



**Raven Hill Discovery Center & NASA Glenn Research Center  
Present Two Unique Days**

of

**Free Educator Workshops for Grades K-12**

**Picking up STEAM**

*Dates: Thursday, November 3, 2016*

**Wind Energy Engineering Design Challenges**

and

*Friday, November 4, 2016*

**Storm Warning!**

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

*Location: Raven Hill Discovery Center – 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@RavenHillDiscoveryCenter.org](mailto:info@RavenHillDiscoveryCenter.org)

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 Monday, October 31, 2016.***

***SCECHS available, pending approval.***

**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**

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## Thursday, November 3

**Objective:** This STEM workshop will guide participants through hands-on and inquiry based learning activities related to Newton's laws and the Engineering Design process. Educators will complete force and motion problems by designing wind powered kites and cars.

**Goal:** Participating educators will be able to use what they have learned at this workshop to engage their students in the problem based learning, solving STEM challenges through the use of inquiry based science activities from the NASA curriculum guides. The activities and N.A.S.A. educational websites introduced will provide the educators new curriculum ideas to assist in reaching the NGSS and CORE learning outcomes standards.

8:30 a.m. – 9:00 a.m.	Registration
9:00 a.m. - 9:30 a.m.	Introduction & Welcome-Let's get organized
9:30 a.m. - 10:30 a.m.	Kites
10:30 a.m. – 11:30 a.m.	Air Powered Cars (Compressed Air)
11:30 a.m. – 12:00 p.m.	Lunch
12:00 p.m. -1:00 p.m.	Sail Powered Race Car Kites
1:00 p.m. - 3:00 p.m.	Wind Power Challenge: Different types of Turbines

## Friday, November 4

**Objective:** This STEAM workshop will guide participants through hands-on and inquiry based learning activities related to Climate Change and Earth's Systems. Educators will use authentic real time data sets and engineering design challenges in problem based lessons.

**Goal:** Participating educators will be able to use what they have learned at this workshop to engage their students in the problem based learning, solving STEM challenges through the use of inquiry based science activities from the NASA curriculum guides. The activities and N.A.S.A. educational websites introduced will provide the educators new curriculum ideas to assist in reaching the NGSS and CORE learning outcomes standards.

8:30 a.m. – 9:00 a.m.	Registration
9:00 a.m. – 9:30 a.m.	Introduction & Welcome-Let's get organized
9:30 a.m. - 10:30 a.m.	Consequences of Climate Change (Droughts & Floods)
10:30 a.m. – 11:30 a.m.	Erosion and Landslides
11:30 a.m. – 12:00 p.m.	Lunch
12:00 p.m. -1:00 p.m.	Building for a Hurricane
1:00 p.m. - 3:00 p.m.	Making Better Predictions: Engineering a Satellite

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

Susan has more than 26 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.