

that would not be so demanding. Some industries have cooperated with health authorities by constantly using the same water over and over again. By recirculating water through its mills, a steel company in California reduced its water consumption from 65,000 gallons to 1,200 gallons per ton. However, the quality of water still must be maintained.

The nation's streams and lakes are sagging from the burden placed upon them to act as a disposal unit for industrial, agricultural and municipal wastes. So great is the demand, it seems at times as if the "conquest of outer space might eventually become a necessity for survival rather than a pawn for prestige."

• Science News Letter, 79:298 May 13, 1961

GENERAL SCIENCE

News From Science Clubs

► **SCIENCE CLUB PROGRAMS** reported to Science Clubs of America are full of new and stimulating ideas. Some interesting activities, chosen at random from the files, include:

LAST SUMMER the members of the Alpha Zeta Club of Parkway Junior-Senior High School, Chesterfield, Mo., took a week-long field trip to a State Park to collect data for the club's project, the ecology of a wooded area. They spent a fall weekend in another State Park gathering additional information. Last year's project on the ecology of a pond, which won the club a \$50 award at the Greater St. Louis Science Fair, is now on display at Rockwoods Reservation.

THE Alaska Polaris Science Club, sponsored by Carpet Masters, Inc., Anchorage, Alaska, reports that its most effective programs have included a chemical magic show, demonstrations by members of various experiments, plant study during field trips and instruction from older members in electricity and chemistry.

POPULAR ACTIVITIES of the Candler Science Club of Candler (N. C.) Elementary School, have been a trip to a pottery, followed by making and firing their own ceramics; a trip to see an 80-year-old locomotive used for bringing logs out of the woods; microscope work; a home-made rocket; a nature hike and an intercom constructed from an electronics kit.

THE SCIENCE CLUB at The Grammar School, Holywell, Flintshire, England, has been cooperating with Manchester University in the exploration of space by radio-telescope. Two of the boys adjust the small companion aerial to Jodrell Bank as instructed by Prof. Lovell's team. Their sponsor, J. Roughley, senior physics master at the school, stirs their enthusiasm for physics by giving them some of his humorous verse. A small sample goes like this:

Mass and Weight

When we're at school we learn to state
That objects have both mass and weight.
But what's the difference, you'll agree,
For anyone is hard to see. . . .
Now mass for mass has an attraction,
From whence a force springs into action;
And earth's the biggest mass you see!
Its pull, the force of gravity! . . .
"Tis simply known today as "g"
The mightiest force that e'er will be!
And though you may not land in clover,
Your friends will say, "That's him—all
over!"

IN WAKEFIELD, Mass., the General Science Club at Wakefield Junior High

School is planning programs which it will produce for elementary students.

THE MAGAZINE RACK at Argyle (Iowa) High School was the subject of a special report made to the school by the Argyle High School Science Club. The club's report induced the school administration to subscribe to four new science magazines.

THE CRUSADER Science Club, Central Catholic High School, Canton, Ohio, put on a science exposition called "Sciarama." This club reports that its most effective programs center around individual projects of the members.

IN MADISON, Wis., the Shawe Science Club, Shawe High School, has a six-page mimeographed report on the construction of a bi-stable transistor flip-flop unit for a computer, which they will send to interested clubs or individuals on request and upon receipt of 8¢ in stamps. The club also has been producing and selling at cost its own "Chemi-Light" to be used for chemiluminescence experiments.

• Science News Letter, 79:299 May 13, 1961

MEDICINE

Advise Cancer Research With Whole Smoke

► **FURTHER EFFORTS** are needed to find out whether lung cancer can be produced in animal tissue by applying "whole" smoke instead of by artificially prepared condensates of smoke, Dr. Clarence Cook Little, scientific director of the Tobacco Industry Research Committee, has proposed.

In his 1960 annual report Dr. Little said that the "causation theory of smoking in lung cancer, heart disease and other ailments" is without clinical or experimental proof.

Other suggestions by Dr. Little:

Medical researchers should obtain information through direct medical examination instead of by questionnaire. They should collect information on personal characteristics and habits other than smoking.

They should approve and agree upon methods of classifying the major types of lung cancer to make studies more meaningful. Some reports have associated smoking with one type of lung cancer only.

More than 135 research reports have been published since the first tobacco industry research grants were made in 1954. New research money appropriated for 1961 brings the total to \$4,650,000.

• Science News Letter, 79:299 May 13, 1961

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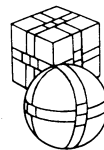
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