NASA's BEST Students

Beginning Engineering, Science and Technology

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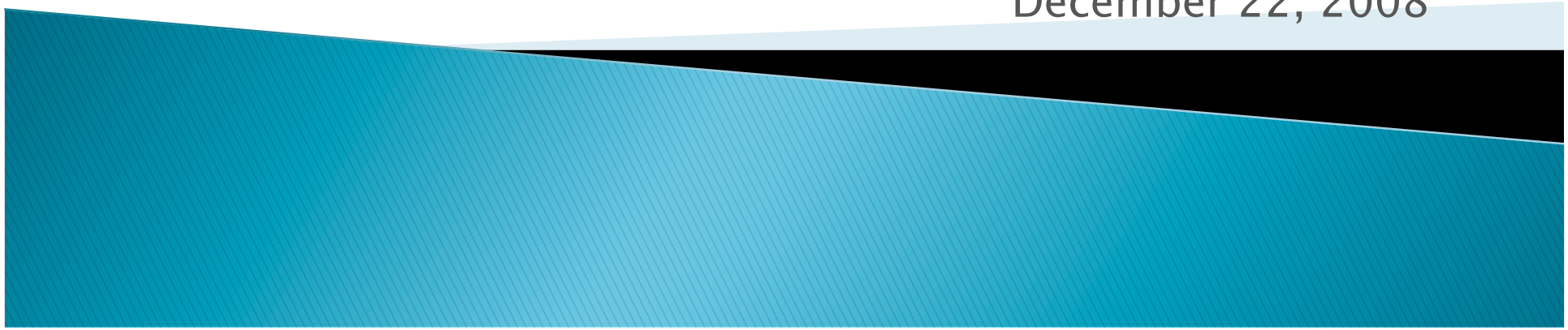


BEST Summary

- After school engineering clubs
- Lunar robotics summer bridge
- STEM Expo
- Engineering Challenge

Funded by Exploration Systems Education

After school engineering clubs

- Return to the Moon
- Pilot in FY08
  - 23 schools
  - > 300 students

- 12 week curriculum
  - Focus on Engineering Design Process
  - 3 levels: K-2, 3-5, 6-8
  - Currently in product review

Example activity

All activities include:

- Teacher pages
  - Materials list
  - NASA relevance
- Student worksheets
- Fun with Engineering at Home

Activity Title: Powered by the Sun!

Activity Objective(s): In this activity, teams will use data and graphs to determine the best components to use for a solar box cooker. They will design and build a box cooker, and test it out to see if it works well enough to make S'mores!

Grade Levels: 3 - 5

Process Skills: Experimental design, measuring, graphing, and data analysis.

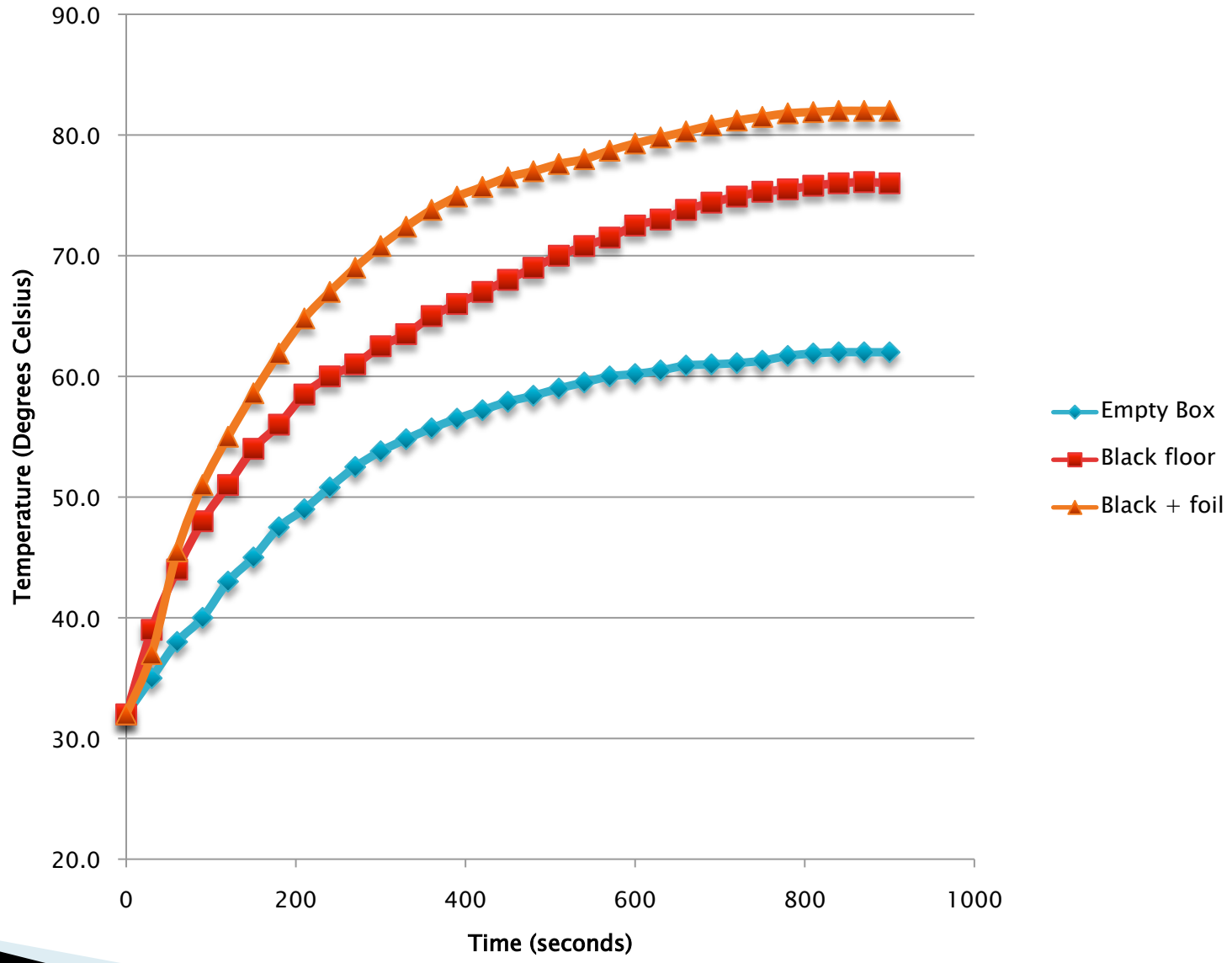
Lesson Duration: One 60 min session

A solar cooker heats up in the Sun!

Materials and Tools (per group of three students):

- Thermometer
- Timers
- Cardboard box
- Aluminum pans
- Aluminum foil
- Black construction paper
- One piece of plexiglass big enough to cover the box
- Sunshine, OR gooseneck lamp with 100 W bulb
- S'mores fixin's (graham crackers, marsh mellows and chocolate)

Effect of Design on Efficiency of Solar Oven



Professional development

Face-to-face during pilot

ePD for future

After school clubs, wrap

- Follow-on FY09-FY11
  - 12 additional activities
  - How-to videos for difficult activities
  - Dissemination
  - Evaluation
- What does a school get?
  - Curriculum, will be online in PDF
  - Multi-media recruitment package (more on this soon)
  - Electronic professional development
    - Four 1-hour sessions
    - One optional session on accessing NASA resources

Lunar Robotics Summer Bridge

Two week course, 8th and 9th graders

Used Lego Mindstorms

Robotics challenge:

Build a robot to search for Lunar Ice

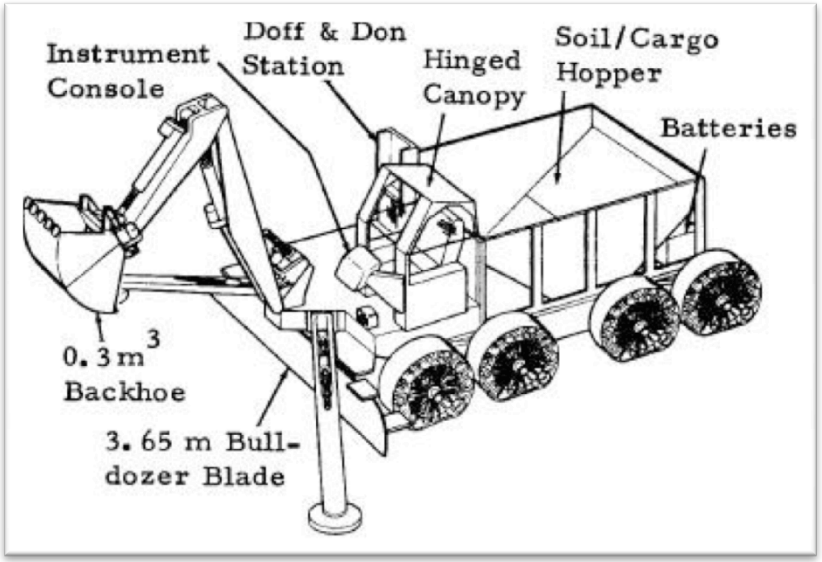
STEM Expo

- In celebration of NASA's 50th Anniversary
- NASA-UMBC STEM Expo at local middle school
- Astronaut Don Thomas
- 12 booths with hands-on activities
- Rockets, rockets, rockets
- Will produce How-To booklet


Ship!
CAPE CANAVERAL

Engineering challenge: Working on the Moon

- Under construction
- Likely test in 3 schools
  - Maryland
  - Darby, England
  - Bonn, Germany



- BEST Project will provide ePD and online content delivery (e.g. Search for Lunar Ice)

BEST Contact Information

- Always looking for collaboration!
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