



**Raven Hill Discovery Center & NASA Glenn Research Center
Present Two Unique Days
of
Free Educator Workshops for Grades 3-12**

Tuesday, November 12, 2019

NASA STEM Workshop—Exploring the Biosphere

Registration Link: <https://www.eiseverywhere.com/461418>

and

Wednesday, November 13, 2019

NASA Picking up STEAM Workshop—Forward to the Moon

Registration Link: <https://www.eiseverywhere.com/470852>

Times: 8:30 am to 3:00 pm each day

Location: Raven Hill Discovery Center, East Jordan, MI – Lunch provided

Presented by: Susan Kohler

EPDC Education Specialist -NASA Glenn Research Center

**To register or if you have questions, please call 231.536.3369 or email info@miravenhill.org
Or use Registration Links above for individual workshops**

These are one-of-a-kind NASA workshops you will not want to miss! Each day of the workshop will cover different STEM (Science Technology Engineering Mathematics) activities

Registration ends Friday, November 9, 2019.

SPACE IS LIMITED, SO REGISTER TODAY for one or both workshops!

**Raven Hill Discovery Center—where science, history & art connect
4737 Fuller Road, East Jordan, MI 49727**

Raven Hill Discovery Center's programs & operations are supported in part by the Michigan Council for Arts and Cultural Affairs and the National Endowment for the Arts through an Operational Grant Award.



Tuesday, November 12

Objective: To provide awareness of N.A.S.A. educational resources and how to access them online to participating educators. This STEM workshop will guide participants through hands-on and inquiry based learning activities related to Expeditionary Skills, Problem Solving and Engineering Design.

Goal: Come to Raven Hill Discovery Center and experience a one-day workshop using NASA GLOBE resources to implement NGSS STEM and Problem Based Learning. Learn how to: Connect Trees to the Carbon Cycle; Collect Site Observations Data; Explore the land cover mapping and see the value of satellite-based mapping; Practice Citizen Science with GLOBE mobile apps; and Implement Inquiry learning with the NASA STEM resources to while acquiring, processing and reporting information.

Agenda

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| 8:30-9:00 | Registration! |
| 9:00-9:30 | Welcome--Let's get Organized (Team structure) |
| 9:30- 10:30 | Culturally Relevant Teaching (Let's Shake) |
| 10:30-11:30 | Communications and Problem Solving (Pipeline Challenge) |
| 11:30-12:00 | Constraints and Criteria: Building a Lunar Hotel |
| 12:00-12:30 | Lunch |
| 12:30-2:30 | Engineering Design Challenge: Mother Ship (Designing a vehicle to move from Water to Land to Space) |
| 2:30-3:00 | NASA Resources and Q&A |

Wednesday, November 13

Objective: To provide awareness of NASA educational resources and how to access them online to participating educators. This STEM workshop will guide participants through hands-on and inquiry based learning activities. Participants will be prepared to bring engineering and the adventure of space exploration to their students in the classroom.

Goal: Man first landed on the Moon in July of 1969. It's been 50 years since we first stepped foot on the lunar surface, but NASA and other space organizations around the world soon plan to usher in a new era of exploration—to the Moon and beyond. Use NASA resources to implement STEM and Problem Based Learning. Practice Engineering Design and explore STEM resources to build models while acquiring, processing and reporting information.

Agenda

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| 8:30-9:00 | Registration |
| 9:00-9:30 | Getting Organized- The Importance of Team Work |
| 9:30-10:30 | Apollo: What We Learned |
| 10:30-11:00 | Earth and Moon (Models of Size and Distance) |
| 11:00-12:00 | How will we get there? (Heavy Lifting Engineering Design Challenge) |
| 12:00-12:30 | Lunch |
| 12:30-1:30 | Orbiting the Moon (Invisible Force Challenge) |
| 1:30-2:00 | Moon Rocks |
| 2:00-3:00 | On the Moon –Moon Mining |

Presenter: NASA Glenn Research Center EPDC Education Specialist, Susan Kohler

Susan has more than 28 years of progressively responsible K-12 educational leadership experience. She has served as Asst. Principal, Principal, Curriculum Director, Math/Science Consultant and Asst. Superintendent. Susan taught science for 13 years at the high school level. Her expertise in STEM and professional development is combined with her knowledge of new technology trends and innovative instructional strategies. Susan holds a Master's in Education Administration from Bowling Green State College as well as a Bachelors degree of Science in Biology and Neuroscience from Ramapo College in New Jersey. She currently works for NASA as the Education Professional Development Specialist for Glenn Research Center in Cleveland Ohio.