

SPACE

Apollo Launch Escape Motor Firing Successful

See Front Cover

► A ROCKET designed to safeguard astronauts during the launch phase of the U. S. manned lunar landing program has been successfully test fired.

The Apollo launch escape motor, a big solid-fuel rocket developed by Lockheed Propulsion Company, was fired in a vertical test bay at Lockheed's Potrero facility near Beaumont, Calif.

Ignition under near-vacuum conditions simulated firing at the highest altitude at which it might have to operate in an actual manned flight.

Seen on this week's front cover is the spectacular flame pattern made by the escape motor during static firing. Four nozzles, canted outboard, split the flame of the solid rocket motor into four equal tails.

In manned Apollo operation, the motor would be mounted tail down on a tower on top of the command module containing three astronauts. In case of emergency during the launch phase of the manned flight, the motor would fire to pull the astronauts to a safe position far away from the launch vehicle.

Four previous firings duplicated other environment extremes under which the motors might be expected to perform, or to which they might be subjected in storage and handling. These firings, all at normal atmospheric pressure of this test base, were performed at motor temperatures of 20 degrees to 140 degrees Fahrenheit.

The firings are part of an intensive series of tests aimed at "man-rating" the launch escape system well in advance of the first manned Apollo flight.

Still to come are firings of motors after vibration and drop tests, to study performance under these severe conditions.

In addition to the continuing series of firings with the motor in a nose-down position where its thrust pushes it toward the earth, it will be tested tethered and nose-up. The rocket will be mounted atop an escape tower bolted to a steel plate affixed to the concrete apron of the test bay.

• Science News Letter, 83:125 February 23, 1963

ZOOLOGY

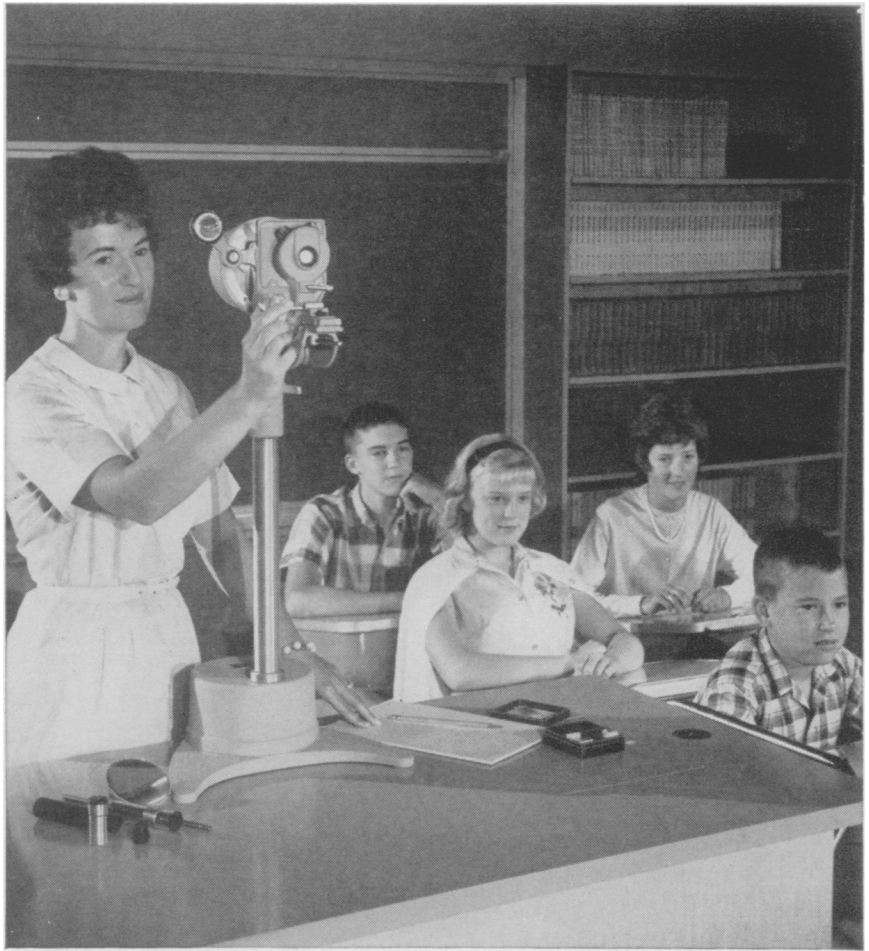
Twin Calves Sought By Animal Researchers

► WANTED! Twin calves for a starring engagement in a program directed by animal researchers at the University of Wisconsin at Madison.

Identical twin Hereford calves, age five to 12 months, are subjects of a nationwide search. In past years twin calves have given researchers valuable information about animal responses due to heredity or due to environment. Twins are the closest approach to identity that can occur in separate organisms. When the lucky twins are found they will be given a lifetime contract.

• Science News Letter, 83:125 February 23, 1963

Fuel cells convert 65% to 80% of the energy input into electricity.



NOW! bigger, brighter views make science learning surer!

A Tri-Simplex Microprojector lets you show details of microscopic specimens—wet or dry—to the entire class at once. Students learn better because they see and understand better. And now there's a new optical system with a 43× objective and swing-in condenser . . . and a super-efficient 12× objective . . . to project bigger, brighter, sharper images than ever before. Try it in your classroom and see for yourself.

BAUSCH & LOMB



**BAUSCH & LOMB
INCORPORATED**
16038 Bausch Street
Rochester 2, N. Y.

- I'd like an obligation-free demonstration of Tri-Simplex at my convenience.
- Please send me data sheet E-254.

Name

School

Address

City Zone State