

NASA's BEST Activities

Beginning Engineering, Science and Technology

Curriculum for Engineering Clubs for Grades K-2, 3-5 & 6-8

Electronic Professional Development Series
Session 2

<http://userpages.umbc.edu/~hoban/BEST>

Delivered by Brittany Hamolia
University of Maryland, Baltimore County



Supported through NASA Exploration Systems Mission Directorate

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Today's Session

- Review NASA's BEST Activities
- Review Engineering Design Process (EDP)
- EDP Step 2: Imagine
- EDP Step 3: Plan

Materials required for today's session may be found on the web at
<http://userpages.umbc.edu/~hoban/BEST>



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NASA's BEST Activities

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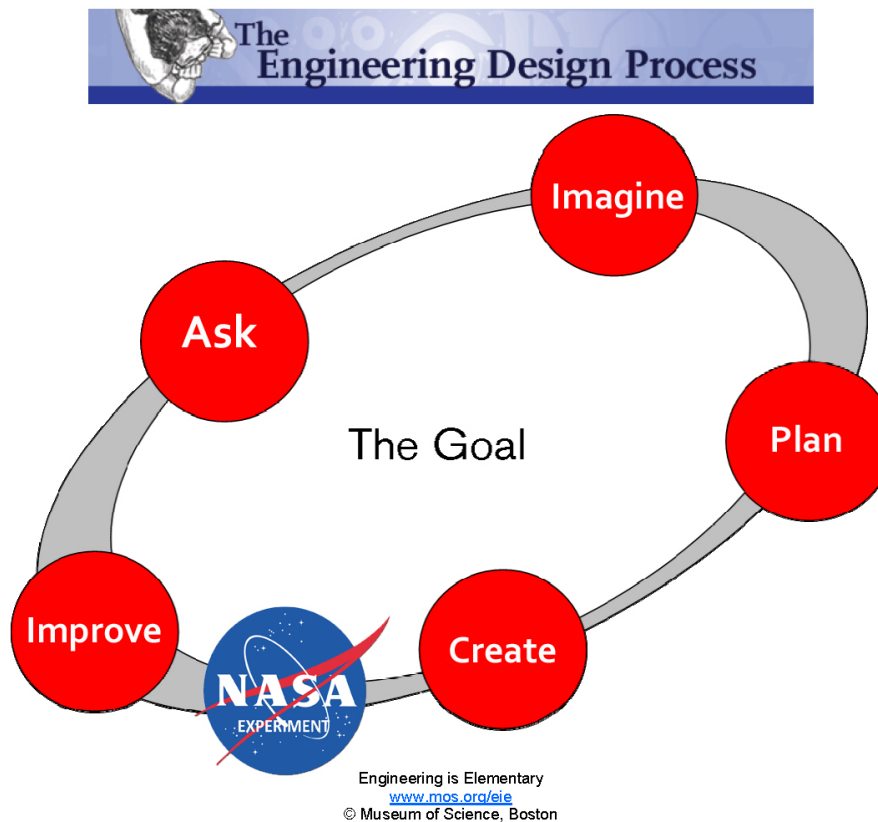
- 12 activities for each set of grade levels
 - K-2
 - 3-5
 - 6-8
- Lunar theme
 - NASA returns to the Moon with LRO, launch planned for April 2009
 - Planning for human exploration around 2020
- “The Journey Begins Now” - video

<http://userpages.umbc.edu/~hoban/ePD/videos/journey.wmv>



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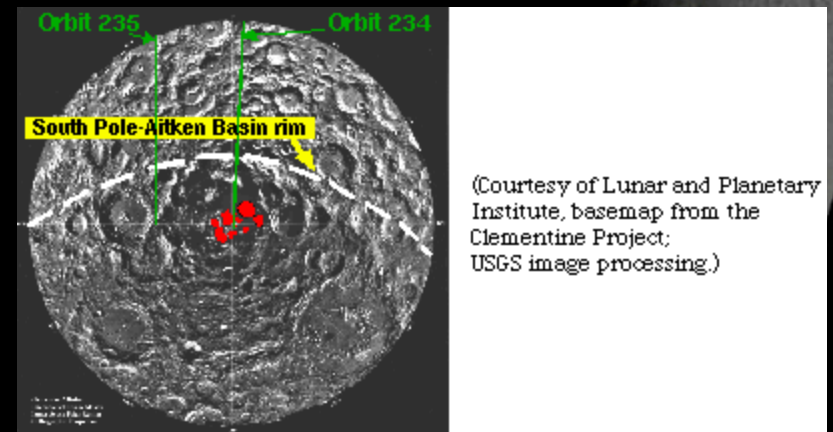
Review: Engineering Design Process



Review Context

Design and build a satellite to

- Orbit the Moon
- Take high resolution pictures for the purposes of:
 - Landing site selection
 - Search for Lunar Ice
 - Looking in dark places:
 - Permanently shadowed regions of craters at the poles

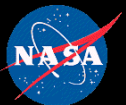


Engineering Design Process: Imagine

Video 3: Imagine

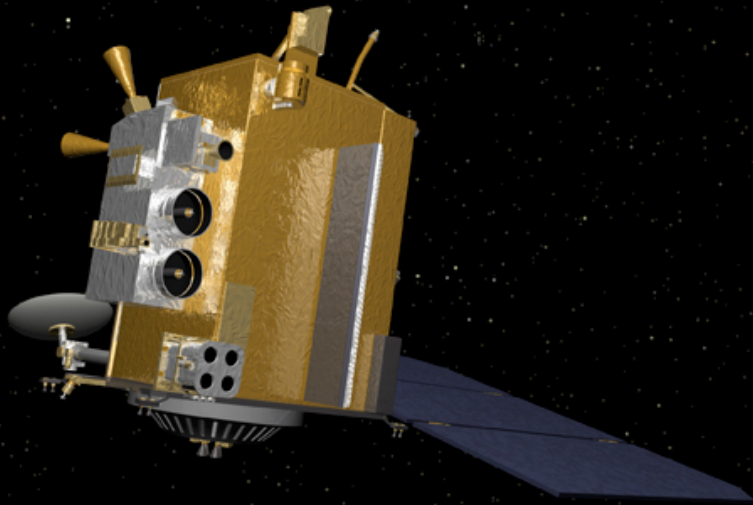
– http://userpages.umbc.edu/~hoban/BEST/ePD/videos/3-imagine_caption.mov

- Keep in mind that although the video talks about launching the satellite (Activity 2), you will also design and build it as in Activity 1.



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Imagine: Discussion



- Students have great imaginations
- Let them **soar!**
- Now it's your turn!
 - What instruments will you choose?
 - Why?
 - What considerations do you have in connecting the satellite to the rocket?



Materials

Review materials for this activity (Bring next week)

- For satellite
 - General building supplies (cotton, cardboard, glue, etc)
- For instruments
 - Individual pieces, we have used candies, coins
- For rocket assembly
 - Balloons, tape, etc.



Engineering Design Process: Plan

- **Video 4: Plan**

- http://userpages.umbc.edu/~hoban/BEST/ePD/videos/3-imagine_caption.mov

- Very important step
- What are some of the reasons why?
- Now it's your turn, start sketching!
 - Satellite with instruments
 - Rocket assembly



Next Session

- Email your sketches to Brittany.L.Hamolia@nasa.gov
- Bring materials for building
 - See list of materials



NASA's BEST Activities

Beginning Engineering, Science and Technology

- Project Information
 - susan.hoban@nasa.gov
- Electronic Professional Development
 - Brittany.L.Hamolia@nasa.gov
- BEST Materials
 - <http://userpages.umbc.edu/~hoban/BEST>



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