

GENERAL SCIENCE

STS Exams Are Held

Young scientists compete in science aptitude examinations. Forty top students will receive invitations to the Science Talent Institute.

► TEEN-AGE scientists all over the United States sat down for some pre-Christmas writing on Dec. 5.

Their three-hour composition was no letter to Santa Claus but it will bring 40 of them the best Christmas present they ever had—an invitation to the five-day Science Talent Institute in Washington, D. C. and a chance to win a Westinghouse Science Scholarship.

Some 16,000 boys and girls will be taking a three-hour science aptitude examination in their own public, private and parochial schools as the first step in the competition for the \$11,000 in Westinghouse Science Scholarships offered in the Ninth Annual Science Talent Search, conducted by Science Clubs of America, administered by Science Service.

The high school seniors, all of whom aspire to careers in science, will also submit scholastic and other recommendations and a 1,000-word essay on the subject, "My Scientific Project" before the competition closes at midnight, Dec. 27.

The science aptitude examination, designed each year by Drs. Harold A. Edgerton and Stuart H. Britt, New York psychologists, is planned to reveal ability to think and reason rather than to measure acquired knowledge of science.

Only 40 boys and girls will be invited to the Ninth Annual Science Talent Institute in Washington, D. C., March 2 through 6, 1950. For five days they will learn about new developments in science, listen to and talk with prominent scientists and be introduced to possibilities for their future in scientific research.

During their five-day all-expense stay in Washington one of the young scientists

will receive the \$2,800 Westinghouse Grand Science Scholarship. Runners-up will receive scholarships ranging from \$100 to \$2,000. The \$11,000 in scholarships will be awarded at the discretion of the judges: Drs. Edgerton and Britt; Dr. Harlow Shapley, director, Harvard College Observatory; and Dr. Rex E. Buxton, Washington psychiatrist.

The judges will name 260 other entrants in the Science Talent Search for Honorable Mention and Science Clubs of America will assist them as well as the 40 winners in getting scholarships at the colleges, universities and technical schools of their choice. Previous Honorable Mentions have received valuable scholarships and other financial assistance in this way to continue their education.

A double chance to win scholarships or other financial assistance for furthering their education in science is offered to high school seniors in 17 areas. These boys and girls live in areas where State Science Talent Searches are in operation by special arrangement between Science Clubs of America and organizations of scientists and educators.

By entering the national competition, the Ninth Annual Science Talent Search, students will automatically be entered in their State Science Talent Search in the following areas: Alabama, District of Columbia, Georgia, Illinois, Indiana, Iowa, Louisiana, Minnesota, Montana, New England (open to students in all six New England states), Pennsylvania, South Dakota, Tennessee, Texas, Virginia, West Virginia and Wisconsin. Write Science Clubs of America, 1719 N St., N. W., Washington, D. C. for details.

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below the surface of the earth the temperature might be about 500 degrees Fahrenheit, Mr. Payne indicated. The temperature gradients, he stated, vary for different localities. However, abnormal temperatures amounting to 2.2 degrees Fahrenheit rise per 100 feet is considered the maximum which should be encountered.

One operator, he added, states that the maximum temperature to be expected in 20,000-foot wells will approximate 400 degrees Fahrenheit. If this is true, the present type of powders used in gun perforating probably can be used; however, speed of operation will be critical. One service company, he revealed, feels that 350 degrees Fahrenheit is the maximum temperature for safe operation.

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Shapley Elected Honorary Fellow by India Institute

► DR. HARLOW SHAPLEY, director of Harvard Observatory, has been elected an Honorary Fellow of the National Institute of Sciences of India.

Only four persons in the world besides Indians were so elected this year by the Institute, a non-governmental agency comparable to the National Academy of Sciences in the United States.

Three Honorary Fellows elected from other countries were Prince Louis de Broglie, French physicist, Hans van Euler, Swedish chemist and George Tishler, German botanist.

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Words in Science— EQUINOX-SOLSTICE

► THE equinox—you say it ee-kwi-noks, with the accent on ee—is the date on which the days and the nights are of equal length, and that occurs at the time the sun crosses the celestial equator.

One of these dates, usually about March 21, is called the vernal equinox. The other, about Sept. 22, is called the autumnal equinox. Because there is often a severe storm in September at about that date, the storm has been called the equinoctial.

The solstice is the point midway between the equinoxes. At the summer solstice, usually about June 21, the days are longest. At the winter solstice, about Dec. 21, the days are shortest.

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● RADIO

Saturday, December 17, 3:15 p. m., EST

"Adventures in Science" with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Dr. Perrin H. Long, Professor of Preventive Medicine and Director of Department of Preventive Medicine of Johns Hopkins University, School of Medicine, Baltimore, Md., will talk about "New Treatments for Colds."

ENGINEERING

Deep Oil Drilling Needs

► DRILLING for oil to four-mile depths will require a lot of changes in drilling techniques and equipment, the American Petroleum Institute was told in Chicago by John M. Payne, Shell Oil Company, Kilgore, Texas.

He presented the findings of a study group on deep drilling, the study being under the auspices of the Houston chapter of the institute's division of production.

Oil is now being produced from below 15,500 feet, he said, and it seems inevitable that the need for 20,000-foot commercial drilling will develop in the near future.

Deep drilling is an exact science for

which the equipment must be carefully engineered if it is to do a specific job.

Although one rig has successfully drilled to more than 20,000 feet in one locality, drilling in different localities, as well as completing a well at that depth, may offer a large number of problems which as yet have not been solved. The problems are technical, of course, and are concerned with matters ranging from the size of hole that must be drilled to equipment that can be used at the great depth.

Among the problems are those resulting from the high pressure and temperature encountered at 20,000-foot depths. This far