



Near-Space Balloon Competition (NSBC)

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North Dakota Space Grant Consortium



Pop Quiz!

Which image was taken by
North Dakota students?



A



The background of the slide is a photograph of Earth taken from space. On the left side, a dark blue arc represents the Earth's horizon. To the right of this arc, the Earth's surface is visible, showing a mix of light blue oceans and tan/brown landmasses with some cloud cover.

Student Engineering Design Project

- NASA Project Life Cycle
- For 6th - 12th grade students
- Any ND school can apply
- September – January
- Maximum of 10 teams

- \$250 reimbursement per payload
- Lodging, travel, and meals covered

There is no cost to your school

Students become the scientists and engineers, reaching 100,000 feet

outer space

upper atmosphere

stratosphere

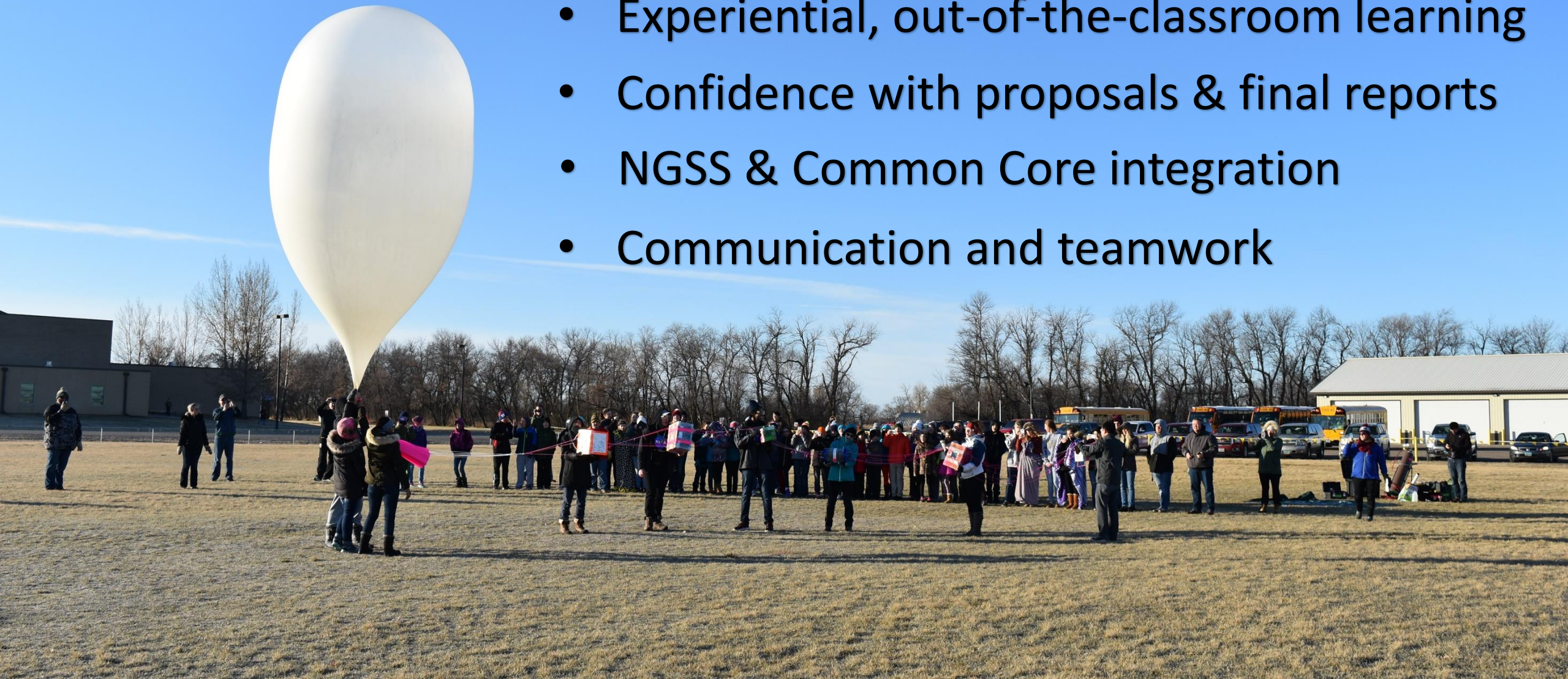
troposphere

limb

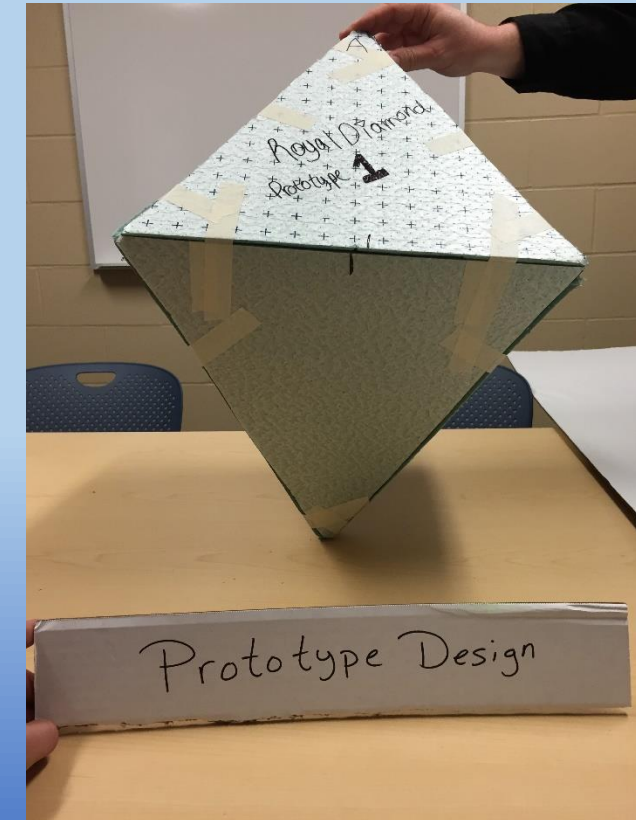
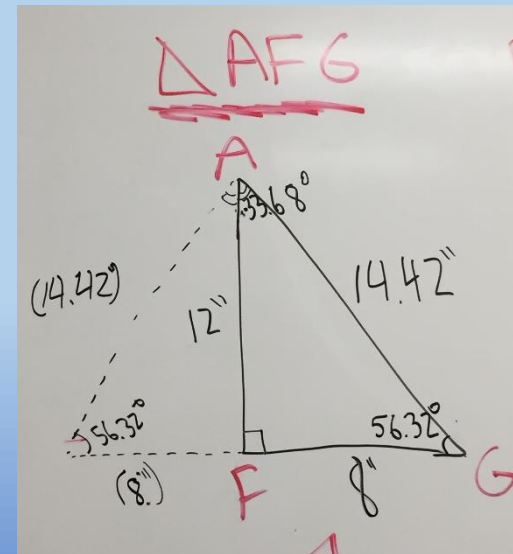
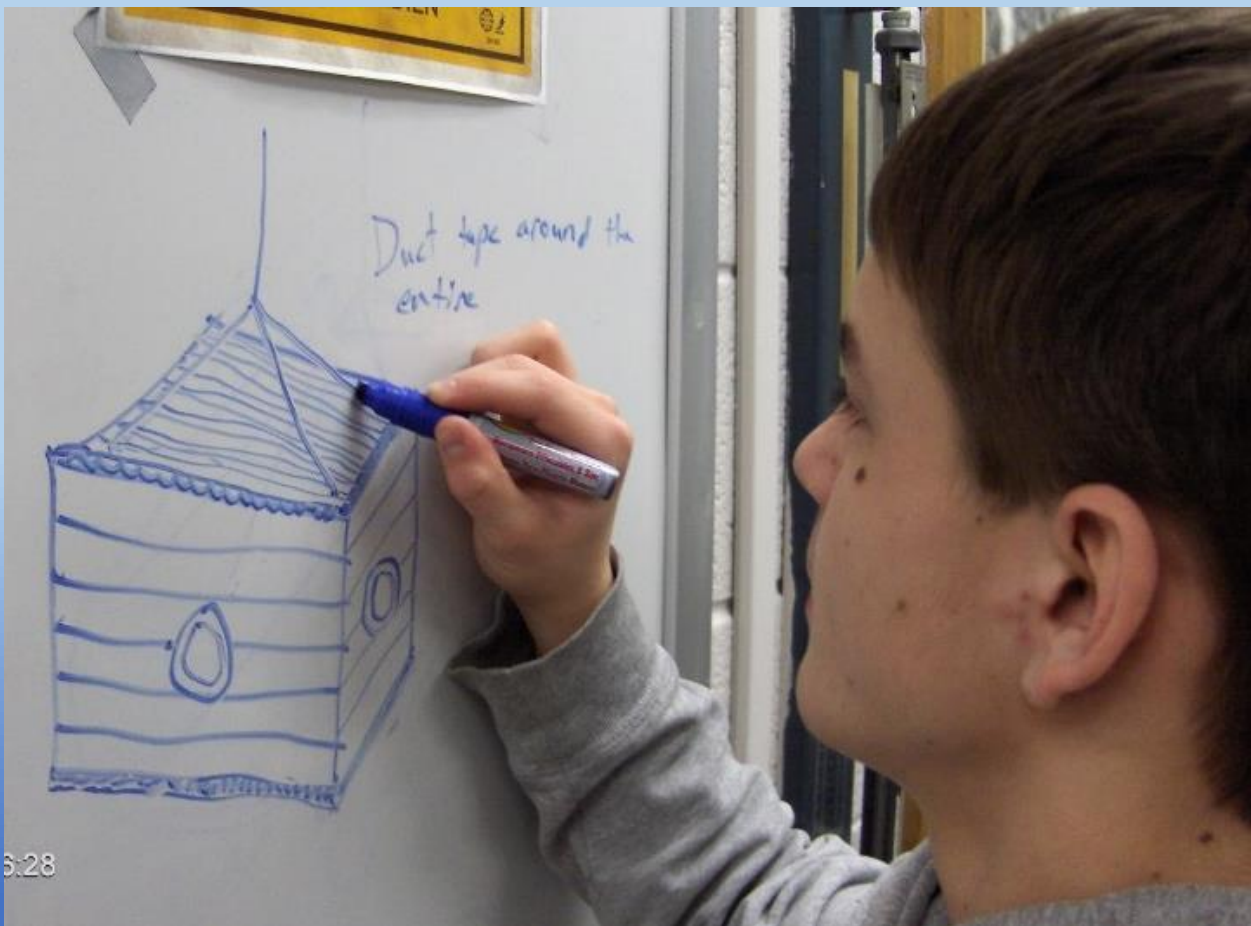
NASA image from the ISS; over the Indian Ocean

For educators:

- Interdisciplinary (not just STEM!)
- Hands-on inquiry
- Experiential, out-of-the-classroom learning
- Confidence with proposals & final reports
- NGSS & Common Core integration
- Communication and teamwork



Design and Construction



Kindred, 2014



Integration Night at UND

- Students present their experiments
- Get hands-on and prep a real launch
- 4:00 – 7:00 pm



Launch Day

Saturday before Thanksgiving

Students finalize and launch their experiments

Launching from various school football fields



Chase and Recovery

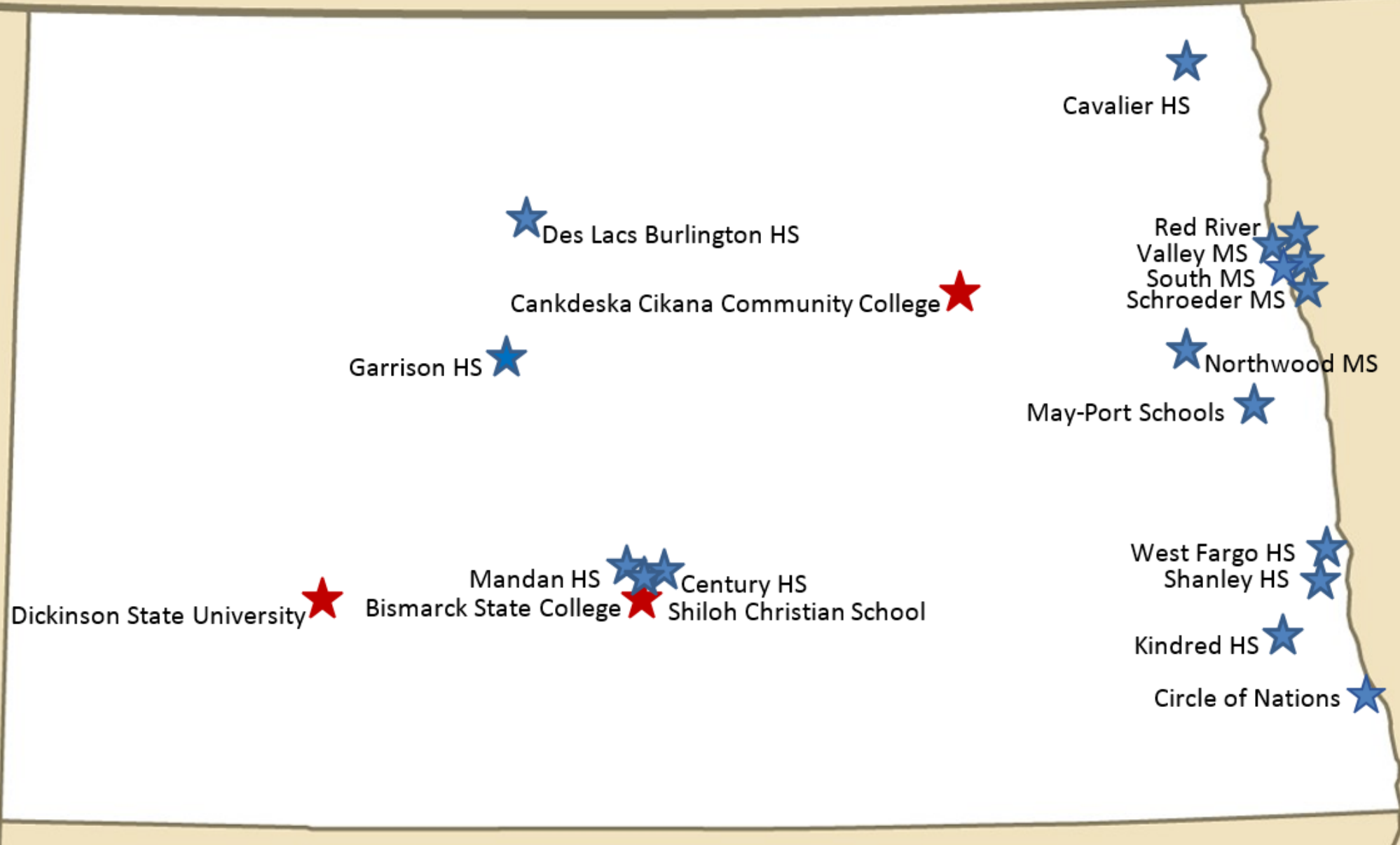
- Everyone tracks the balloon into NW Minnesota
- Real-time satellite GPS experience
- Students recover their experiments



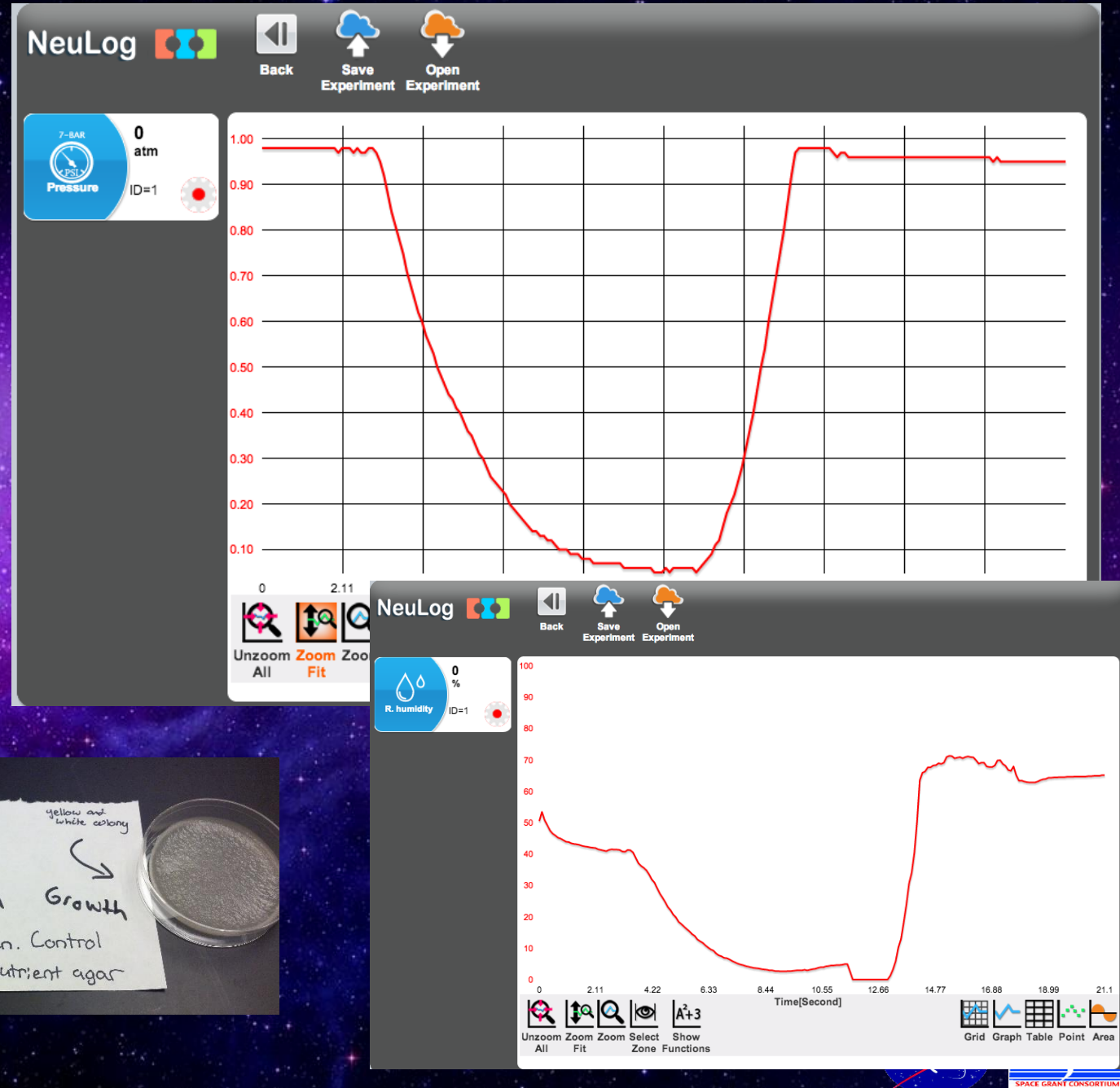
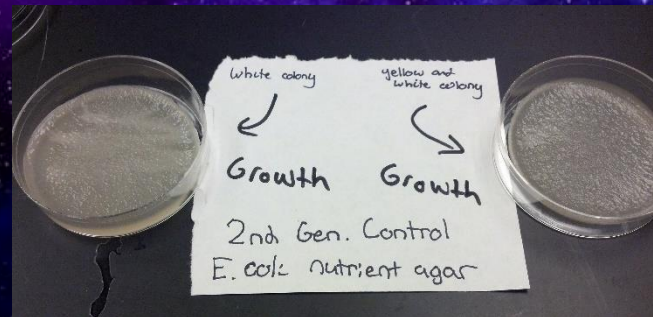
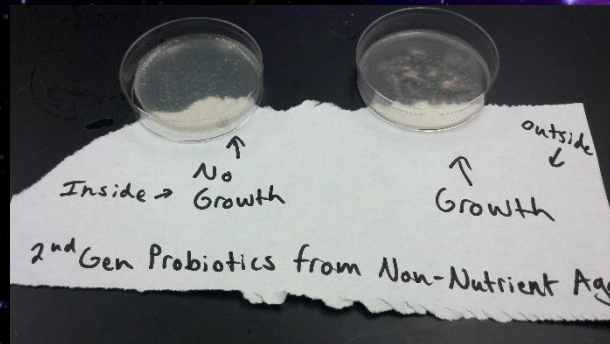
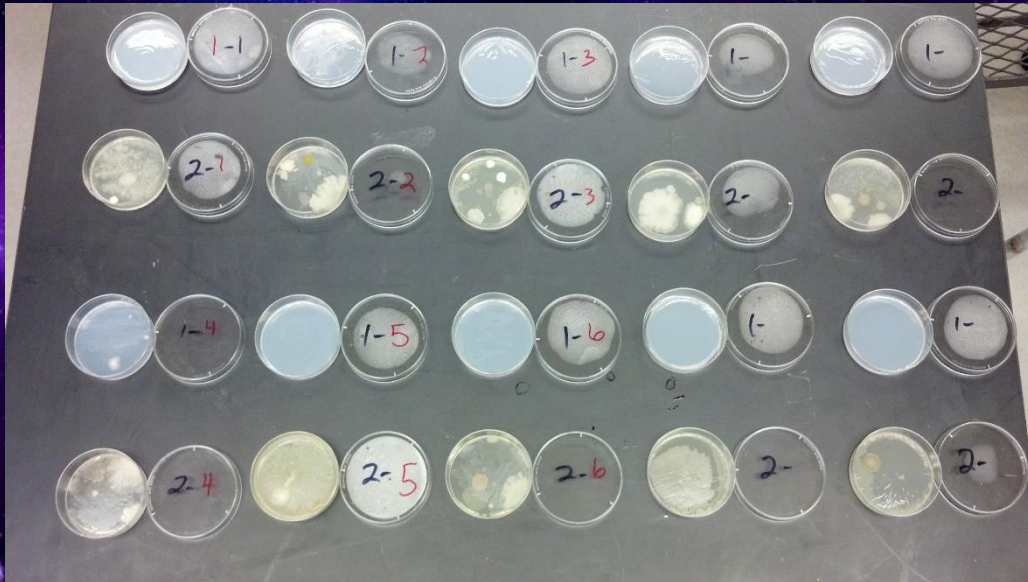
NSBC teams in ND

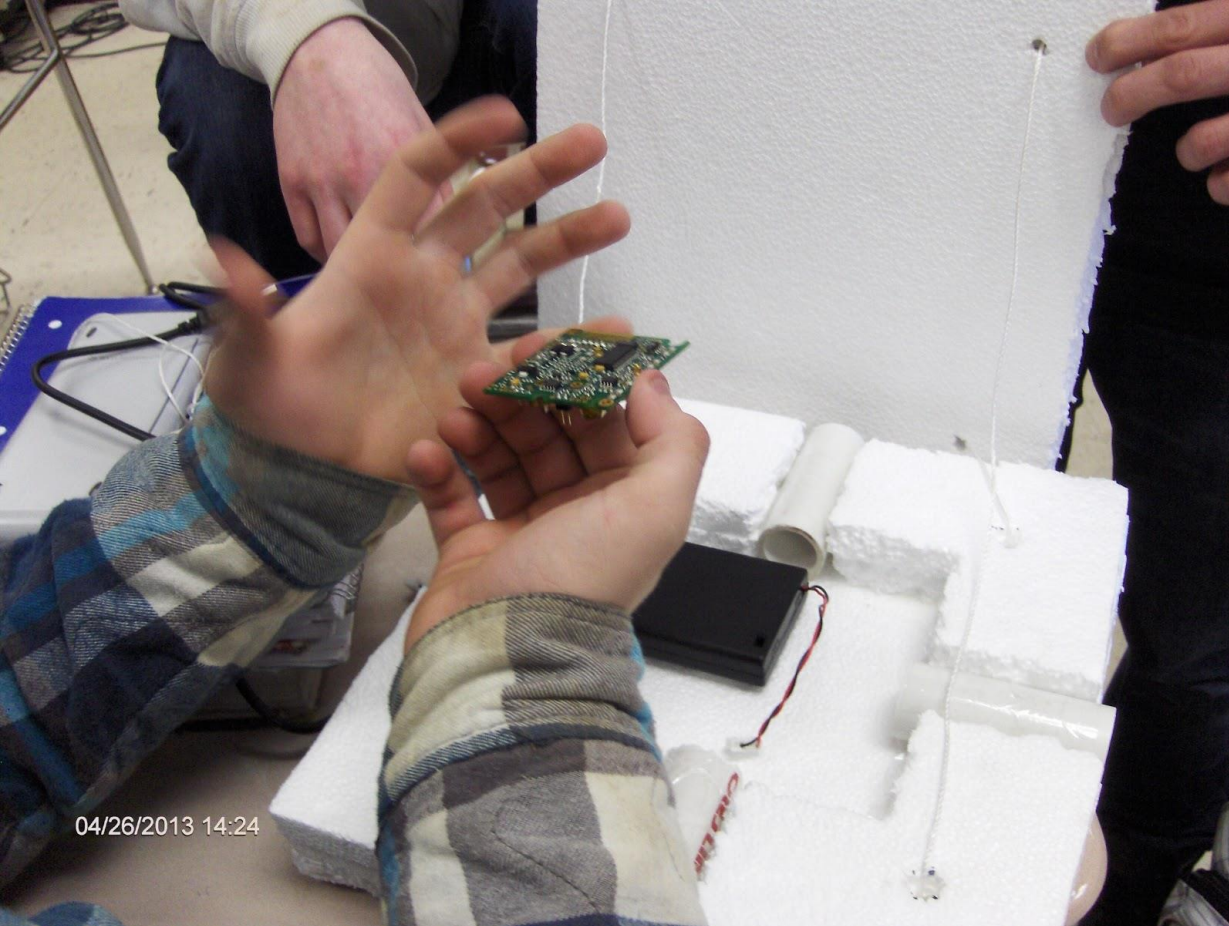
★ = University Involvement
★ = K-12 Involvement

2011-2018

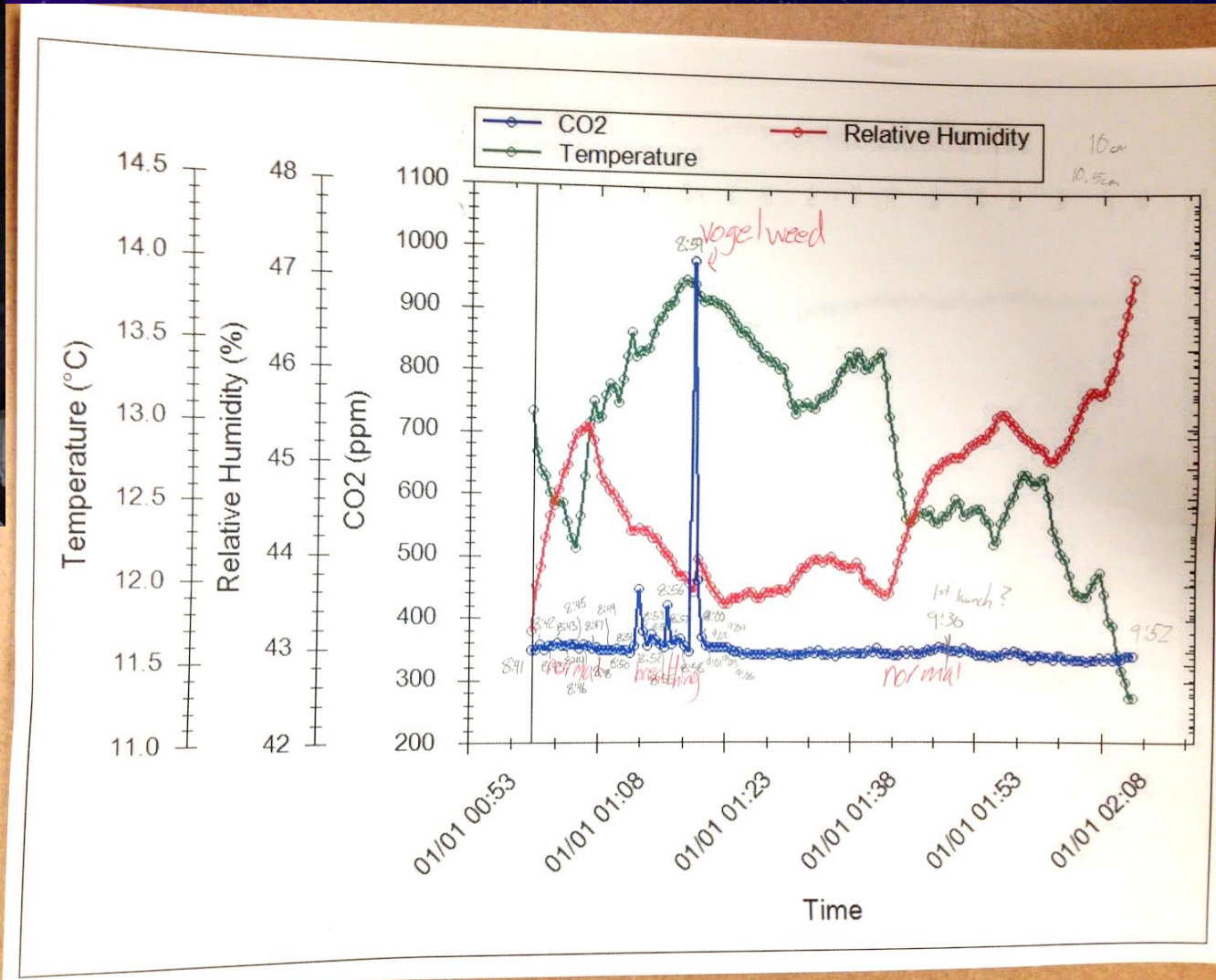


Final Report





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Awards Ceremony!

Teams have **one month** to submit a final report (January)

Online Awards Ceremony



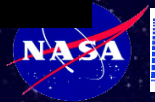
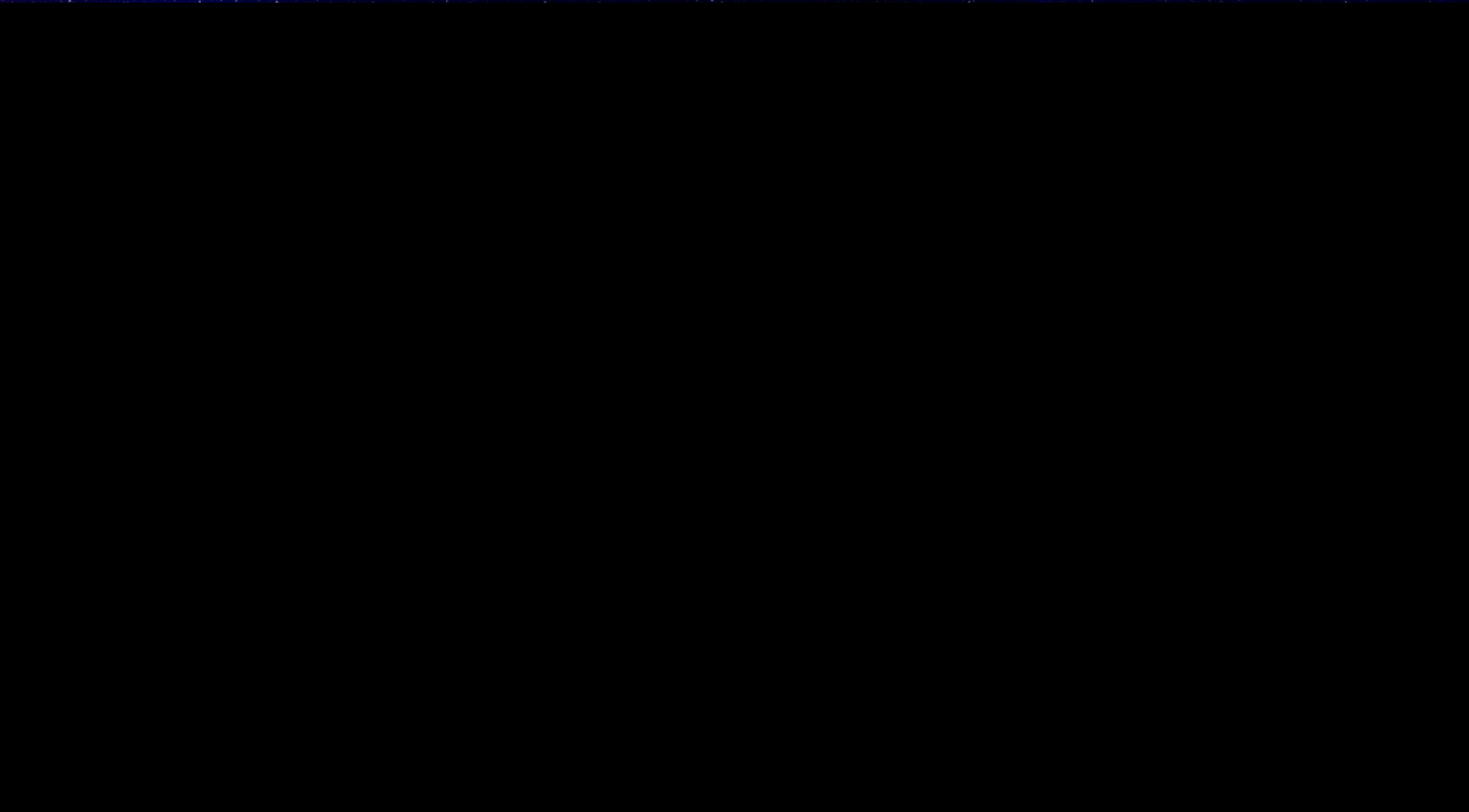


**STEM-related Field Trip,
Human Space Flight Laboratory
Tours, and others!**

...including some unique opportunities!



Kindred's NSBC student, Brianna, talking to astronaut Tim Kopra, while overhead on the ISS



Thank you!

The NSBC is a great way to get kids thinking outside the regular classroom curriculum. I enjoyed watching my kids get involved and take ownership in a project. They were enthusiastic through the entire process and learned a lot about near space and its effects on living systems. I would highly recommend this challenge to any educator who wants to get their kids involved.

-2018 NSBC Teacher



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