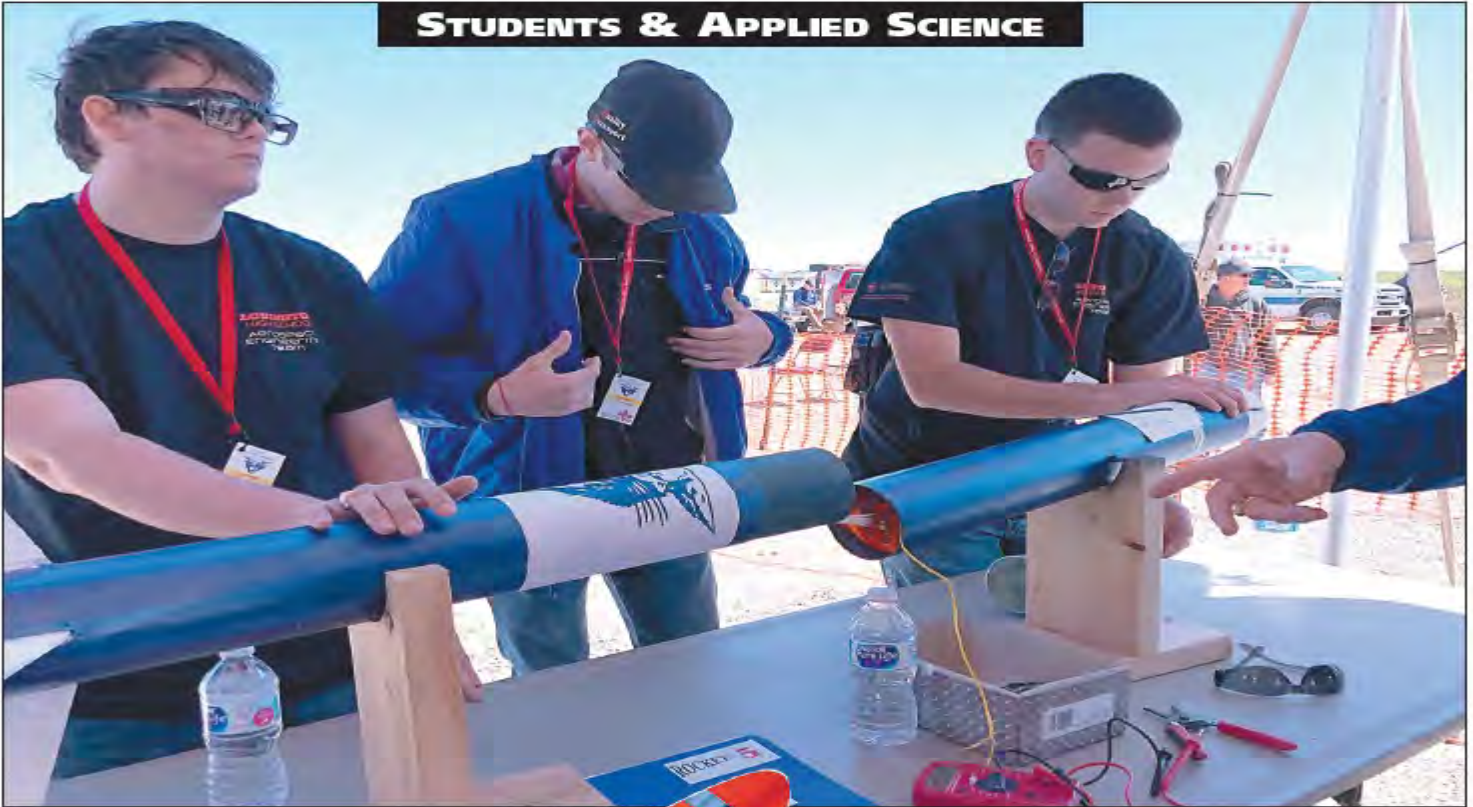


STUDENTS & APPLIED SCIENCE



Rocket launchers

Rockets designed and built by area students sent skyward Saturday near Jal

DOROTHY N. FOWLER
NEWS-SUN

JAL – Winds of 30 miles per hour, gusting to more than 40 miles an hour kicked up lots of dust Saturday morning as rocketeers from southeast New Mexico and Odessa gathered in a field north of Jal to launch rockets they spent the better part of this school year designing and building.

Rocket teams with two years' experience launched rockets they hoped would exceed the speed of sound, while first year rocketeers hoped their rockets would fly carrying a one pound payload.

Jal teams launched the first two rockets, both of which left the launch pad amid a hiss of sound

and a short blast of fire as team members and spectators waited about 50 yards to see as they first disappeared into the clear blue sky and then reappeared as the rocket bodies descended, suspended by parachutes packed into their bodies.

Drivers of chase vehicles -- Jeeps and other vehicles suited to driving over rough ground -- waited to drive to the sites where the rockets landed, guided by GPS devices installed in the body of the rocket.

It was a scene repeated 18 times during the day, with the ritual involved being the same for each rocket and each team.



DOROTHY FOWLER/NEWS-SUN PHOTOS

TOP: Ricky Mauch, Jared Golleher and Cody Porter make a final check of the rocket they launched Saturday in Jal; ABOVE: Advisors at the launch event arm a rocket.

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Rockets

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Lake Arthur's first rocket didn't fly at all on the first try. Adults working with the students thought at first it was because a tube inside the tank of nitrous oxide, which helps ignite the motor in the rocket, had become displaced. They tested the tank, laid it on its side, propped its base up on a rock and reconnected the tank to the rocket.

When the engine failed to ignite, Steve Goluska, Lake Arthur rocketeer teacher, directed his team to take the rocket off the launch pad.

"They'll take it back to the tent and see what went wrong," Goluska said.

"Seeing what went wrong," is part of the learning curve in building successful rockets, several students said as they prepared their vehicles for launch.

Hobbs rocketeers didn't arrive at the launch site until shortly after noon. Before they could bring their rocket to the launch site, it had to be "cleared," by engineers who checked it to be certain it met

size and weight qualifications and that the equipment it carried was installed properly.

The process they had gone through was common to every team and to every rocket.

Executive director of the Pecos Valley Regional Education Cooperative No. 8, David Willden, said he knows some people worry that a rocket might blow up, but "there is absolutely no chance that they'll blow up."

There is also little to no chance that the rocket launches will interfere with passing aircraft traffic. "We've got our FAA (Federal Aviation Administration) clearance," Willden said. "Safety is the most important consideration. We've never had an accident."

Willden and Jal School superintendent Brian Snider said

the rocket launch site is ideal for the event.

"The whole Jal community pitched in. They donated money that came from different sources. We had a metal sculpture placed at the entrance to the launch site. We have the ideal place for the launches," Snider said.

While the launches are possibly the most exciting part of rocketeering, the preliminary planning is most important.

"Students have to use their math to create the plans for the rocket. They have to present their plans, explain the math, to engineers from NASA. Some schools go to Houston for the presentation. At other schools, NASA comes to them. Students learn to make presentations, to make clear what they've learned," Willden said. "It's demanding and they learn a lot

of different skills."

Those skills may well be life-skills as explained by one of the Lovington High School teams.

"I learned not to cut corners on things that may seem to be unimportant," Riley Mauch said.

Jared Golleher said, "I learned how to work with a team," and Cody Porter said, "I learned that small things can make a really big difference."

"I learned that failure is an important part of the process," Makayla Franco said. "It's an opportunity to learn."

The rocket launch in Jal is the first and only such launch in New Mexico and is part of a program called SystemsGo.

SystemsGo is an innovative high school rocketry/aero-

science curriculum that uses project-based learning to teach science, technology, engineering and mathematics (STEM); to develop skills in teamwork, problem solving and leadership; and to encourage careers in the engineering industries

Advanced students develop rockets capable of lofting 35-research payloads to 100,000 feet for collaborative research

with universities, ultimately launching their vehicles at White Sands Missile Range.

Among the spectators at Saturday's launch was New Mexico state Rep. David Gallegos, R-Eunice, who posed for pictures with several area teams.

"I think this is absolutely fabulous," Gallegos said. "I hope to see this continue and get bigger every year."