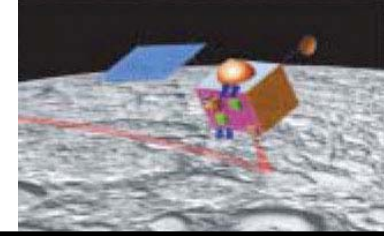


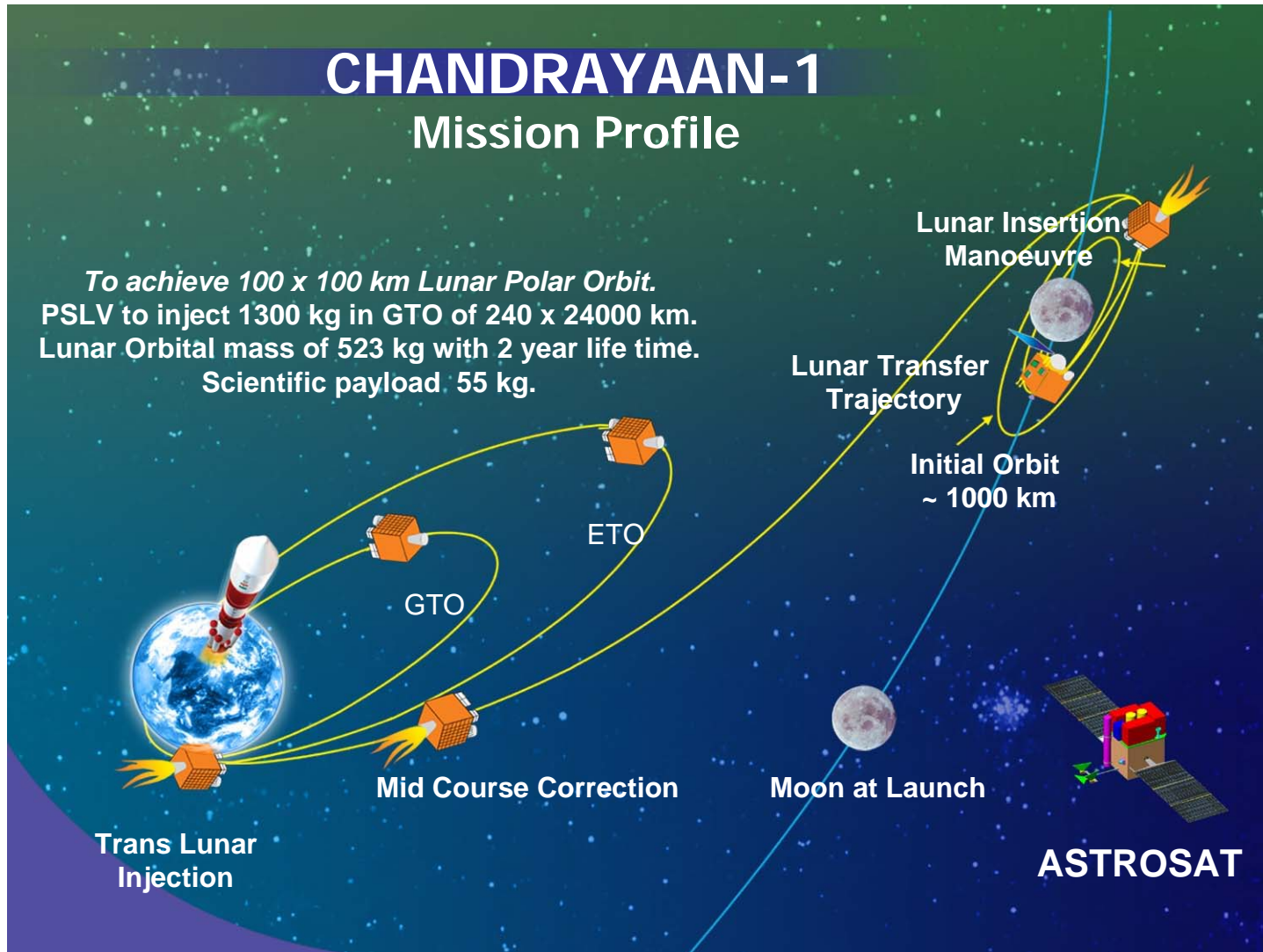


Mission Overview



- India's first deep space mission
 - Launch: March 2008
 - 2-yr Moon orbit mission (100 km circular polar)
 - ISRO is the doing organization
- Uses flight proven spacecraft bus and launch system
 - Operational METSAT (KALPANA) in GEO
 - Polar Satellite Launch Vehicle (PSLV-XL)
 - Launch from east coast of India
- 11 instruments on-board
 - 5 ISRO
 - 6 International (US, UK, Bulgaria, Sweden, ESA)
- New DSN station near Bangalore to be used for TT&C

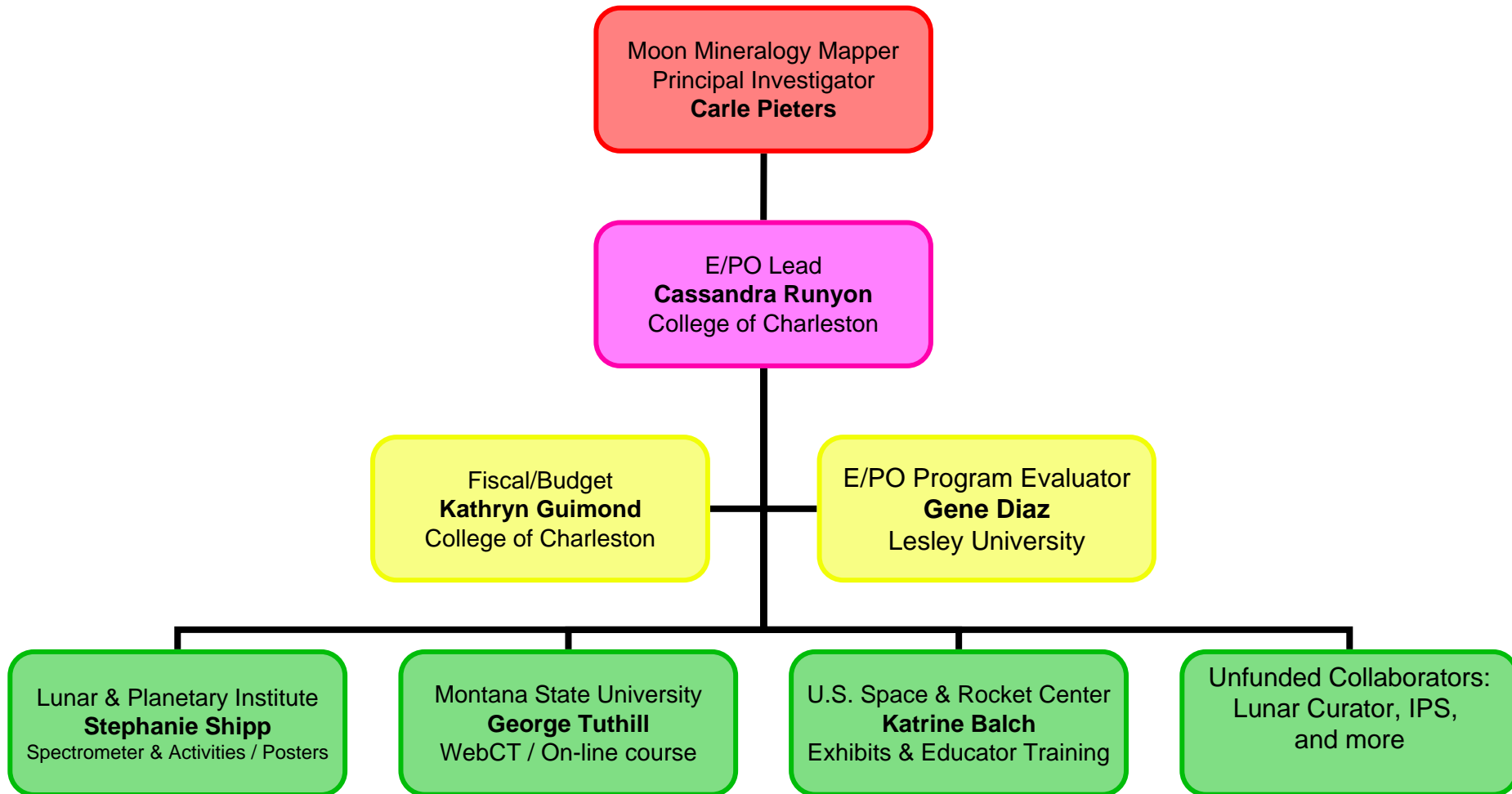
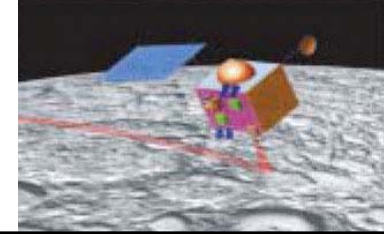
Chandrayaan-1 Mission Profile



Expanding the scientific knowledge about the moon, upgrading India's technological capability and providing challenging opportunities for planetary research for the younger generation

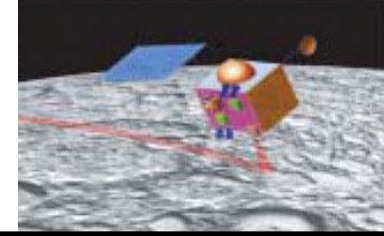


Organizational Chart





NASA's new Education Initiative ...



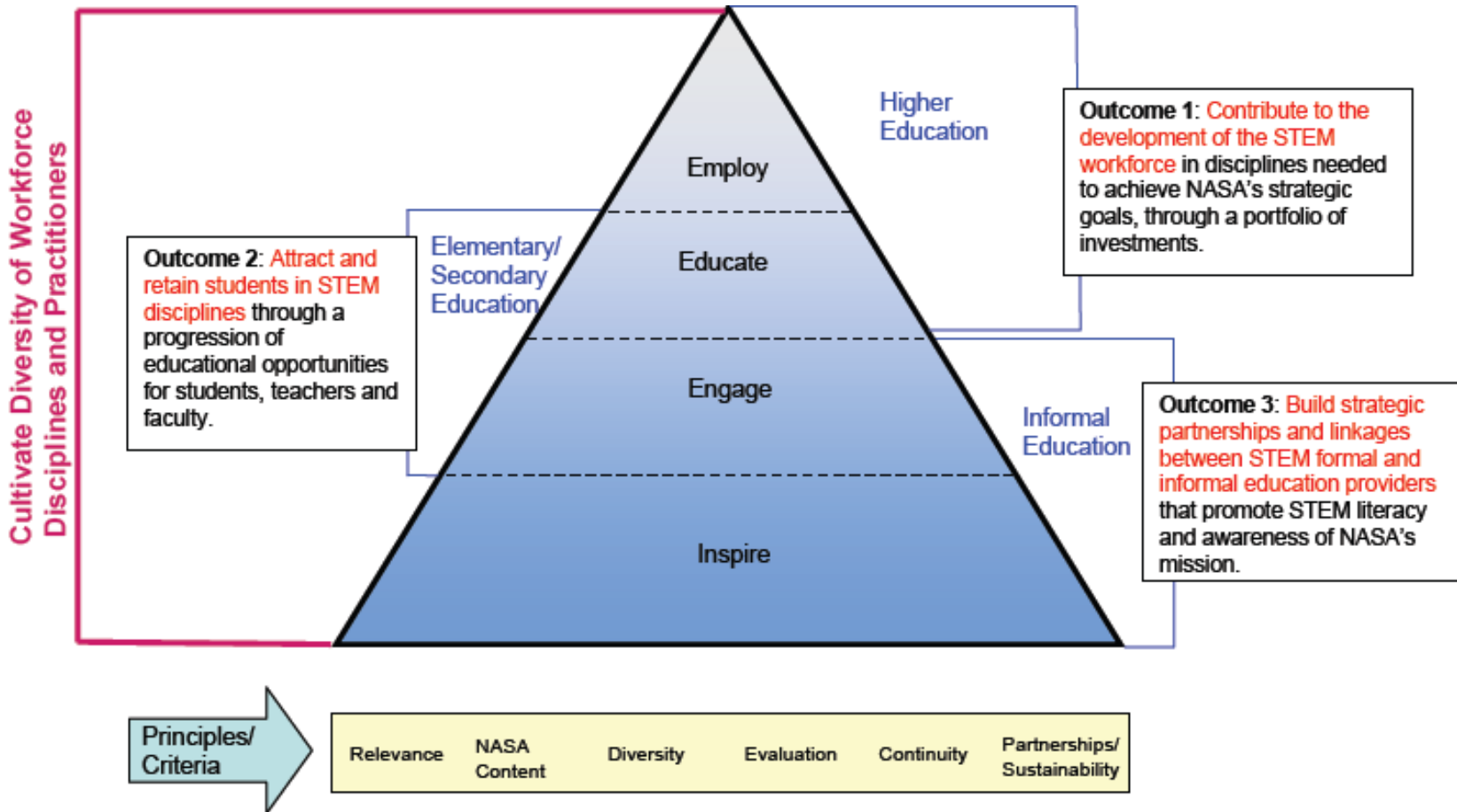
In 2006 and beyond, NASA will continue to pursue three major education goals:

- **Strengthen NASA and the Nation's future workforce**— NASA will identify and develop the critical skills and capabilities needed to ensure achievement of the Vision for Space Exploration. To help meet this demand, NASA will continue contributing to the development of the Nation's science, technology, engineering, and mathematics (STEM) workforce of the future through a diverse portfolio of education initiatives that target America's students at all levels, especially those in traditionally underserved and underrepresented communities.
- **Attract and retain students in STEM disciplines** —To compete effectively for the minds, imaginations, and career ambitions of America's young people, NASA will focus on engaging and retaining students in STEM education programs to encourage their pursuit of educational disciplines critical to NASA's future engineering, scientific, and technical missions.
- **Engage Americans in NASA's mission** —NASA will build strategic partnerships and linkages between STEM formal and informal education providers. Through hands-on, interactive, educational activities, NASA will engage students, educators, families, the general public, and all Agency stakeholders to increase Americans' science and technology literacy.

(from NASA's Education Management & Governance Plan, ver. 12, Jan. 2006)

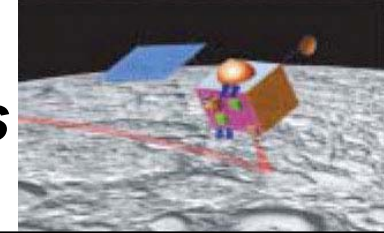


Education Portfolio Strategic Framework (Jan. 2006)





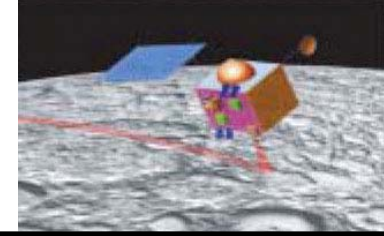
Science & E/PO Goals > 3 E/PO Themes



M3 Science Goals		M3 E/PO Goal	Thematic Strand
<p>Primary Science Goals</p> <ul style="list-style-type: none"> • Characterize the diversity and extent of different types of basaltic volcanism. • Identify and assess deposits containing volatiles. • Map fresh craters to assess abundance of small impacts in the recent past. • Evaluate primary crustal components and their distribution across the highlands. • Identify and evaluate concentrations of unusual/unexpected minerals. 	<p>Facilitate understanding of the processes that formed the Moon</p> <p>Develop awareness of the electromagnetic spectrum and the role of spectroscopy in science and exploration.</p>	<p>Geology of Earth-Moon system</p> <p>Properties of Lunar Materials</p>	
<p>Primary Exploration Goal</p> <ul style="list-style-type: none"> • Assess and map the Moon mineral resources at high spatial resolution to support planning for future, targeted missions. 	<p>Facilitate understanding of the potential for finding mineral resources on the Moon and their role in future human life support.</p>	<p>Lunar Resources</p>	



Alignment with the Educational Reform Standards



- M³ E/PO goals are closely linked to national educational content standards and science literacy benchmarks

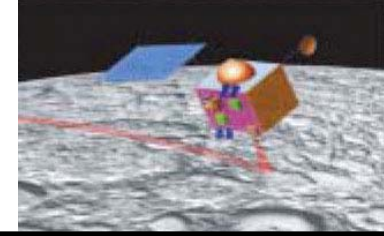
Strand	Standard	Example of Content Alignment	Grades
Geology of Earth Moon System	National Science / Math Education Standards	<p>Physical Science Content. Properties and changes in matter, structure and properties of matter.</p> <p>Life Science Content: Structure and function in living systems, matter energy and organization in living systems.</p>	K-12
Properties of Lunar Materials	National Science Education Standards	<p>Flow of Matter and Energy. Over a long time, matter is transferred from one organism to another repeatedly and between organisms and their physical environment, energy can change from one form to another in living things.</p>	5-12
Lunar Resources	National Educational Technology Standards	<p>The Nature of Technology. The nature and operation of technology to increase productivity, promote creativity, and solve problems.</p>	K-12

- The National Science Education Standards were published by the National Academy of Sciences in 1996.
- The Benchmarks for Scientific Literacy were published by the American Association for the Advancement of Science in 1993.
- The National Educational Technology Standards were published by the International Society for Technology in Education in 2002.





M³ Outreach



- Community talks
 - Media / TV / Radio
 - Popular publications
-
- Science & Engineering Team involved (~5%)



Indo-US Workshop on Joint Space Science Education