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K-16 STEM in the NEWS

Exciting New Renovations for STEM Learning Classroom in Shelby County

The Shelby County Educational Service Center (ESC) recently renovated a classroom at Sidney High School. This classroom, run by the ESC, is part of a STEM program entitled **SEED** (Science Engineering Enrichment and Discovery), which provides educational services to at-risk youth and high-ability students who attend a special STEM class after the traditional school day. The classroom serves students from each of the eight Shelby County school districts. At-risk and high-ability students are paired together to research and complete Capstone Projects. The at-risk students in this class are in danger of not completing their high school education. The high-ability students can focus on an area they feel passionate about as they are paired with the at-risk students, dynamic educators, and real-world mentors. "**SEED** is a successful program due entirely to our great supporters and advisors," explained Grants Coordinator Sybil Truster. The Sidney High School classroom was converted to a STEM classroom with advanced technologies and lab construction for 21st Century education. Parents, students, and community volunteers alongside employees from Lowe's and

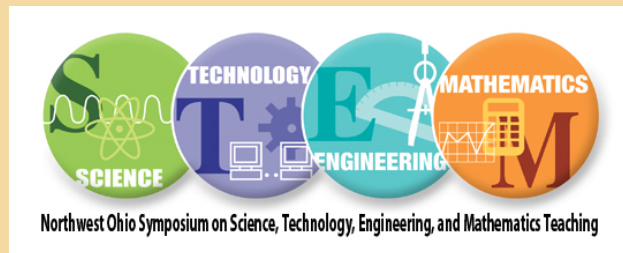


Cargill Corporation completed the work on this redesigned room. All funds to complete the project were provided by donations and grants. ([read more](#))

Community STEM in the NEWS

9th Annual NWO Symposium on Science, Technology, Engineering, and Mathematics Teaching

Administrators, preK-12 teachers, college faculty, and pre-service teachers are invited to attend the **9th Annual NWO Symposium on Science, Technology, Engineering, and Mathematics Teaching** on Saturday, November 5, 2011 at Penta Career Center near Perrysburg, Ohio.



The event takes place from **8:00 am to 4:00 pm** and offers educators some 70 presentation options on topics including *FAST: Formative Assessment Strategies*, *Tips to Notebooking: Preparing Students for the 21st Century*, and *Out With the Old; In With the New Ohio Science Content Standards*. At the event, attendees may engage in numerous professional development sessions, visit the exhibit area to learn about local educational resources, and enjoy a memorable keynote by **Dr. Gene Poor**. The online registration fee for participants is \$15 for undergraduate students and \$35 for all others. Refreshments, lunch, and conference materials are included in the cost of registration. Eight contact hours will be awarded to participants who complete the day's events and participate in a feedback survey. To register online, visit www.nwocenter.org/nwoSymposium/AttendeeReg.htm. ([read more](#))

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STEM Opportunities

NWO STEM Education Inquiry Series - October 20, 2011 from 5:00 to 8:00 pm

This month Dr. Debra Gallagher from Ohio Northern University will be presenting on *Formative Assessment and Understanding the Newly Revised State Standards in Math and Science*. The cost is only \$15 (\$10 for undergraduates) and includes refreshments and materials. The online registration deadline is October 13. Participants may register onsite at Rossford High School on

the day of the event. The topic for next month's opportunity on December 1 will be *What Is Inquiry and How Do I Use It In My Classroom?* For more details, visit: www.nwocenter.org/inquiryseries/index.htm.



Highlights of the contest are:

- Over **\$14,000** in prizes will be awarded
- Contest open to students in Grades 5-8
- Two divisions: Arts & Leisure and Science & Engineering
- Entry deadline is **April 2, 2012**

New Teacher Contest

- Develop and submit a lesson plan and you could win **\$250** and a collection of resources for your classroom!

Visit the 4th Annual Rubber Band Contest website for official contest rules, entry forms, and more information: www.rubberbandcontest.org. The Rubber Band Contest is hosted by the [Akron Global Polymer Academy](#) at [The University of Akron](#).

Apply Today for the NASA Endeavor Science Teaching Certificate Project!

NASA Endeavor is an approximately 18-month *online* fellowship program in which Fellows earn 15 graduate credits and a Certificate in STEM Education from Teachers College, Columbia University. Endeavor Fellows take five blended (live and asynchronous) online courses in STEM content and pedagogy, and become part of a prestigious network of STEM-oriented educators from across the

country. In-service and pre-service applications are being accepted now until October 31. For more information and how to apply, please visit: www.us-satellite.net/endeavor/about.cfm.

Challenger Learning Center Mission and Outreach Opportunity!

Challenger Learning Center of Lucas County (CLC) is offering a special fall rate to educators on your CLC mission experience. If you schedule and "fly" your mission on or before December 15, you will receive a \$150 discount off the normal fee.



- Early Bird Discount Rate: \$450 for trained teachers, \$550 for non-trained teachers (by December 15, 2011, while space is available)
- Base Rate: \$600 for trained teachers, \$700 for non-trained teachers (after December 15, 2011)

This is a great time for you to reserve your mission date for this year, giving you the best selection. Space is limited. Call Stephanie Versellie at 419-698-1501 to reserve the date(s). The sooner you call, the easier it will be to accommodate your request! For more information visit:

<http://www.lucas.k12.oh.us>.

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NWO Hands-On STEM Activity

A Bushel of Fun - An Autumn Apple Math Activity

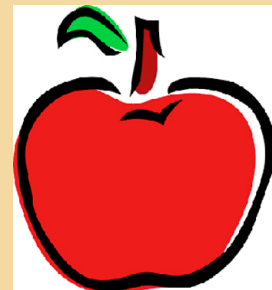
For Grades K-3


What you need:

Teacher:

- 2 bushel baskets
- 110 apples

Each Student Pair:



- 
- 4" x 6" white card
 - 4" x 6" blue card
 - Scrap paper
 - Marker

What you do:

Starter Activity

1. Show the class an empty bushel basket and one apple. Ask students to guess how many apples are in a bushel.
2. Divide the class into pairs and have the students discuss their guesses with a partner. Each pair should write their guesses on the white 4" x 6" card.
3. Have the pairs of students tape their cards with their guesses on the chalkboard, whiteboard, or wall.
4. Give students a few minutes to analyze the guesses as to the smallest guess and largest guess.
5. As a class, order the guesses from smallest to largest. Have students find the range of the guesses and determine the "average guess" of most of the students.
6. Next, the teacher will place twenty apples into the bushel basket. Students will now use this as a point of reference or a benchmark in order to make a new estimate of the number of apples in a bushel.
7. Students work in pairs again to make an estimate, and write their estimate on a blue 4" x 6" card.

Download a pdf of the complete hands-on activity by [clicking here!](#)

*This lesson is adopted from **PBS MATHLINE® ESMP - An Apple A Day Lesson Guide**
For cross-curricular ideas, worksheets, and extensions visit: <http://www.pbs.org/mathline>*

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STEM Education Updates

Thank you for your support of NWO, our programs, our activities, and our partners. Please send us updates, press releases, and news of STEM happenings at your school, district, or organization. Please submit to nwo@bgsu.edu. We are always looking for great STEM education stories to feature in upcoming newsletters.

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**And please visit our new STEM clearinghouse,
nwostemresources.org, for more STEM activities,
programs, and information.**

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