



Event: NASA's New Horizons Flies By Pluto!

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Important Dates:

- + January 19, 2006: New Horizons is launched
- + February 2007: New Horizons passes Jupiter for a gravity boost
- + July 14, 2015: New Horizons has its closest approach to Pluto

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website: www.sites.psu.edu/scinews

Event Description

The New Horizons mission is exploring Pluto, its moons, and the distant Kuiper Belt. It has given us our very first close up look at Pluto and its largest moon Charon, both considered "ice dwarfs." Unlike the inner rocky planets (e.g., Earth or Mars) and the gas giants (e.g., Jupiter or Saturn), Pluto and Charon's mass is largely icy material. New Horizons seeks to learn more about how icy dwarfs fit into the solar system. Already the mission has discovered 4 new moons of Pluto! The success of this mission lies in the vast amount of new data it has gathered including incredible photos of the surface of Pluto. NASA scientists all over the country are working hard to interpret the new data that streams in daily!

Lesson Description

Students will create a map of the surface of Pluto based on their observations (colors, textures, crater abundance) of different surface features - just like NASA scientists are doing!

Scientists carefully analyze the images returning from New Horizons to study Pluto's surface features. They are creating maps to show where different types of geologic features are, such as mountains, glaciers, dunes, etc. In this lesson, students are asked to engage with the material in a similar way. They will make observations of Earth's surface (which they are familiar with) to practice, and then look at Pluto's surface and map areas they find similar. At the end of the exercise, the instructor can lead a classroom discussion and create a 'classroom Pluto map' or ask students to present and discuss their (or their groups) observations and maps.

Lesson Materials (download from the SciNews website)

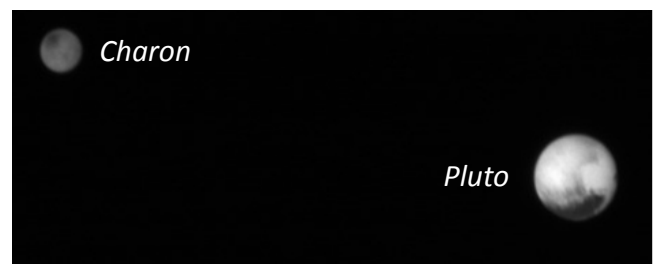
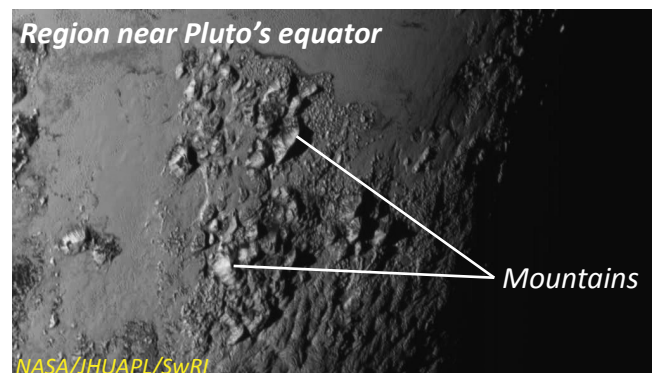
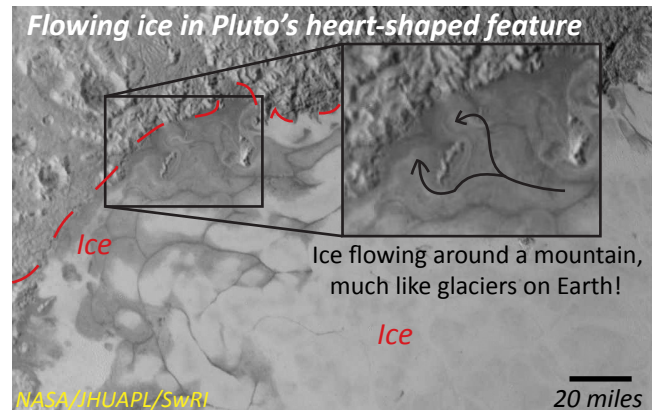
(1) Student Mapping Exercise: this is a 2-page handout for students that they will use to map the surface of Pluto and record their observations and interpretations.

(2) Example Pluto Mapping: this is an example of how we mapped Pluto, including some basic observations and possible interpretations of the surface features.

(3) Pluto Photos: a few examples of the high resolution images that have been taken of Pluto so far by New Horizons.

Next Generation Science Standards

MS-ESS1-1. Analyze and interpret data to determine scale properties of objects in the solar system.



Alternative Lesson Plan: (link provided on the SciNews websites)

Multiple New Horizons lesson plans from NASA:
<http://pluto.jhuapl.edu/Participate/learn/Activities.php>



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<http://pa.spacegrant.org>

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