

GENERAL SCIENCE

Ninth Search for Talent

Scientific-minded boys and girls are beginning serious preparation to qualify next fall for the 40 Westinghouse Science Scholarships.

► YOU MAY see one of the nation's top young scientists in your neighborhood. This high school senior may be spending the summer:

Charting the flights of birds in your region.

Tinkering with electronic equipment in the family garage.

Building a telescope in the backyard.

Collecting sea shells at the beach.

These are some of the projects which have helped to win scholarships for previous winners in the Annual Science Talent Search. Thousands of boys and girls will be working on science projects this summer, hoping to win the \$2,800 Westinghouse Grand Science Scholarship which will be awarded next winter to the nation's outstanding high school senior in science.

About 16,000 high school seniors are expected to compete in the Ninth Annual Science Talent Search for the Westinghouse Science Scholarships, just announced by Watson Davis, director of Science Service, which administers the Science Talent Search annually through Science Clubs of America.

Forty Westinghouse Science Scholarships, ranging in size from \$100 to \$2,800 will be awarded. This makes a total of \$11,000 in scholarships for seniors in public, private and parochial secondary schools throughout the United States. Competition is now open and will close midnight, December 27, 1949.

Boys and girls, planning to compete in the Ninth Annual Science Talent Search, are already beginning serious preparation of their entries. They must take a three-hour science aptitude examination in their home school next fall, submit scholastic records and recommendations and write an essay of about 1,000 words on "My Scientific Project." The latter requirement will take up much of the leisure time of thousands of 'teen-agers this summer as they plan and carry through their experiments and research in libraries, workshops, laboratories and out of doors. Since projects may cover any phase of science they will range through the whole gamut of science from aeronautics to zoology.

Of the 16,000 high school seniors expected to enter the Ninth Annual Science Talent Search, about 3,500 will complete the rigid requirements. From these, 300 will be selected by the judges and named for Honorable Mention. All will be recommended to the colleges, universities or technical schools of their choice and are assured offers of financial assistance for

further study from institutions seeking students of outstanding science ability.

The top 40 boys and girls from the 300 will be invited to Washington, D. C. for the five-day Science Talent Institute next spring. They will meet and talk with nationally known scientists, visit places of scientific interest and learn of new developments in science. At the end of the five days the judges will announce the winners of Westinghouse Scholarships ranging from \$100 to \$2,000 and will name the most promising young scientist in the United States to receive the Westinghouse Grand Science Scholarship of \$2,800. The 40 winners may use their Westinghouse Scholarships at any college, university or technical school they choose. They will bring to 360 the number of promising young scientists named as winners in this competition since 1942. Many of those already named are becoming well known in professional circles for their scientific accomplishments.

ENGINEERING

Seek To Check Cavitation

► CAVITATION is a new word to the layman, but not to the engineer. It is sort of a boiling action that eats propellers that push a ship, and remedial methods are now being sought at the California Institute of Technology with the use of high-pressure water tunnels and high-speed motion picture cameras.

Others besides ship owners are interested in cavitation. It affects the turbines in a hydroelectric plant, the pumps in a city water supply system and all sorts of hydraulic equipment. Powerful forces resulting from cavitation chew up cast iron propellers. It is a costly chewing, requiring the replacement of ship propellers after a relatively few trips across the ocean.

Engineers already know much about the cause and results of cavitation, but they need to know how it causes damage before a cure can be found. This is the problem that the Institute scientists have now undertaken. They have already found that in the action bubbles are formed and break over and over again. The mechanics of cavitation, the way in which the bubbles, or cavities, are formed, grow, collapse and rebound, are still almost completely unknown.

In the research being made at the Institute, two water tunnels are among the chief tools. The water in one can be made to

High school seniors in some states will have a double chance to win scholarships through state Science Talent Searches run concurrently with the national competition by special arrangement with Science Clubs of America. Eighteen states carried out this plan in 1949 and others will be added for the Ninth Annual Science Talent Search. States which now hold competitions are Alabama, District of Columbia, Georgia, Illinois, Indiana, Iowa, Louisiana, Massachusetts, Michigan, Minnesota, Mississippi, Montana, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia and Wisconsin.

The judges of the Science Talent Search are: Dr. Harlow Shapley, director of the Harvard College Observatory and president of Science Service; Dr. Rex E. Buxton, Washington psychiatrist; Dr. Harold A. Edgerton, vice president of Richardson, Bellows, Henry & Co.; and Dr. Stuart H. Britt, manager of research and merchandising, McCann-Erickson, Inc. The latter two have designed the science aptitude examination for each of the annual Science Talent Searches.

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flow at any speed up to 20 miles an hour, and the atmospheric pressure above the free surface of the water can be carefully controlled. The other tunnel is completely filled with water and can be operated at much higher speeds.

Propeller blades held in place in the rapidly moving water in a tunnel are under constant survey by special high-speed cameras developed for the particular purpose. They can take pictures at the rate of 20,000 frames per second. When these are thrown on a screen at the rate of 20,000 frames in 20 minutes, what happens in one second is time-magnified 1,250 times. This gives the opportunity for detailed study.

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Plastic Coasters and Tiles **EMBED REAL FLOWERS in NEW Magic PLASTIC**



Now create many lovely and unusual things like the distinctive pansy coaster shown—made by embedding real pansies in Castolite—the "magic" liquid casting plastic. Comes crystal clear, or may be dyed to produce gorgeous color effects. Make really different jewelry, book ends, picture frames, candle sticks, figurines. Embed real flowers, butterflies, coins, medals, photos, for novel plaques, paper weights, tiles, other art objects. Use only home utensils. Follow simple step by step method. New pleasure, fine profits are possible. Send 25c for exciting new Home Project Manual showing how to get started. Write today. The Castolite Company, Dept. G-341. Woodstock, Illinois.

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