

ASTRONOMY-TO-GO

The John J. McCarthy Observatory

LESSON: Current Events in Solar System Exploration **(9)**

CURRICULUM: (CT Std. 8.3) “Earth and the Solar System: How does the position of Earth in the Solar System affect conditions on our planet?”

INSTRUCTOR: JJMO volunteer, or classroom teacher

TIME: About 40 minutes

LOCATION: SNIS Planetarium (best); darkened classroom w/ projector screen

TEACHING AIDS: Power Point show “Solar System Exploration: Current Events”.
Windows Media Player video clip file: valles marineris.mpg

DESCRIPTION: Multimedia show with narration

While not tied to curriculum, this PowerPoint show can provide a stimulating and fun introduction to the astronomy unit, a capstone at the end of the unit, or something to use the last week of school in June.

It capitalizes on the magnificent imagery we are getting from recent and current NASA and European scientific missions to the other planets (and their moons) in the Solar System. After reviewing the scale of size of objects in the Solar System, from the Sun to Pluto, using models, we explore Mars using images from the Odyssey, Mars Global Surveyor, Spirit and Opportunity Rovers, and the Mars Reconnaissance Orbiter missions. We then show a 3 min. video clip of a simulated fly-over of the huge Valles Marineris canyon on Mars, much larger than our Grand Canyon, made using actual mapping data obtained from the orbiting space craft.

On to Saturn and its over 60 moons, currently being explored by the Cassini and Huygens mission. The images being returned by this mission are truly stunning, and are changing our knowledge of solar system formation and dynamics. We will see a moon with water geysers believed to be “feeding” a newly discovered outer ring of Saturn, rivers and lakes of liquid methane photographed as the Huygens probe descended to the surface of Saturn’s moon Titan, moons with the appearance of swiss-cheese, and more. And of course, the beautiful rings of Saturn, with their small “shepard” moons keeping them in orbit for eons.

ASSESSMENT: Q & A period after, time permitting.

PEM, 1/12/2007
Rev. PEM/CA 2/2014