational Foundation. Any boy or girl who is in his last year in an accredited secondary school (public, private, parochial) in the United States, but excluding U.S. possessions, who is expected by the certifying school official to complete college entrance qualifications before October 1 following his graduation, and who has not competed in any previous Science Talent Search is eligible to enter this competition.

Each year an Honors Group of approximately ten percent of the fully qualified entrants is chosen for special recognition. Members of the Honors Group receive certificates and recommendations to the colleges and universities of their choice. These recommendations usually result in acceptance of the students for admission as well as scholarships and other financial assistance offered by colleges and universities seeking students of unusual promise in science.

From the Honors Group, the 40 winners of the Science Talent Search are chosen. These winners are invited to attend the Science Talent Institute held for five days each spring in Washington, D. C., with all arranged expenses paid. During the Institute they are judged for five scholarships of $7,500, $6,000, $5,000, $4,000 and $3,000, and 35 Awards of $250 each.

Each winner receives a Science Talent Search Plaque to be presented to the permanent honors and trophy collection of the winner's school.

Each member of the Honors Group receives a Science Talent Search Certificate signifying the honor. The certificate, suitable for framing, is sent to the school for presentation to the student. It becomes his or her property.

Committees of judges designated by Science Service judge the contest and the decision of these judges is final in all cases.

A scholarship may be applied toward a course in science or engineering at a college or university chosen by the winner and approved by a scholarship committee named by Science Service. Science and engineering courses must be within the fields of activity of the National Academy of Sciences and the National Research Council. If a scholarship winner withdraws from college, or if the Scholarship Committee disapproves further use of the scholarship because of reports from the college of unsatisfactory progress, any further benefits from the scholarship are forfeited.

The National Association of Secondary-School Principals has placed the Science Talent Search for the Westinghouse Science Scholarships and Awards on the Approved List of National Contests and Activities for 1965-66.

Entering the Science Talent Search

To enter the Science Talent Search the senior takes the science aptitude examination in his own school under the supervision of his sponsor, teacher or other authorized school official. Such persons also verify the personal data form submitted by the student and see that the scholastic record is transmitted. The student writes a report of about 1,000 words on his science project. This should involve original work. Entrants should develop a project that is planned for the Search or adapt to the Search something they already are doing.

Science teachers and school officials qualified to administer the examination may request entry materials for any number of eligible students. Entry materials are mailed from Washington about Oct. 15. The examinations must be administered early in December.

All entries in the Annual Science Talent Search must reach headquarters of Science Clubs of America in Washington, D. C., by midnight, Dec. 27.

Girls as well as boys are encouraged to enter the Science Talent Search. The number of girls chosen for honors is determined by the proportion of girls who complete entries.

By entering the national Science Talent Search, students automatically enter a state search, if one is held in their state, at the close of the national competition.

Search Winners Succeed

One of the most frequent questions asked is, "Do Science Talent Search winners really become successful scientists?"

The winners all have attended or are attending college. With rare exceptions they proceed to bachelors' and about 50% of those who have had time have doctors' degrees. The education of these winners has been supported liberally by scholarships and fellowships. Advanced study on fellowships takes many of them abroad.

Science Talent Search Aids

Ten back issues of Science Talent Search science aptitude examinations and answers are available as long as the supply lasts. Specify the year desired. The price is 15¢ per copy, answers and passing scores included.

Send 50¢ to cover postage and packing of a bundle of four different past Science Talent Search booklets containing abstracts of winners' papers and other information. Address: Science Clubs of America, 1719 N Street, N.W., Washington, D. C. 20036.

Larry Dean Howard, 17, first place STS scholarship winner from Canoga Park, Calif., developed a method for defining satellite orbits.

Science Youth Program . . .

An extensive national and international movement directed by Science Service stimulates and gives scientific experience to the youth of the world.

Every year young scientists of the nation, a million strong, do science projects. They perform experiments of their own devising. They show exhibits in science fairs. In science clubs, they supplement their school classes with enthusiastic hobby activity, learning while they "have fun."

Long before our fear of Sputniks and Russian education created a renaissance in science interest, the International Science Youth Program, supplementing science education, was begun under the aegis of Science Service.

Even before Pearl Harbor, its basic structure was planned. During World War II Science Clubs of America was organized. There are now some 25,000 affiliated clubs in senior and junior high schools, and even elementary schools.

As the institution for the popularization of science with scientific and journalistic trustees, Science Service has been engaged in reporting and interpreting advances in the world of science and technology since 1921. Out of this experience there came the conviction that there would be a greater demand for well-equipped scientists of all descriptions. The youth program was designed to implement this need.

To discover those high school seniors whose scientific skill, talent, and ability indicate potential creative originality, the Science Talent Search for the Westinghouse Science Scholarships and Awards was inaugurated in 1942.

More than 15,000 science fairs are held each spring in secondary schools. The best student exhibits are sent to regional or area fairs which now number over 220, which in turn send top winner finalists to the National Science Fair held annually since 1950 in different cities. This culminating event is now the International Science Fair due to the participation of finalists from Canada, El Salvador, Israel, Japan and Sweden. There are also national science fairs in Chile, Colombia, Guatemala, Mexico, Portugal, Spain and Uruguay which are expected to participate in the future.

Science clubs are also international with over 500 clubs overseas being serviced on the same free basis as those in the United States.

"October—National Science Youth Month" was inaugurated and sponsored by Science Service as a means of catalyzing science youth activities for the year and enlisting the cooperation of diverse organizations engaged in science youth activities.

As part of the International Science Youth Program, Science Service develops and distributes experimental kits, books and pamphlets promoting scientific experimentation and provides basic and background information in all fields of science.

Other major activities of Science Service contribute to the International Science Youth Program. Science Service's service to newspapers, reaching a total circulation of over 10,000,000, informs teen-age science enthusiasts. SCIENCE NEWS LETTER with a circulation of over 90,000 reaches a select audience of non-scientists and scientists alike, including students and science teachers.

THINGS of science, experimental kits containing unusual specimens and experimental directions, have introduced many young people to the joys and techniques of science experimentation.

Science Clubs of America

Active groups of young scientists, guided by sponsors to creative experiment, find that "science is fun." Today's youth are tomorrow's scientists. All nations are eligible.

SCIENCE CLUBS OF AMERICA is dedicated to the development of science interest and talent and through its affiliated clubs in the U.S.A. and other countries seeks to stimulate an increasing knowledge and understanding of science.

The school clubs plan their activities mainly around biology, chemistry, physics, astronomy, general science, mathematics or some combination of these.

Science club membership averages 22 members, but it ranges from a somewhat exclusive-sounding roster of three members to one all-out activity involving 750 students.

Clubs are sponsored by teachers of every science subject in the curriculum. Most teacher-sponsors are drawn from the science faculty, but some teach other subjects. Clubs also are sponsored by a great variety of people who are entirely outside of the teaching profession. A random sampling turns up an accountant, a Cub Scout den mother, a dentist, an executive of a scientific supply company and a veterinarian.

In preparation for science activities, science clubs frequently program project workshops and seminars where science students, teachers and professional scientists offer suggestions on project ideas and exhibit techniques. SCIENCE NEWS LETTER carries news of SCA affiliated science clubs.

Most club programs and activities are planned and carried out by club members, with the sponsor acting in an advisory capacity. Such a plan allows ample scope for the development of leadership, responsibility, initiative and creative ideas among the student members. The sponsor often is able to act as liaison between the students and community organizations, school administrators, scholarship foundations, scientific libraries and professional societies.

Science Clubs of America cooperates with many groups, such as junior academies of science, in science youth activities.

A free copy of the SCA Science Activities Handbook and other educational aids are sent to the sponsor to help in the organization and conduct of interesting and worthwhile activities for a successful science program.

SCIENCE CLUBS OF AMERICA AFFILIATION
1719 N Street, N.W., Washington, D. C. 20036

Please enter my class, group or club for annual affiliation with Science Clubs of America without charge. Send me the free educational aids and tested science techniques. I understand that we shall have the cooperation of the SCA staff in organizing and helping us conduct interesting and worthwhile activities. Please keep us informed on the International Science Fair and the Science Talent Search.

My school is: Elementary ☐ Jr. High School ☐ Sr. High School ☐
My group is from: Club ☐ Classes ☐ Other_____ No. of club members_____
Science Fair in my school: Yes ☐ No ☐ I read Science News Letter: Yes ☐ No ☐

Name of Sponsor_____
(Sponsor must be a science teacher, parent, adult leader or professional scientist.)

Position_____

School or Organization_____

Address_____

City_____ State_____ Zip Code_____

Affiliation Open to Youth Leaders of All Nations Y8010