

## Scientist wows kids with space talk

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Mainland High School students got a lesson on science and space Monday that they likely won't soon forget. Dr. Firouz Naderi, an Iranian-American scientist and director of Solar System Exploration at NASA's Jet Propulsion Laboratory in California spoke to a group of about 200 students on the topics of science and space at the Daytona Beach school.

Hosting the event was the Daytona Beach nonprofit Food Brings Hope, an organization that helps homeless children attending public schools in Volusia. The organization currently serves about 500 students in 10 Volusia County Schools.

If you've ever wondered how many stars are in the sky, here's the answer:  $7 \times 10^{22}$  or 70 billion trillion.

"Count all the sand in Daytona Beach, then count all the sand in Florida, then when you are finished with the Atlantic (Ocean), count the grains of sand in the Caribbean. While you're at it, count every grain on all the beaches. There are still more stars in the universe than all the grains of sands on all the beaches on earth. That's what 70 billion trillion is, that's a lot," Naderi broke it down to the students.

Naderi discussed light years, mass, diameter, stars and planets with the students, who ranged from elementary age to middle school.

After giving students various measuring guidelines, Naderi told students about Alpha Centauri, our closest star. He explained to students that it is 4 light years away.

"How long do you think it will take to get there?" he asked.

The Voyager spacecraft was launched in 1977 heading to Alpha Centauri and now is 120 billion miles away barreling away at 40 thousand miles an hour away from earth.

"70,000 years," he answered.

Naderi also wowed students with videos showing various space landings and talk of UFOs.

"What do you think are the chances that we are the only intelligent beings?" he asked to wide-eyed faces.

"There are people who talk about UFOs. There aren't any," he remarked. He further explained that that doesn't mean there aren't any life forms in the observable galaxy, which contains hundreds of billions of galaxies.

"They may not look like you and I, but the chances that there are intelligent beings, is very high."

"Eventually by the time you are adults or have your own children, we want to build a colony on Mars. Probably by the time your children are born and their children are born humans will be living on two planets. Earth and Mars," he continued.

Naderi says current expectations are to land on the moon of Mars in 2023.

He showed a short clip of the Curiosity Mars landing and the exuberance in the NASA observation rooms from scientists and others rejoicing at the landing.

"I've been to a couple of these events when we land on Mars. You know that something you touched, that you built, is now rolling around on another planet," he shared.

Students asked over a dozen questions from "Is the Earth dying?" to "How is it possible to live on Mars?"

Naderi concluded by asking, "Why should we care?"

"What propels a civilization is your curiosity. What's around the corner, what's behind the curtain," he closed. "That is what propels civilization."