



NASA in the Classroom

STEM Activities and Incorporating Standards Teacher Workshop



University of North Dakota Campus
March 28 – 29, 2014

Friday March 28, 2014

[Day One Presentation](#)

[Teaching Strategies](#) (Including Numbered Heads – “Asteroids, Comets, Moons, Stars” groups)

11:00 – 11:15am Introduction and Workshop Logistics

11:15am – 1:00pm Moons of Jupiter Investigation

[Moons of Jupiter Presentation](#)

[Moons of Jupiter Instructions](#)

[MoJ Recording Sheet](#)

[MoJ Data Analysis](#)

[MoJ Data Analysis Answers](#)

[MoJ All 4 Moons Recorded Example](#)

1:00 – 1:45pm *Working Lunch*
Moons of Jupiter Investigation (cont.)

1:45 – 3:00pm Sorting the Solar System Activity

[Sorting the Solar System Instructions](#)

[Categories of Solar System Objects](#)

[Sorting the Solar System Object Cards Antiquity](#)

[Sorting the Solar System Object Cards Color](#)

[Pluto and the Planet Club](#)

3:00 – 3:15pm *Break*

3:15 – 4:00 Asteroids, Comets, Meteorites, and Dinosaurs
UND Professor Mike Gaffey (gaffey@space.edu)

Caitlin Nolby
cnolby@space.edu
701-777-4856

Angie Bartholomay
angela.bartholomay@dakotacollege.edu
701-228-5471





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4:00 – 4:30pm

Space Rocks! Impact Activity

[Crater Presentation](#)
[What Craters Tell Us](#)
[Impact Cratering Modified](#)

4:30 – 5:30pm

Human Spaceflight Laboratory Interactive Tour
*Aerospace Buildings
Space suits, habitat, rover, spacecraft simulators
UND Space Studies Graduate Student Assistants

[Human Spaceflight Laboratory Website](#)
[10 Day Mission Blog](#)

5:30 – 6:30pm

Working Dinner
Nature of Science and Next Generation Science Standards

[NGSS Matrix](#) (Sorted by Disciplinary Core Ideas and Topics)
[Overview and How to Read the NGSS](#)
[Principle Elements of Nature of Science – Dispelling Myths](#)
[NGSS Appendix H – Nature of Science](#)
[NGSS – Astronomy Topics](#)

6:30 – 8:00pm

Lesson Plan Selection for Modification
*Streibel Hall Computer Lab – Room 103
NASA Education Online Resources
Exploring the “Hands-on Universe DVD

[NASA Websites and Resources for Educators Presentation](#)
[NASA Websites and Resources for Educators PDF](#)

9:30 – 11:00pm

Night Sky Observation with Telescopes and iPads
*Outside Clifford Hall
***Weather Dependent*

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Saturday March 29, 2014

[Presentation Day Two](#) [Straw Rockets Activity](#)

8:30am *Light Continental Breakfast*

8:45 – 9:00am Wake up with a Pocket Solar System!

[Pocket Solar System Instructions](#)

9:00 – 9:45am Framework for K-12 Science Education

[Framework PDF](#) [Common Core and Framework Venn Diagram](#)

9:45 – 10:45am On Target! Activity

[On Target! Presentation](#) [On Target! Instructions](#)

10:45 – 11:00am *Break*

11:00am – 12:00pm Modification of Lesson Plans to align with Science Practices
and Nature of Science

[Implementation Guide](#) [NGSS Appendix F: Science and Engineering Practices](#) [Modifying Science Practice #1](#) [Cratering Activity Sample for Practice #1](#) [Modifying Science Practice #2](#) [Modifying Science Practice #3](#) [Cratering Activity Sample for Practice #3](#) [Modifying Science Practice #4](#) [Modifying Science Practice #5](#) [Modifying Science Practice #6](#)

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[Modifying Science Practice #7](#)
[Modifying Science Practice #8](#)

12:00 – 12:45pm *Working Lunch*
Sharing of Modified Lesson Plans

12:45 – 1:45pm Mission to the Moon Team Project

[Field Trip to the Moon Presentation](#)
[Field Trip to the Moon Educators Guide](#)

1:45 – 2:00pm *Break*

2:00 – 3:00pm Planetarium
*Skalicky Hall - 1st Floor Atrium
UND Professor Tim Young (tim.young@email.und.edu)

[Forces Activity](#)
[Moon Phases Activity](#)

3:00 – 3:30pm Reflections, Wrap-up, and Evaluations

[Space Rocks! Presentation](#)
[Space Rocks! Board Game](#)
[Space Rocks! Board Game – Large Size Game Spaces](#)
[Space Rocks! Board Game Instructions](#)

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UND AEROSPACE
UNIVERSITY OF NORTH DAKOTA