

EDUCATION

Fall Is School Science Time

With school under way, the rush toward science accelerates. By the hundreds of thousands, young scientists are experimenting in their own time.

By **WATSON DAVIS**

IT IS SCIENCE time again for bright eager boys and girls in the nation's high schools. As science classes begin, so do the out-of-hours experimentation and study of young scientists in junior and senior high school, and even earlier grades.

October has been designated as "National Science Youth Month." Students, parents, industrialists, community leaders, and especially teachers, are urged to help inspire and inform youth in our schools as to the opportunities, need and qualifications of scientific and technological manpower.

This is the time of year that budding scientists, John and Mary, decide to do a project in spare time that can be entered in one of the thousands of science fairs held in schools next March and April. They go to their science teachers and get advice on what would be interesting to do. Perhaps the teacher will suggest some of the projects that are listed in Science Clubs of America, SCIENCE SERVICE sponsored, information. The teacher may turn to a list of needed research that young people are likely to be able to undertake which has been compiled. There is a booklet on "Thousands of Science Projects" that contains titles of experiments that have been done in the past by young scientists. (SCIENCE SERVICE, Washington 6, D. C., 25 cents postpaid.)

Parents will be persuaded at a PTA meeting in October that it is perfectly normal for the son or daughter of the household to want to keep white mice in the bedroom or turn a corner of the garage into a laboratory.

Old timers among the students, who have won honors in science fairs, will help the younger students get started.

Help for the Young Scientist

Some of the problems that confront the young researcher are too advanced and complex for even the science teachers to answer. The young scientist must go to the sophisticated science literature, the journals and the books that research scientists consult. Or he will get aid from a friendly grown-up scientist, engineer, doctor or other professional who volunteers to help get the young scientists over the rough places.

Usually in each locality there will now be found a council or committee of such professionals who give help to the running of science fairs. They are joined by newspaper editors, college professors, service club officers, industrial executives and others who help in organizing and securing support for science youth activities.

Sometime during October this fair committee is likely to hold a meeting of young scientists eager to do projects. They are invited to meet the professional scientists and engineers and discuss their intended projects. Gathering in a gymnasium or other large area, the experts, making known their specialties by holding up signs such as "Electronics" or "Medicine" or "Biochemistry", thus invite questions. Often there develop scientific friendships that persist for years.

A science club, usually with a teacher as adult sponsor, is to be found in almost every public, private and parochial secondary school and often in elementary school as well. The sponsor enrolls the group as a unit of Science Clubs of America and receives without charge information about science including a sponsor handbook full of hints that make easy the organizing of the eager young scientists for rewarding science activity.

STS Competition

Industrial and educational organizations cooperate by offering free and low cost science materials that can be obtained for the trouble and price of a postcard request. Hundreds of such offers are listed in the Science Clubs of America Sponsor Handbook.

Each fall the high school seniors most promising in science get ready to compete in the climaxing Science Talent Search. Their teachers ask for examination materials from SCIENCE SERVICE, the students write a report on one of their experimental projects, and just after Christmas the cream of American youthful scientific effort is assembled for review and judgment.

One out of ten who enter are recommended to colleges as worthy of special attention from admissions offices, and 40 of the students, are invited to Washington to receive Westinghouse scholarships and awards.

Today there is much more encouragement and appreciation of science both in formal classes and as hobby activity. This is a result of the growing appreciation of the need for technical and scientific personnel in industry, defense and ordinary living. Russian competition in space and education has accelerated the place of science in our schools, but that is not the whole story. Even without the cold war, there would still be need for stepped-up science.

Fall is an appropriate time for those in high school to begin thinking about careers and colleges. This should not be delayed

much beyond the junior year, but the earlier the better.

Here is advice being given to students who wish to consider science and engineering as their life-work:

Any boy or girl who has the initiative and aptitude should consider a career in science or engineering.

The important step toward future success is to take as much science and mathematics as you can, in junior and senior high school. Take the "hard" or "tough" courses, for to those who are to be the scientists and engineers of the future these courses will be "fun" in the sense that they will be enjoyable and rewarding.

Plan your high school courses so that you will have the requisites for entering the college of your choice. Most science and engineering courses in college need in their prerequisites: algebra, one and a half to two units; plane geometry, one unit; solid geometry, one-half unit; chemistry, physics or biology, with laboratory work, one or two units, preferably a unit or more in each; also preferably trigonometry, one-half unit. A good rule would be to take all the mathematics and science your high school offers.

Try to get good grades because entrance into college is difficult for those who have low grades. Entrance into college promises to become increasingly competitive.

Experiment in science and do projects on your own as a hobby. This is the best way to gain experience in science and technology. Enter your science projects in science fairs, first in your own high school, and then, if you qualify, in the local and regional science fair. Aspire to be one of the finalists from your science fair to the National Science Fair held each year in May, the culminating annual event for science experimenters.

Read science literature. Subscribe to magazines and consult other literature in libraries. Build your own shelf of basic and reference books. If you demonstrate a serious, intelligent interest, you can probably arrange to have access to the library of some research or industrial laboratory in your vicinity.

Scientific Friendships

Go to professional scientific meetings in the fields of your interest if you can do so without interfering with your school work. Serious young scientists normally are welcome at such meetings.

Get acquainted with professional scientists and engineers in your areas of interest. Do not bother them with questions you can answer yourself by looking them up in books or by experimenting. They will probably enjoy helping you when you encounter difficulties or puzzling situations.

Minimize time spent in meetings that are just talk, but join and participate in your science club. If there is no science club in

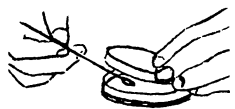
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PREPARED BACTERIAL DEMONSTRATION SETS

The sets contain a booklet of experiments and all the material (ready to use) needed to "grow" live bacteria. The bacteria cultivated come from common objects such as pencils, coins, milk and even air. The sets can be used in the school or in the home, or for science fairs and science clubs. The sets are completely safe and are recommended by teachers and doctors. Order directly or send for free illustrated pamphlet.

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Fall Is Science Time

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your school, get one of your science teachers to sponsor a club. Any teacher or adult can obtain valuable literature without cost, including the Sponsor Handbook, by affiliating with Science Clubs of America, SCIENCE SERVICE, Washington 6, D. C.

Enter Competitions

Enter scholarship and other competitions, even if you do not need assistance in getting to college. Ranking high will give you a sense of accomplishment, prestige in college, and, later, a distinction that will reflect credit upon yourself, family and schools.

The financial rewards should be adequate because there is a promise of a growing need for such scientists and engineers. More important is the feeling of accomplishment and service that comes to those in creative tasks for our civilization.

Science News Letter, October 10, 1959

EDUCATION

Accidental Hunting Death Starts Gun-Safety Class

THE ACCIDENTAL hunting death of a New Hampshire teenager has resulted in the establishment of instruction in gun safety in ten states.

When 17-year-old Robert Brock of Dover, N. H., was killed due to an accidental firing, his father decided something had to be done about teaching boys how to handle firearms.

Charles Brock, together with Delwyn Main, also a hunter, started by training children in their spare time. Soon instruction was a regular extra-curricular activity at Dover High School.

The idea spread and, before long, the state legislature passed a bill authorizing any school district to offer a course in firearms safety, good hunting practices and game laws. Nine other states—Vermont, Arizona, California, New York, Virginia, Ohio, North Dakota, Maine and Washington—and many individual school districts have since set up programs based on the New Hampshire plan.

The value of the gun-safety programs is shown by the results in New Hampshire, *Today's Health* (Oct.), published by the American Medical Association, reports. There, three hunting seasons have gone by without a single death. Previously, the hunting season produced two or three shooting fatalities every year.

Gun safety programs stress these points:

1. Treat every gun as if it were loaded.
2. Keep the action open except when ready to fire.
3. Be sure of your backstop and of your target.
4. Never mix alcohol with gunpowder.
5. Never hunt with persons in front or in back of you. Keep in an even line side by side.
6. Know your gun and ammunition.

Science News Letter, October 10, 1959