

2015



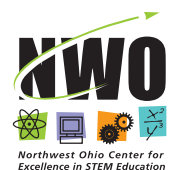
Science, Technology, Engineering, and Mathematics

ANNUAL REPORT



Prepared by the Northwest Ohio Center for Excellence in STEM Education

BGSU



We wish to thank the following for their support of the 2015 STEM in the Park!

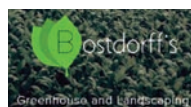
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What is STEM in the Park?

STEM in the Park is a free community event coordinated by the Northwest Ohio Center for Excellence in STEM Education (NWO) at Bowling Green State University (BGSU) that was created to engage people of all ages in the STEM (Science, Technology, Engineering, and Mathematics) fields. With a mission to advance STEM education for people of all ages, NWO annually presents this enriching, hands-on inquiry event to thousands of participants from northwest Ohio and beyond.

The ultimate goals of STEM in the Park are to improve attendees' knowledge and interest in STEM and STEM careers and to increase attendees' awareness of STEM-related organizations and events in our community. STEM in the Park features more than 100 interactive STEM activities facilitated by higher education institutions, pre-K-12 educational agencies, community non-profit organizations, and local businesses. People attending the event enjoy free lunch and nutritious snacks and can visit as many STEM activity stations as they desire. The event operates based on the generosity and talent of STEM professionals, businesses, and organizations in northwest Ohio.

The significance of STEM in our daily lives is easy to see: the complex systems of human interaction demands creativity and innovation to solve the important social, economic, health, and environmental problems we face everyday. STEM is an essential part of that problem-solving process, and is therefore more important than ever as we continue to face greater and more complex problems. STEM in the Park seeks to contribute to STEM education by providing opportunities for children and adults to explore the many aspects and applications of STEM in their lives.

The sixth annual STEM in the Park event was held at the Perry Field House on the campus of BGSU on Saturday, September 26, 2015. The attendance again increased from the previous year, with a total of 4,373 attendees, exhibitors, and volunteers/staff.



2015 STEM in the Park by the Numbers

Total Participants: **4,373**

Expected 2016
Attendance: **4,500**

Hot Meals Served: **4,200**

Activities: **144**

Event Volunteers: **101**

Sponsors: **35**
(Corporate, BGSU, In-Kind)



The 2015 STEM in the Park event was presented by BGSU, BP, Emerson Chemical Technologies, First Solar, Lubrizol Foundation, and Verizon with community support from Hanson Digital Agency, John Deere, NWO, Perrysburg Rotary, Spectra Group, Thayer Family Dealership, and Wal-Mart and general support from Bowling Green Community Foundation, Cooper Tire, Dura Magnetics, K12, Kroger, and SSOE. In-kind donations were provided by Biggby Coffee, Bostdorff's Greenhouse, Carolina Biological, Costco, Hampton Inn, and Tony Packo's.

Who Comes to STEM in the Park?

A total of 4,373 people (including volunteers and exhibitors) attended STEM in the Park in 2015, which is 795 more (about an 18% increase) than the previous year's attendance. The growth in attendance at STEM in the Park has been staggering since its inception in 2010. Attendance has increased by an average of 20% each year, and this year's attendance was almost three times the attendance than at the first event. The table below displays the attendance information at STEM in the Park from 2010 to 2015.



STEM in the Park Attendance from 2010 to 2015

STEM in the Park attendance	2010	2011	2012	2013	2014	2015
Total Attendance	1,614	1,711	2,681	3,287	3,850	4,373



“This was our first time and I was amazed at how big it was! I have never heard of it before and only found out this year from a friend on Facebook. I'm an engineer and my kids love STEM so we love these types of events. This is the best we've been to.”

“This was the best year ever for us. Everything was VERY organized even the lunch! We really had a great time and simply can not thank you enough.”



As part of our mission, we also strive to stimulate the interest of young people from underrepresented groups in the rewarding fields of STEM study and career opportunities. Thus, we remain committed to increasing attendance among low-income and at-risk children and, for the third consecutive year, have provided transportation grants to and from the event for groups of students from inner city schools and organizations where transportation is the primary barrier for attending the event. For 2015, we provided transportation to students from Toledo Public, Sandusky City, Otsego and Lima School Districts, as well as the Adelante Community Center in Toledo. The STEM in the Park staff is committed to expand the transportation grant program. The demographic information collected from the registration and evaluation survey are presented in the figures below.

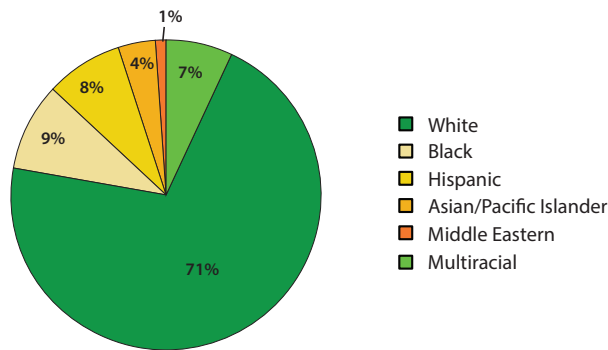
STEM in the Park Activity Highlight



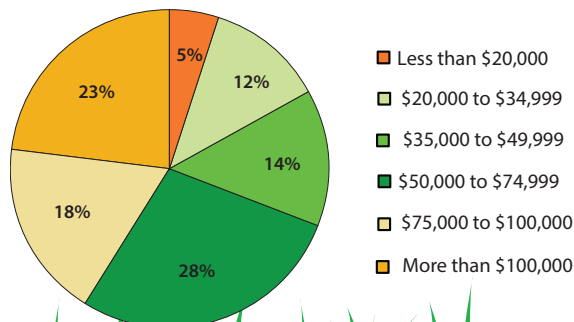
Reptiles are 'cool'

This activity station, facilitated by the BGSU Department of Biological Sciences Herpetology Lab, was the most frequently mentioned favorite among attendees who completed the evaluation survey. Attendees visiting this station had the opportunity to observe, explore, and interact with more than two-dozen different species of reptiles, under the guidance and supervision of several BGSU students who volunteer in the herpetology lab. Some of the reptiles at this station included crested geckos, bearded dragons, corn snakes, Kenyan sand boas, and a six and a half foot long albino boa constrictor!

Ethnicity Identity of Children Attending STEM in the Park (n=1,670)



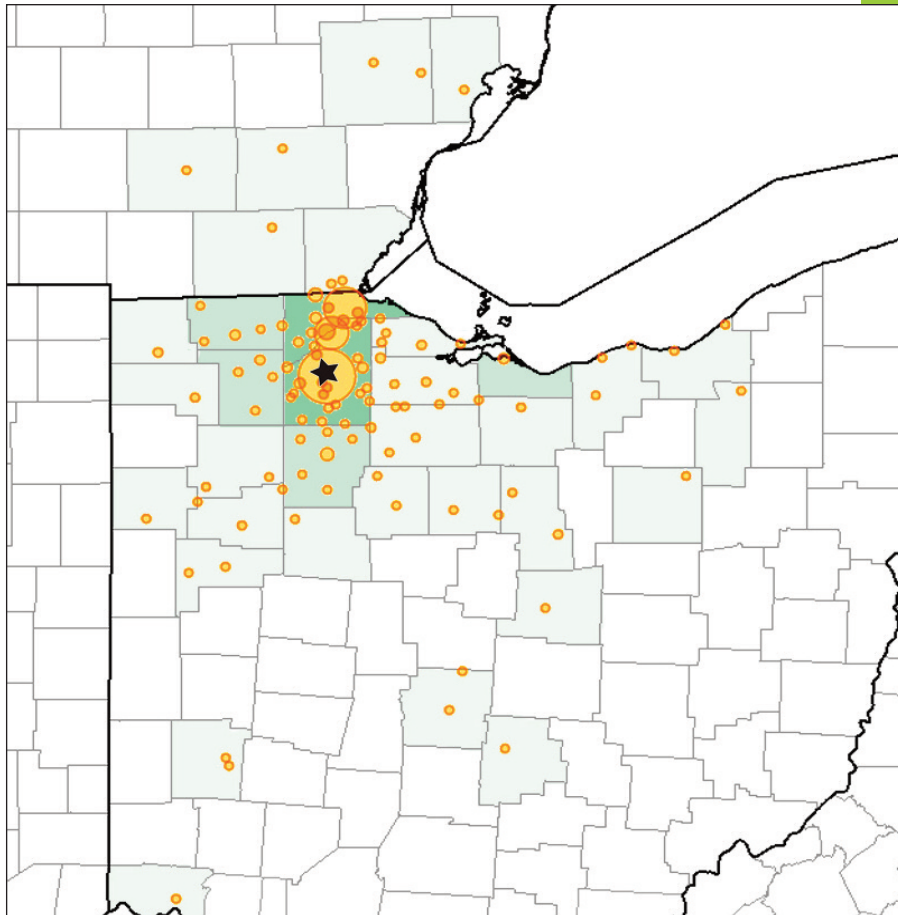
Annual Household Income for Families Attending STEM in the Park (n=357)





Where Are The Families Coming From?

This year, word about STEM in the Park reached more cities and towns in Ohio and Michigan than in the past. Families from 104 different cities and towns (in 35 different counties) in Ohio and Michigan attended STEM in the Park. Most attendees were from northwest Ohio, mainly Bowling Green, Toledo, and Perrysburg. Some families also came from the Columbus and Cincinnati areas as well as from several cities and towns in southeast Michigan. The map below illustrates the locations from which attendees traveled to STEM in the Park.



1-10
 11-50
 51-100
 101-500
 501-1000
 1001-1500

★ STEM in the Park (Bowling Green, OH)

Note: The size of a circle corresponds to the number of attendees from a particular city/town

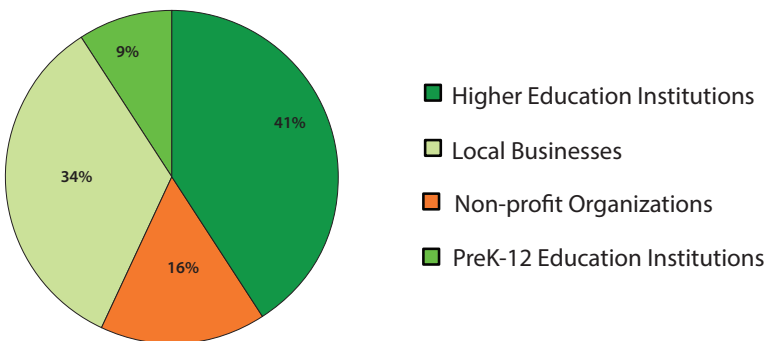
“My kids are 6 and 4 and had a blast! From the great meal to making ice cream they were able to find enjoyment in everything they did. We loved how easy it was to find parking and get in and out of the building and how friendly all the people there were. We will be sure to come back again next year.”

STEM in the Park Activity Highlight

What Do People Do at STEM in the Park?

This year, STEM in the Park featured 144 STEM activities that were facilitated by local exhibitors from private businesses, non-profit organizations, pre-K-12 institutions, and institutions of higher education. All activity stations included hands-on activities and games, and provided attendees with opportunities to observe and interact with several kinds of artifacts, animals, animal coverings, earth materials, and technology. Many of the activity stations included “make-and-take” activities that resulted in products attendees could take with them. Some of the make-and-take products included ice cream, butterfly larvae necklaces, personalized concrete paving stones, “flubber”, and paper skeletons. In addition, many activity stations provided attendees with take home activity cards, which could also be accessed online after the event (at <http://cosmos.bgsu.edu/STEMinPark/activitycards.htm>). The cards included directions and an explanation for an activity that would allow the attendees to extend their STEM discovery at home after the event. The figure below illustrates the percentage of activity stations facilitated by each type of exhibitor.

2015 STEM in the Park Exhibitors



The following three pages highlight the map that visitors received at the event to assist in the navigation of the exhibitors and their activity stations.



Butterfly Larva Necklaces

This activity station, facilitated by the BGSU School of Teaching and Learning Adolescent and Young Adult Program, was the second most frequently mentioned favorite activity among attendees who completed the evaluation survey. Children visiting this station built a caterpillar habitat in a small container, which they wore around their neck for the rest of the event and then took home with them. Children were given instructions for taking care of their caterpillar at home as it formed a chrysalis. Weeks after the event, hundreds of butterflies emerged from their chrysalises in hundreds of homes and released in the environment in northwest Ohio and southeast Michigan!



Map visitors used at the event

Science, Technology, Engineering, and Mathematics

Let's get trending @NWOSTEM
Include #GetyourSTEMon
on all of your posts!

Please take five minutes to tell us what you thought of STEM in the Park.

Visit: <https://www.surveymonkey.com/r/STEMinthePark>

to take a short survey and be entered into a raffle to win a \$100 Amazon.com gift card! 3 winners will be chosen.

Lost Children
Parents and Guardians, let children know to head to the PURPLE BALLOONS in the center of the courts if they get separated from their group.

Dining Area
Lunch catered by Tony Packo's (while supplies last)

Entrances: Main Entrance, Exhibitor & Visitor Registration, Nurse Station, Entrance to Green Zone (Turf Room)

Other: Long Jump Pit, Roots2STEM PreK-2 Zone, Pappone/Healthy Snacks, Complimentary coffee provided to attendees (8AM - 4PM)

Warning: No food or drink allowed in Turf Room

Indoor STEM Stage Schedule:

- 10:30am - Zooper Challenge
- 11:00am - Imagination Station Ballplosion
- 11:30am - Zooper Challenge
- 12:00pm - Imagination Station Crush A Barrel
- 12:30am - Zooper Challenge
- 1:00pm - Imagination Station Giant Cloud
- 1:30pm - Imagination Station Bed of Nails

Outdoor Performance Schedule:

- 10:00am-12:00pm - Toledo Schools for the Arts Steel Drum Band
- 12:30pm - Ten40Acappella
- 1:00pm - Acouschicks
- 1:30pm - Not Yet Perfect

Green Zone

Science & Technology of Digital Media Zone

Science of Sports Zone

Entrances: ENTRANCE, ENTRANCE, Rexie the T-Rex, STEM Stage



ZONE	ACTIVITY PROVIDER	ACTIVITY STATION
Blue	American Chemical Society Toledo Local Section	Chemistry Colors Our World
Blue	BGSU Chemistry Club, ACS-SA	Ice Cream Science
Blue	BGSU Department of Geology	Fun with Fossils! Weathering and Soils
Blue	BGSU Department of Physics & Astronomy	Bubbles: Phun with Physics
Blue	Bowling Green Council of Teachers of Mathematics (BGCTM)	Hopscotch and Math Gaming
Blue	Crazy Craig	An Amazing Unicycle Juggling Balancing Act!
Blue	Hanson Inc.	Hands-On iPad Art
Blue	Imagination Station	Slimey Science
Blue	Lubrizol & the BiG Fab Lab	Break-n-Make Center
Blue	Rita the Balloon Lady	STEM Themed Balloons
Blue	Saturn V Education	3-2-1 Pop!
Blue	The University of Findlay Biology Department	Living Fossils
Blue	The University of Findlay College of Education	Tracks in the Wild: Crime Scene Investigation
Blue	Toledo Museum of Art	Color Kinetic Gallery
Blue	Toledo Technology Academy	Button Making, Running Robots, & Alternative Energy Vehicles
Blue	Toledo-Lucas County Rain Garden Initiative	Drop by Drop
Blue	University of Toledo SCOPE Program-College of Natural Sciences and Mathematics	Make Your Own Microscope
Blue	University of Toledo Student Chapter of the American Chemical Society	Lava Lamp Bags
Blue	VEX Robotics	VEX Robotics
Magenta	BGSU Architecture & Environmental Design	Draw Like An Architect
Magenta	BGSU Aviation Studies	Up, Up, and Away Fly an Airplane Simulator!!
Magenta	BGSU Engineering Technologies	Advanced Technologies with Robots Electronics & Computer Engineering Technology
Magenta	BGSU School of Teaching and Learning AYA Science Education	Butterfly Larva Necklaces
Magenta	Nature's Nursery	Live Wildlife Presentation
Magenta	Robinson Elementary, Toledo Public Schools	Monarch Butterfly Conservation
Magenta	Toledo Botanical Garden/Toledo Grows	Seed Rockets-Seeds on the Move!
Yellow	BGSU Biology Graduate Student Association	Fingerprints, Hair, and Bones Biology
Yellow	BGSU Firelands	Human Anatomy Specimens
Yellow	BGSU Herpetarium Lab	Reptiles are "Cool"
Yellow	BGSU Marine Biology Lab	Marine Touch Tanks
Yellow	First Solar, Inc.	Explore Static Electricity—It's Hair-Raising! Build a Solar Concentrator Make A Solar Racer
Yellow	K12/ OHVA/ ISOH	Become a Secret Agent of Learning!
Yellow	Kumon Math & Reading of Sylvania	Number Board Game
Yellow	Ohio Northern University Engineering Education	Engineer a Watercraft
Yellow	Owens Community College	Optical Displays and Mathematical Puzzles
Yellow	Sandusky City Schools	Seed Bombs
Yellow	Sauder Village	Let's Make Lye Soap!
Yellow	Thayer Dealerships	Wii Car Gaming Fun!
Yellow	The SpOILed RN	Make Your Life Healthier - Reduce Chemicals
Yellow	Wood County Soil and Water Conservation District	4R Lake - Why Does the Lake Turn Green?
Orange	BGSU Dining Services	Water Color Painting with Fruits and Vegetables
Orange	BP	Explore Density With Liquid Rainbows
Orange	Horizon Science Academy of Toledo	Exciting Science with Horizon
Orange	Spark! Learning	Design A Straw Rocket
Orange	Verizon	Explore a Connected World
PreK-2	BGSU Inclusive Early Childhood Program	Exploring Math and Science through Reading and Writing
PreK-2	BGSU Reading Center	Gearing up to Grow with Reading and Writing
PreK-2	BGSU School of Teaching and Learning Early Childhood Science Education	How does Sound 'Sound'?
PreK-2	Bowling Green Early Childhood Learning Center: My Montessori	Insta-Snow, Squishy Sand, & Greenhouse Necklaces
PreK-2	Rainbow Cooperative Preschool	Goey Oobleck
PreK-2	Tau Beta Sigma - National Honorary Band Sorority	Instrument Petting Zoo + Make Your Own

Girl Scout Partners



ZONE	ACTIVITY PROVIDER	ACTIVITY STATION
Green	BGSU AIMS	The Human Body
Green	BGSU Curriculum Resource Center, Jerome Library	STEM Games
Green	BGSU School of Teaching and Learning Science Education	Parachute Test Site
Green	BGSU Science & Math Education in ACTION	Butterfly - Make It & Take It
Green	BOSEF: Building Ohio's Sustainable Energy Future	What Uses the Most Energy?
Green	Bowling Green Science Education Council	Rainbow Density Tube
Green	Challenger Learning Center of Lake Erie West	Rocket Power! StarLab Planetarium
Green	Girl Scouts of Western Ohio	Bats: Furry and Friendly, not Hairy and Scary Tree Rings and Leaf Rubbing
Green	Imagine Madison Avenue School of Arts	STEAM with Music & Sound Waves
Green	Kids' Tech University at BGSU	Enzymes Defend Against Pathogens!
Green	Lourdes University	Edible DNA
Green	Maumee Valley Historical Society	Learn How to "Tele"-Communicate
Green	Metroparks of the Toledo Area	Hop into Adventure
Green	New York Life	Child Safety ID Card
Green	NWOET	Microscope Art
Green	Perrysburg Schools Elementary STEM	The Extraordinaires of Creativity
Green	Rexie the T-Rex	Meet and touch a Tyrannosaurus Rex Dinosaur
Green	SECO/NSTA	Get ENERGIZED!
Green	Sylvan Learning of Bowling Green	Build LEGO Robots
Green	Sylvania Historical Village	Fun with Trains
Green	The Toledo Zoo	Amazing Animal Adaptations
Green	Wood County District Public Library	Explore Paper Engineering
Green	Wood County Historical Center and Museum	Science History Mystery
Green	Wood County Hospital	Camp Cootie - Kids Hand Hygiene
Green	Wood County Park District	The Woods of Wood County
Green	Zeemo Productions	Science Palooza
SCIENCE OF SPORTS		
Green	BGSU Athletics	Women's Swim & Dive:How to Train Like a Champion Ticket Office: Game Day Ticket Technology Women's Tennis & Softball
Green	BGSU PEHE Methods	Household Fitness Center
Green	Costco in Perrysburg	Average Corn Hole Toss
Green	LiveFIT	Balancing Surfing Style
Green	Toledo Football Academy	Smart Soccer Ball
Green	Verizon	Golf, Tennis, & Baseball
SCIENCE AND TECHNOLOGY OF DIGITAL MEDIA		
Green	BGSU Visual Communication Technology	Science and Technology of Digital Media
STEM STAGE		
Green	Imagination Station Shows	Ballplosion, Bed of Nails, Giant Cloud, Crush a Barrel
Green	The Toledo Zoo	Zooper Challenge Show
Outside	BGSU Admissions	Learn about BGSU-Take a Campus Tour
Outside	BGSU Construction Management	Concrete and Pulleys
Outside	BGSU Department of the Environment and Sustainability	What's in Your Watershed? & Mud Mural Painting
Outside	Department of Physics and Astronomy	Solar Fun
Outside	Bowling Green Fire Division	Life on a Fire Engine/Fire Safety
Outside	E.S. Wagner	Big Digger - Hydraulics
Outside	ERG Environmental Services	Technology Deconstruction and Recycling
Outside	Food For Thought	Hunger Action Month - Donate a Food/Personal/Household Item
Outside	Lake Erie Adventure Play (LEAP)	Adventure Play
Outside	Verizon	Cell on Light Truck (C.O.L.T.)
OUTSIDE MUSICAL STAGE		
Outside	Toledo School for the Arts - Steel Drum Band	10:00am-12:00pm
Outside	Ten40Acappella	12:30pm
Outside	Acouschicks	1:00pm
Outside	Not Yet Perfect	1:30pm

The activities mentioned by the attendees on the evaluation survey were tallied, and the top 10 activity stations are displayed in the table below. Descriptions of some of these activities can be found throughout the report in the “STEM in the Park Activity Highlight” boxes.

More exciting new features for attendees were incorporated to this year’s event in addition to the activity stations. Please see the section on page 14 titled, “How are Participant Suggestions About STEM in the Park Addressed?” for highlights.

**Attendees’ Top 10 Activity Stations at
STEM in the Park 2015**

Activity Station (Provider)
Reptiles are “Cool” (BGSU Dept. of Biological Sciences – Herpetarium)
Butterfly Larva Necklaces (BGSU School of Teaching and Learning AYA Science Education)
The Science of Sports Zone (Various Providers)
Bubbles: Phun with Physics (BGSU Dept. of Physics & Astronomy)
Ice Cream in a Bag (BGSU Chemistry Club)
Rocket Power! And StarLab Planetarium (Challenger Learning Center of Lake Erie West)
Slimey Science Flubber! (Imagination Station)
Marine Touch Tanks (BGSU Marine Biology Association)
Seed Bombs (Sandusky City Schools)
Parachute Test Site (BGSU School of Teaching and Learning MCE Science Education)

STEM in the Park Activity Highlight



**Challenger Learning Center
Rocket Power**

Foam Rockets - a NASA partnership:

Participants learned about Newton’s Laws of motion by engineering and designing a rocket out of basic materials (foam, duct tape, card stock and rubber bands). Visitors were challenged to improve their flight path and distance as they tested (and then took home) their own foam rocket.

StarLab Planetarium:

Visitors climbed into the ‘big bubble’ StarLab and experienced the dark night sky complete with constellations. Families were provided with a ‘night sky map’ in order to engage them in exploring the night sky at home.

STEM in the Park Activity Highlight



Imagination Station

Visitors created slime with just a few simple, household ingredients (Borax, clear glue, water, non-toxic paint) to show that science can happen anywhere! While making the slime the properties of a polymer were discussed with participants. From the classroom to the kitchen table, activities such as this can make anyone feel like a scientist. Imagination Station's goal is to present engaging, hands-on science that sparks an interest and ignites curiosity.

What Are People Saying About STEM in the Park?

Attendees' survey responses indicate the activity stations appealed to the preferences of many different people. Each of the activity stations were mentioned as a favorite by at least one person. In addition, many attendees specifically mentioned being impressed with the variety of activities at STEM in the Park. An **attendee** wrote:

"I thought this was a very well planned out event. The number of stations and the variety of activities was amazing."

Most participants believed the STEM in the Park activities were highly engaging and positively impactful on children's interest in STEM. **Attendees** wrote:

"We had a great time at STEM. My son has sensory processing disorder and he just LOVED all of the different hands on activities."

"We loved it! Everyone was very helpful! The kids never got bored one time; there was always something for everyone to do. STEM was a great time and we definitely look forward to next year!"

Exhibitors saw first-hand how engaged and interested attendees were in STEM in the Park activities. Some **exhibitors** wrote:

"The younger children were really engaged with the water table, while the older children were more engaged with "racing" Bogs and the archery exhibit."

"Our table was ALWAYS busy. They seemed eager to find out why 4 oz of one fluid weighs more than 4 oz of another fluid."

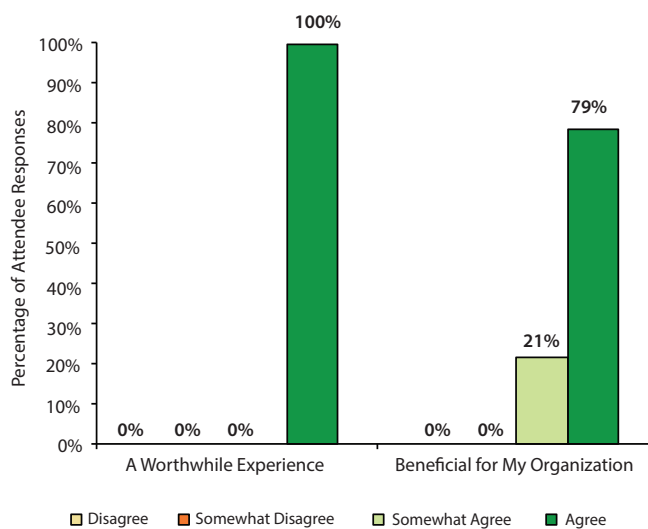
"They were delighted by the science. They always want to make whatever we offer. These are children who like to do things! Many have ideas for how they want to modify the project to make it just like they want it to be."

"The children loved the math games on the iPads. They asked their parents to download the apps so that they could play them at home. One parent had to pull her son away from our table because it was time for them to leave."

STEM in the Park Activity Highlight

Exhibitors also believed that STEM in the Park was a worthwhile experience, and reported that being an exhibitor was beneficial for their organization (see table below). Almost all exhibitors said it is very likely that they will return as exhibitors to STEM in the Park.

Exhibitors' Perceptions Regarding the Value of their STEM in the Park Experience



Likewise, most attendees said it is very likely that their family will attend STEM in the Park next year.

Overall, the attendees' comments were very positive. Many attendees wrote how impressive the event was, and expressed their gratitude for being able to attend a free community event with a free lunch. Attendees also mentioned how helpful and friendly the exhibitors and volunteers were. Some of the **attendees** wrote:

"The organization and the staff/volunteers were the best elements of the event."

"We had a great time, it was nice that all of the workers/volunteers acted as if they actually wanted to be there."



Seed Bombs

This activity station facilitated by Sandusky City Schools teachers taught visitors how they can help pollinators by making seed bombs to repopulate barren areas with nectar-producing and host plants for pollinators.

Visitors created their seed bombs using natural clay, potting soil, and seeds (native, non-stratified plant seeds). They were encouraged to take them home and place them in the ground where a plant was desired.

The purpose of using a seed bomb is to increase the odds of pollination by protecting the seed inside from animals that eat seeds, while also providing the seed with soil in which to germinate.

STEM in the Park Activity Highlight



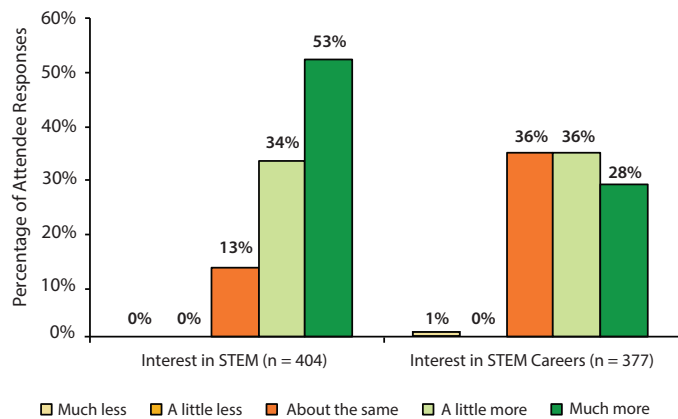
Parachute Test Site

BGSU's School of Teaching and Learning MCE Science Education students facilitated the Parachute Test Site. Visitors were asked to predict if a small or large parachute would fall slower and save the "army man". Children and adults built their own parachute out of napkins that were either a.) All the way open (large), b.) Folded (small), or c.) Sting (taped to an army man). A BGSU student took the created parachute to the testing site (top of the ladder) and two parachutes were tested. The best part was when the parachutes were finally dropped to see if the army man was saved! Visitors were able to take their designs home to continue testing and comparing their designs.

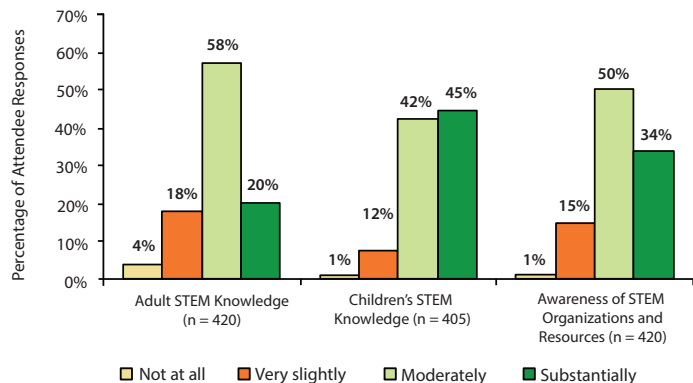
What is the Impact of STEM in the Park?

The findings from the 2015 STEM in the Park evaluation demonstrate that STEM in the Park successfully reached its goals of increasing attendees' awareness of STEM-related organizations and events in their community, and improving attendees' knowledge about and interest in STEM and STEM careers. See graphs below.

STEM in the Park Impact on Children's Interest in STEM and STEM Careers



STEM in the Park Impact on Attendees' STEM Knowledge and Awareness





How Do People Learn About STEM in the Park?

People learn about the event in several ways. NWO sent e-mails to past attendees, community STEM partners, higher ed faculty, and pre-K-12 teachers and administrators. Postcards and flyers were also distributed to local schools and community partners. Yard signs were distributed at key locations around northwest Ohio. New this year, a local radio station, K100, aired ads for STEM in the Park in the days leading up to the event and conducted a live remote from the Perry Field House on September 26th. Additionally, two local television stations aired interviews with event organizers and community partners prior to the event that highlighted the unique aspects of STEM and the Park, while inviting viewers to attend.

Feedback showed that attendees learned about 2015 STEM in the Park through each way it was advertised, with 'schools' and 'friend or family member' being the highest percentage of how attendees heard about the event.

“STEM is a great event every year. There are few educational events that involve the whole family that are also free. Getting lunch is an added bonus! There are so many vendors/tables and community involvement that it is always an excellent event!”

“STEM is a very well organized and run event. I am always impressed with the number of volunteers and learning opportunities provided by companies. The kids look forward to their favorites and always seem to find something new to enjoy each year. I am amazed that this is completely free, especially the meal!”





How are Participant Suggestions About STEM in the Park Addressed?

Every registered guest who comes to STEM in the Park receives an email with the opportunity to respond to questions pertaining to their experience at the event. The survey offers a few open-ended questions such as, "Please tell us about your experience with STEM in the Park in your own words," and "What suggestions do you have to improve the event next year?" The STEM in the Park team takes time to read and consider this feedback, which is highly valued.

Suggestions given on the 2014 event survey for the 2015 event were categorized into three different themes:

- 1.) Improvements for the event in the future,
- 2.) New features to add to the event, and
- 3.) Connecting the event to a social cause(s).

Improvements for 2015

Attendees responding to the survey offer many good ideas on how to improve the flow of the event with such a large crowd. The majority of these comments revolve around how the food is served as well as signage at the event.

Tony Packo's serves a delicious and free lunch for all attendees. Efforts were made this year to fine-tune the layout of the serving and dining areas as well as improve the traffic flow through these areas. Also, lunch was available throughout the duration of the event (10:00am-2:00pm). These changes allowed for much shorter lines/wait time for attendees. Improvements were made for our exhibitors to be able to enjoy lunch as well. There was a selected group of volunteers whose job was to provide food and drinks throughout the event for the exhibitors and therefore, maximize the interactions between exhibitors and families.

Healthy snack options were provided once again this year based on attendee feedback. Larger quantities were available and the snack station was in a different location of the venue as to be separated from the lunch area. This way, families could access food in multiple areas of the field house. Snack items included freshly popped popcorn, bananas, apple slices, and granola bars. After the conclusion of the event, STEM in the Park staff were happy to donate the remaining snacks and delivered them to the Cherry Street Mission and the Ronald McDonald House.

The large number of event attendees makes it difficult at times to see signage specific to activity tables. A new signage display system was created and implemented this year to ensure that each activity station title was more visible among the large crowd. Also, a new layout of the visitor map was created for attendees to refer to while at the event.





New STEM Features in 2015

In response to include some new activity stations and providers, the STEM in the Park team branched out to provide some amazing new STEM features. Most notable and highly complimented were:

1. **Rexie the T-Rex**, an enthusiastic and life-sized *Tyrannosaurus Rex* dinosaur that attendees interacted with.
2. **The STEM Stage**, which offered the audience seven large-scale and exciting demonstrations hosted throughout the day by Imagination Station and The Toledo Zoo (these were also displayed on large screens near the stage allowing even more attendees to view the events on the stage).
3. **The Outdoor Music Tent**, which showcased four musical performances given by the Toledo School for the Arts Steel Drum Band and BGSU's own Ten40Acappella, Accouschicks, and Not Yet Perfect vocal groups. These performances were a welcomed addition to the entrance of the field house and served as a festive welcome to the event, creating an upbeat environment for the entire day.
4. **The Science and Technology of Digital Media Zone** was also added this year and facilitated by BGSU's Visual Communication Technology department. A gigantic three-dimensional cube was designed to create light and motion in nontraditional spaces. The objective was to inspire participants to see their physical environment from a whole new perspective.
5. **The Science of Sports Zone** continues to be one of the most favorite exhibits among attendees, so efforts were made to expand this zone to include additional new exhibitors. The BGSU Physical Education program joined the Sports Zone this year for the first time along with LiveFIT and Costco of Perrysburg. Back by popular demand to the Sports Zone was BGSU Athletics, Verizon and the Toledo Football Academy.

“It was a great opportunity for me and my kid to engage in STEM! We had fun and at the same time learned about science! Definitely coming back next year!”

“Great crowd control. Great assortment of activities. Good promotion of event. Very rewarding.”





New Partnerships Formed in 2015

Based on suggestions from last year's STEM in the Park, participants requested connecting the event to a social cause. Thus, the event organizers partnered with *Food for Thought*, a local non-profit organization that collects food and household item donations and distributes them to families in need in northwest Ohio. Participants attending STEM in the Park were encouraged to bring food and household items to the event to donate. *Food for Thought* was thankful for the donations received and donated all items to the Cocoon Shelter in Bowling Green, OH.



A social cause connection was also made with the Cherry Street Mission and the Ronald McDonald House as all leftover food from the event was donated to both organizations. The hope is to continue this connection with these valuable charity efforts in our community.

STEM in the Park partnered with the Girl Scouts of Western Ohio and their B.I.G. Event (Believing in Girls). In the past, the two events (somewhat similar in nature) were held on the same day and involved many of the same exhibitors. It was decided to host the B.I.G. Event on the same day as STEM in the Park again but to have it also located on BGSU's campus in order to streamline the two events and maximize the resources/exhibitors. The Girl Scout participants attended STEM in the Park first and visited activity stations that were noted on the map to be Girl Scout partners (organizations that wanted to participate in both events). They then walked to the B.I.G. Event location (BGSU Student Union) to participate in activities specific to the Girl Scout organization.

The theme for the event this year was: "STEM in the Park is moving full STEAM ahead! Science, Technology, Engineering, and Mathematics meet up with the Arts." The team partnered with the Toledo Museum of Art (TMA) to bring a solid 'arts' connection to the event. TMA was a featured exhibitor and encouraged visitors at their station to experiment with color and movement in a variety of interactive ways. Each family had the opportunity to create a portion of a mural that will be on display at the Toledo Museum of Art Community Gallery.





What Are the Future Plans for STEM in the Park?

Participants provided some valuable feedback on how the event could be improved in the future. Based on these suggestions, the STEM in the Park staff plans to consider the following changes:

- Expand transportation grants for urban school districts.
- Create “Start Here” signage for many activity tables.
- Continue to provide alternative lunch options (many commented on the benefits of having healthier snacks available at the event).
- Group some activities by age (this is based on the success of the “Roots to STEM” PreK-2 area).
- Continue to work on venue layout and spacing between activity stations.

“Take home activity cards were a great resource. It was fun and engaging participating in the hands-on activities.”

“My son, 11, wants to be a scientist, so this is right up his alley. He loved exploring with the animals (dead and alive). I think the best part about STEM in the Park is that the kids are learning, but having too much fun to realize that they are learning and not just playing. We didn't think you could top last year, but you did! GREAT JOB! We will be back next year, with many friends. We posted pictures of the kids on Facebook and had many parents ask about this event and how to get in on the fun next year!”





STEM in the Park Staff

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“This was an AWESOME event. I so appreciate all the work that went into it. My daughter LOVED it! So many great things to experience, so many passionate people presenting, and a free lunch! There’s nothing that would make it better. We got there when it started and left well after it was over and still didn’t see it all! We got the information on the event late so the fact that we could come without signing up was a great feature. We drove almost 3hrs one way to get there and were not disappointed.”