



We have liftoff

These Collier County second-graders thoroughly enjoy a simulated spacecraft launch as part of a NASA program

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Five...four...ignition...two...one...and liftoff.

We have liftoff!

Those fateful words launched the Lunar Prospector spacecraft to the moon in 1998.

They also launched Andie Lloyd's second-grade class at Sabal Palm Elementary School into history as the first Collier County class ever to participate in a simulated spacecraft launch through the NASA Space Explorer's program on Nov. 28.

The simulation is like an interactive play, and it was clear the students had rehearsed long and hard for their parts.

Students read through a detailed script, packed with space and science terms many adults might struggle to pronounce. As they acted out their roles, students also monitored their computer screens, which featured several action keys and readings they must report.

As they read their lines and performed the designated actions, such as "turn on sound suppression system," a picture of the rocket changed on their screens, reflecting the action they just took.

"My goal is to have them do things to learn, and to be active participants in their education," Lloyd said. "This whole unit involves every aspect of my curriculum, including reading, problem solving, history..."

"You name it, it's involved in this."

Lloyd's class has been preparing for the launch since the start of the school year. When they sat down at the technology lab laptop computers on the day of their mission, they learned fast that their readiness would pay off.

The scripts in front of them guided their dialogue, but that wasn't enough for Lloyd. She didn't just want her students to be able to pronounce the words "gamma ray spectrometer;" they also needed to know the function of the tool, and whose job it was to use it.

The students were seated at desks behind laptops and signs bearing the name of their job. The jobs ranged from chaotic — spacecraft engineer and principal investigator — to complex — electron reflectometer co-investigator and magnetometer co-investigator.

The jobs with the most script lines — launch director and mission director — went to articulate students Anthony Lozada and Josh Pace.

"I liked the end, where I got to talk a lot," said Josh, 7. "I was sort of nervous, because I was messing up on some of the words, but it was good."

"Science isn't as easy as it looks, but it's fun," Anthony, 7, added. "You have to check if everything is right."

The ride was a bit bumpy at times. Students were forced to react when a danger message popped up on their screens halfway through the mission, warning them that a solar flare could jeopardize the mission and spacecraft.

Lloyd posed important questions about the flare to the kids, who evaluated their options and correctly directed the spacecraft away from the flare slowly, to save fuel.

"Phew, that was scary," Lloyd told the class. "I'm sweating, actually. I thought we were gonna burn."

"I kind of got nervous about the solar flare, but it worked out good," Spacecraft Engineer Jason Mirabel said after the mission.

Not all of the snags occurred in space. Just before liftoff, Anthony was attempting to "turn on the sound suppression system" on the rocket, when the computers failed to respond.

After a quick phone call to program coordinators, Lloyd and Anthony got the program back on track.

"Do you think stuff like this ever happens at NASA?" Curt Witthoff, coordinator for science and environmental education for the School District, asked students, who shook their heads.

"Yes it does," he corrected them. "It happens all the time."

Witthoff, who was invited by Lloyd to view the launch, watched with wonder as students rattled off scientific jargon with ease, and in perfect sequence.

"Students today are so keyed in to technology, so it's a neat medium to be able to get our points across," Witthoff said. "Simulations should never replace hands-on experiences, but it's a nice complement.

"I could see other classes benefiting from this."

Lloyd, who performed the simulation once before with students in Miami, said the activity cost \$600. A grant paid for half, and the Sabal Palm Parent-Teacher Organization covered the rest, she said.

"It's just a fun, really great way to learn," Lloyd said. "I think the program would be great for other schools in the county."

The experience was more than just fun for Jason, Josh and Anthony; it could have been a glimpse at the future.

Jason said he wants to launch a spacecraft someday, while Anthony wants to be the first to walk on Mars. Josh has his sights set even higher.

"I want to try to get to Mercury someday," he said.

Those spawned ambitions mean one thing to Lloyd: mission accomplished.

"I want kids to know that they have endless opportunities," she said.

"If they can do this in the second grade, just imagine the possibilities."

For more information about the program, visit the Space Explorer's Web site, www.space-explorers.com.