US Educational Activities on the International Space Station

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Importance of ISS as an Education Platform

- Students are excited about space!
- Motivate in math, science, engineering, and technology
- Long duration laboratory = many students reached
Educational Activities on ISS occur through partnerships

- Student-developed experiments, including contests
- Students perform classroom versions of ISS experiments
- Students participate in actual experiments
- Students participate in engineering, hardware development, and operations activities
- Educational demonstrations by astronaut/cosmonauts
Earth Knowledge Acquired by Middle School Students (EarthKAM) Students from 16 countries have controlled Earth observations cameras onboard ISS.

Source: ISS Program Scientist, NASA
“Amateur Radio on the International Space Station” program- a cooperative venture of NASA, the National Association for Amateur Radio, and AMSAT. Over 39 countries have had participants in over 550 sessions with the ISS crew.

Source: ISS Program Scientist, NASA
Image courtesy of ARISS
In-flight Downlinks have also offered live audio/visual interaction between the ISS crew with students and the general public.

Education Public Outreach (EPO) Demonstrations have provided a means of demonstrating the behavior of simple items in microgravity.

Buzz Lightyear Mission Logs special feature video showcasing life on ISS developed in partnership with Disney-Pixar.
US Museums and Universities Sponsor Activities

Education – Golden orb spiders living onboard the International Space Station captured the attention of over 400,000 students, who studied the spiders and learned about the scientific method using a curriculum developed by BioEd Online. The previous year, over 180,000 students observed the Monarch butterfly life cycle.

Source: ISS Program Scientist, NASA
NASA Student-led Experiments

- Nanoracks/CubeLab: Self-contained cubesat form factor laboratory modules enabling student as well as professional grade experiments
- Synchronized Position Hold Engage and Reorient Experimental Satellite (SPHERES) internal satellites flying inside the ISS under the control of student developed software
- The Kids In Micro-g pathfinder for 2 years of outstanding results
- Transitioned to a YouTube-sponsored contest in 2011 (closes Dec 7)
Scenes from Kids in Micro-G 2010-2011. Completing two successful years of operation, the project will now be expanded through a partnership with Google/YouTube in 2012.

Source: ISS Program Scientist, NASA
62 Countries Have Participated in ISS Utilization through 2011

Most participation is through Educational Collaborations!
ISS Research & Technology
http://www.nasa.gov/iss-science/
Click “For Educators”

@ISS_Research

ISS Research Blog “A Lab Aloft”
http://go.usa.gov/atl