

# Launching Students Into Science: How a Middle School Touched Outer Space

CORY OLSON AND JIM REED

TEACHERS

FORESTVIEW MIDDLE SCHOOL, BAXTER, MINNESOTA



FROM LEFT TO RIGHT: CORY OLSON; AL DOREE, HAM RADIO VOLUNTEER; AND JIM REED

Jim Reed, a multimedia teacher, and Cory Olson, who teaches technology and engineering, were looking to push the envelope for their 500 seventh graders at Forestview Middle School, in rural Baxter, Minnesota, about two hours north of St. Paul.

“We wanted something that was hard to accomplish,” says Olson. “We wanted our kids to think outside the box.” The teachers formed a high-altitude balloon club and spent their first year watching helium-filled weather balloons with crude instrument packages vanish into the stratosphere.

“That first year, all we really cared about was getting our gear back,” Reed jokes. Then they learned of the Samsung *Solve for Tomorrow* competition, which encourages middle and high school students to come up with solutions for local problems using skills in science, technology, engineering and math (STEM).

“We wanted to give the kids as much exposure to STEM as we possibly could,” says Reed, “and get them thinking about careers in STEM-related fields.” The competition provided the perfect incentive to take the project to the next level. The teachers and students decided to send a sophisticated instrument package right to the edge of outer space.

Soon enough, the students had all sorts of engineering puzzles to solve: shaving every extra gram they could to send their balloon higher, learning

CAD design to “print” payload pieces cleanly and elegantly, and configuring the payload for stability as it encountered jet stream winds of 140 miles per hour.

On the day of the balloon launch, students and teachers hopped in chase vehicles, and a dozen local ham radio operators relayed coordinates to the club, which was in quick pursuit. “That was where you saw the kids take complete ownership of the project,” recalls Reed. Eventually, the balloon popped and fell back to earth. Then—just as planned—a parachute dropped the payload safely onto a farmer’s field.

The judges selected Forestview Middle School’s balloon project from thousands of entrants as one of five national winners of the Samsung *Solve for Tomorrow* competition.

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“You could see the earth’s curvature and the blackness of space on video taken at 85,000 feet,” says contest judge and Samsung Executive Vice President David Steel.

Reed and Olson point to their classrooms as the real scene of victory: Dozens of students, energized by their experience, are preparing to send up two more balloons—one to study the effects of solar radiation on plants and bacteria, another to try to break the 100,000-foot barrier. “It’s all been an absolutely huge step forward for us,” says Reed.