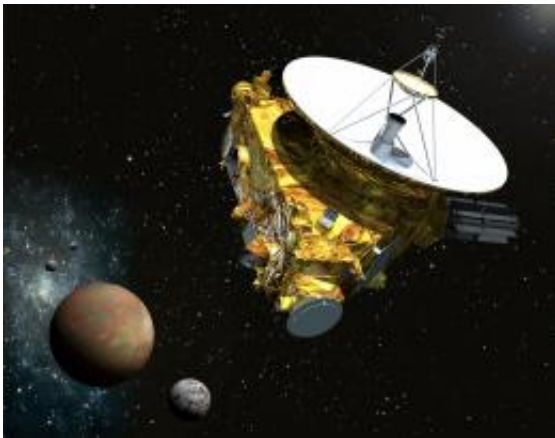


MSU spacecraft activity now available online for teachers

February 9 2011, By Keri Hallau



An artist's rendering of the New Horizons spacecraft as it approaches Pluto. The prominent 2.1-meter dish antenna is used to communicate with Earth from up to 7.5 billion kilometers away. Credit: JHUAPL/SwRI

A NASA activity developed by Montana State University science educators for teachers is now available free online.

The activity, "Signals and Noise, Oh Boy!," relates to the NASA New Horizons mission to Pluto and helps students better understand how [spacecraft](#) communicate with Earth.

New Horizons is an unmanned spacecraft that was launched in January 2006 on a nine-year, one-way trip to Pluto. Jan. 19 marked the fifth anniversary of the craft's launch, and New Horizons is now 1.8 billion

miles away, which is halfway between Earth and Pluto.

The interactive activity, which meets specific national science standards, was developed as part of New Horizons' education and public outreach plan and is designed for grades 3 through 5.

Keri Hallau, who supports public outreach for New Horizons through a grant to Extended University at MSU, said students will learn about how a spacecraft's communication with Earth is affected by its distance from Earth as well as the background noise of all other objects in the Universe. Hallau added that by listening to computer-generated sounds, students will gain a better understanding of the challenges facing NASA mission operations flight controllers who must send important messages across billions of miles in order to reach a spacecraft.

The activity is designed for classroom teachers and home-school educators, but anyone can access and view the activity online. Go to: www.nasa.gov/audience/foreducators/ and search for "Signals and Noise" using the "Find Teaching Materials" link at the left. Or access the activity via the New Horizons Web site at: pluto.jhuapl.edu/education/index.php target="_blank">pluto.jhuapl.edu/education/index.php or the MSU Outreach site at www.montana.edu/outreach under Educational Resources.

New Horizons is the first mission in NASA's New Frontiers Program of medium-class spacecraft exploration projects. Alan Stern, of the Southwest Research Institute in Boulder, Colo., leads the mission and science team as principal investigator. The Johns Hopkins University Applied Physics Laboratory in Laurel, Md., manages the mission for NASA's Science Mission Directorate.

Provided by Montana State University

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