

## EDUCATION

## Winners Enter Science

High school students have found that participation in science fairs can open the way to a career in science through employment, travel and scholarships.

► A CRUISE on the high seas to see U.S. Navy science in action, or stimulating weeks of research work are among the things that Science Talent Search and National Science Fair-International winners have been doing this summer.

More scientific jobs, trips to scientific laboratories and choice college admissions have been offered this year to the science-talented high school boys and girls who participated in these two events. Winners agree that their participation was the magic "open sesame" into the scientific community.

The U.S. Army offered trips and summer jobs in research to winners around the nation. Students will visit key Army laboratories such as the Edgewood, Md., Chemical Warfare Center, of the Rock Island, Ill., Laboratories. Some are doing medical work at Walter Reed Institute of Research in Washington, D.C.

The National Bureau of Standards, one of the leading physical science laboratories in the U.S., offered winners jobs ranging from abstract mathematics to practical problems in solid state physics.

Some National Science Fair-International winners are going from Norfolk, Va., to Japan to see science in action. The Navy

awarded 219 students cruiser trips lasting a week as guests of the Navy to see science on the high seas for peace and defense. The Army, Navy and U.S. Air Force are each sending one winner to Japan. The trio will represent American scientific talent to the Japanese people.

The U.S. Air Force, U.S. Atomic Energy Commission and the National Aeronautics and Space Administration provided winners with all-expenses-paid trips to research facilities.

Professional societies including the American Dental Association, American Institute of Biological Sciences, American Medical Association, American Pharmaceutical Association, American Veterinary Medical Association and the National Telemetering Conference invited winners as guests to participate in their respective annual meetings.

The National Committee for Careers in Medical Technology and the Armed Forces Chemical Association provided additional opportunities for these talented students to work in research facilities.

Both the Science Talent Search and the National Science Fair-International are administered by SCIENCE SERVICE.

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Columbia University

**MASER TIMEPIECE**—Basic parts of the rubidium maser, expected to become the most widely used type of "atomic clock" because of its simplicity, are examined by Dr. Paul Davidovits (l.), who developed it in Columbia's Radiation Laboratory, and physics professor Robert Novick (r.), laboratory director. The maser, the most accurate timepiece and measuring instrument known to man, was invented in the same laboratory a decade ago by Prof. Charles H. Townes, now provost at Massachusetts Institute of Technology.

## MATHEMATICS

## New Math Formula for Insulating House Paint

► A PAINT that would help keep the house warmer in winter and another that would protect buildings against the extreme heat of a nuclear explosion can be developed with the aid of a new mathematical formula.

The formula, a simplified way of determining how much light various paints absorb or reflect, may be useful in creating paints for particular purposes.

For instance, a paint that absorbs a great amount of light can be used on a house to help warm it.

Another paint can be developed to reflect most of the light. It could be spread on the outside of buildings to help protect against the extreme heat of everything from a nearby forest fire to a chemical or nuclear explosion.

Paint is a protective surface composed of millions of small particles. Its reflecting or absorbing capabilities are determined by the number of particles it contains.

Co-creators of the formula are Drs. R. J. Grosh, Purdue University, Lafayette, Ind., and T. J. Love, University of Oklahoma, Norman, Okla. They reported their findings at a meeting of the National Heat Transfer Conference in Cleveland, Ohio.

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## Northern Thailand To Aid Science Youth

► SCIENCE CLUBS are being established in Bangkok through the efforts of the Science Club of Thailand, which is affiliated with Science Clubs of America. Through the visit of Pricha Amatyakul of Bangkok, to Chiangmai, in northern Thailand, 90 science teachers from 45 schools in Chiangmai met together and discussed the formation of a committee from the Chiangmai Education Authority to conduct the Science Youth activities.

Mr. Amatyakul is the managing proprietor of Thailand's leading distributor of scientific instruments and chemicals for schools and laboratories.

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## PHYSICS

## Small Atomic Timepiece Using Maser Developed

► A SIMPLE, small version of an "atomic clock," the most accurate timepiece known to man, has been developed.

The clock is a maser—a device that amplifies high frequency waves without vacuum tubes. It is a little larger than the cylindrical base of an ordinary table lamp, and has an accuracy of one second in 30 years. The clock was developed by Dr. Paul Davidovits, research assistant in physics at the Columbia Radiation Laboratory, Columbia University, New York.

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