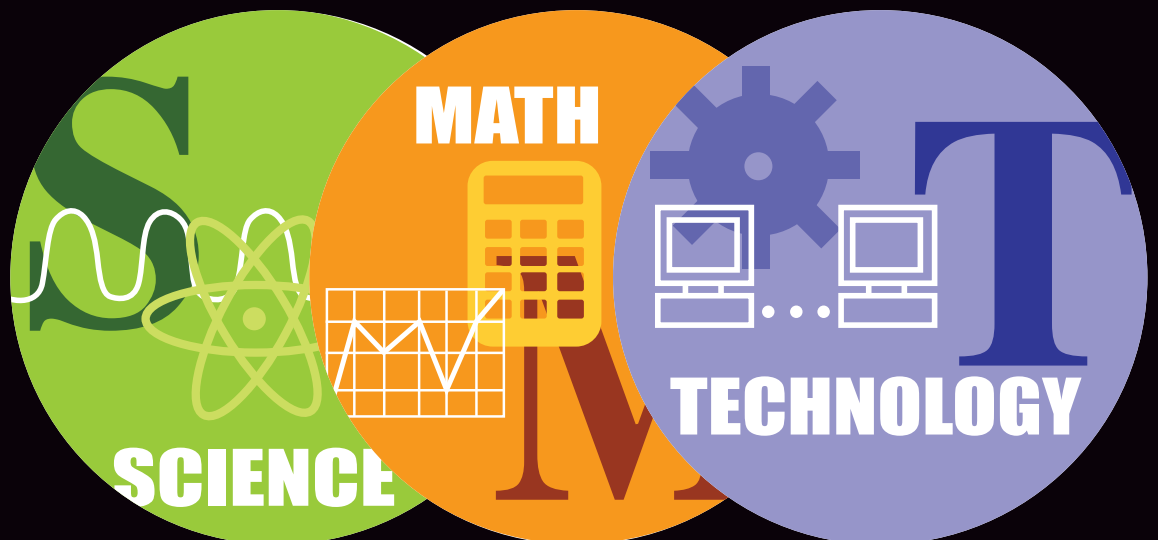


NORTHWEST OHIO SYMPOSIUM ON SCIENCE, MATH, AND TECHNOLOGY



TEACHING

Saturday, November 8, 2008
Owens Community College
(Toledo Campus)



www.nwohiosymposium.org



Door Prize Raffle... an opportunity to win great resources for your classroom!

This year's raffle will take place in room AV 125 from 3:50-4:15.

Drop your nametag into one of the designated boxes at the clock table or in room AV 125 to be entered in a special drawing for prizes donated by vendors and presenters.

Be sure to join us at 3:50 for the fun-filled raffle (must be present to win)!

EVALUATION of Symposium

Please complete the online evaluation for the 2008 Symposium. All who complete the survey will be entered into a drawing for a \$50 amazon gift card and an NWO fleece jacket.

Please go to the following website to complete the online evaluation:
<http://nwohiosymposium.org>

The annual symposium is a grant funded and donor sponsored event. In order to keep this event free, we must be able to prove to the funding agencies the relevance and importance of such a professional development event. By completing the online evaluation, you provide us with key information to document the importance of the Symposium on Science, Math, and Technology Teaching. Thank you.



Welcome

We are delighted to once again welcome you to the 2008 Northwest Ohio Symposium on Science, Math, and Technology Teaching. The symposium is sponsored by the Northwest Ohio Center of Excellence in Science and Mathematics Education (NWO) and its partners throughout the region. This event offers an invaluable opportunity for P-16 teachers to share and learn from one another in our common effort to advance science, technology, engineering, and mathematics (STEM) education for people of all ages.

For the past few years, we have been averaging more than 500 attendees including higher education faculty, in-service and pre-service teachers, and graduate and undergraduate students who participate in more than 60 sessions. We are expecting similar numbers this year. Vendors will again participate so as to keep educators abreast of new and exciting classroom materials. Additionally, attendees will be allowed to examine new textbooks, pick up equipment for classroom use, and preview some of the new classroom technologies now available.

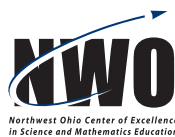
We are hoping that the 2008 NWO Symposium on Science, Math, and Technology Teaching will be an even bigger success than last year. With your help, we will continue to make this symposium the premier STEM professional development opportunity for educators in Northwest Ohio. Thank you for joining us!

Dr. Emilio Duran
COSMOS, BGSU
NWO Symposium Director

Dr. Bob Midden
COSMOS, BGSU
NWO Director

Dr. Anne Bullerjahn
Owens Community College
NWO Symposium Host

Ms. Amy Boros
Maumee City Schools
NWO Symposium Coordinator



The Science of Teaching: Teaching is a science.

We are scientists everyday that we walk into our classrooms. What do we do as teachers to help ensure success for our students?

Deborah Wickerham

2008 Ohio Teacher of the Year

Chamberlin Hill Intermediate School
600 W Yates Ave
Findlay, OH 45840
DWickerham@findlaycityschools.org



Mrs. Deborah Wickerham, a fifth grade, hearing impaired, inclusion teacher at Chamberlin Hill Intermediate School with Findlay City Schools is the 2008 Ohio Teacher of the Year. She has a Bachelor of Science in Elementary Education/Deaf Education from Bowling Green State University and a Master's in Educational Leadership from the University of Findlay. Mrs. Wickerham was a Presidential Award winner for Elementary Science in 1999 and received her National Board Certification in 2001.

Deborah was grant chairperson and instrumental in the creation of the A.P.P.L.E. Learning Bus, a mobile science lab. This lab enables teachers to teach the students while performing actual scientific testing. She received the Vernier Elementary Technology Award and CIBA International Elementary Science Teacher Award for her efforts.

Mrs. Wickerham's role model for teaching is Annie Sullivan, Helen Keller's teacher. Deborah believes in the "whatever it takes" philosophy to make children winners in life. Invitational learning guides her to create a classroom that is a fun, exciting, and safe learning environment. And . . . if that's not enough, Mrs. Wickerham is an adjunct professor for the University of Findlay in Middle Childhood Science teaching pre-service teachers how to teach.

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Conference Agenda

- 7:30-8:30 Check-In and Breakfast
- 8:30 Welcome in Room AV 125
- 8:45 Keynote Speaker: Mrs. Deborah Wickerham
- 10:00-10:50 Session A
- 11:00-11:50 Session B
- 12:00-12:50 Lunch
- 1:00-1:50 Session C
- 2:00-2:50 Session D
- 3:00-3:50 Session E
- 3:50-4:15 Raffle

Vendors open from 8:00 AM – 4:00 PM in the Galleria 101

Conference at a Glance

Session A (10:00 am - 10:50 am)

- A1 **Clean Air for Kids: Ohio's Biofuel Campaign**
Presented by: Jeanne Gogolski, Ohio Soybean Council
 Carol Warkentien, Ohio Soybean Council
Room: AV 125
- A2 **Breaking Through the Barriers to Student Learning: Addressing Your Students' Science Misconceptions**
Presented by: Michelle Leow-Klinger, Bowling Green State University
 Jake Burgoon, Bowling Green State University
 Sloan Eberly, Bowling Green State University
Room: AV 121
- A3 **GEMS Plate Tectonics**
Presented by: Lisa Jones, Carolina Curriculum (Carolina Biological Supply)
Room: AV 122
- A4 **Integrating Geospatial Technologies in Your Classroom. Come learn about a standards based program that has been proven to be successful in assisting that integration....SATELLITES.**
Presented by: Mikell Lynn Hedley, SATELLITES, The University of Toledo
 Kevin Czajkowski, SATELLITES, The University of Toledo
Room: MS 132
- A5 **Math on the Move! (Part I) (Part II: B5)**
Presented by: Julie Nurnberger-Haag, COSMOS, Bowling Green State University
Room: MS 133
- A6 **Teaching Math and Science in the Middle Grades Using the TI-73 Explorer**
Presented by: Debra Gallagher, Bowling Green State University
Room: AV 150
- A7 **Remote Sensing for the Classroom**
Presented by: Jackie Kane, St. Ursula Academy
Room: MS 112
- A8 **Ma and NCTQ: A Wake Up Call?**
Presented by: Raymond Heitger, Bowling Green Sate University
Room: AV 125
- A9 **I Really Do Study**
Presented by: Debra A. Bercher, Lourdes College
Room: MS 134
- A10 **Using Sketchpad to Build Online Applets**
Presented by: David Meel, Bowling Green State University
Room: MS 114

Conference at a Glance - cont.

Session B (11:00 am - 11:50 am)

- B1 **Science in the Energy Industry: Ohio's Oil & Gas Energy Education Program**
Presented by: Carol Warkentien, Ohio Oil & Gas Energy Education Program
Jeanne Gogolski, Ohio Oil & Gas Energy Education Program **Room: AV 125**
- B2 **Teaching Inquiry Science with Toys**
Presented by: Rick Worch, Bowling Green State University **Room: AV 121**
- B3 **The Zula® Patrol's Exploration Station: Mission: Simple Machines!**
Presented by: Lisa Jones, Carolina Curriculum (Carolina Biological Supply) **Room: AV 122**
- B4 **Practical Science Literacy Strategies**
Presented by: Cherie Hunter, Monroe County Intermediate School District **Room: MS 132**
- B5 **Math on the Move! (Part II) (Part I: A5)**
Presented by: Julie Nurnberger-Haag, COSMOS, Bowling Green State University **Room: MS 133**
- B6 **Teaching Metric Measurement Is Fun!!!**
Presented by: Debra Gallagher, Bowling Green State University **Room: AV 150**
- B7 **Undergraduate Research Coupled with Service Learning in General Education Science Courses**
Presented by: Bob Midden, Bowling Green State University **Room: MS 112**
- B8 **Mozart, Einstein, and Leonardo de Vinci: Interaction Effects in College Course Grades and Choice of Major Due to Differences in Visualization Skills and Language Processing Speed**
Presented by: Richard Oldrieve, Bowling Green State University **Room: AV 154**
- B9 **Myth Busted**
Presented by: Christine Pinney, Fairview High School **Room: MS 134**
- B10 **Reptiles in the Classroom**
Presented by: Eileen Underwood, Bowling Green State University **Room: MS 114**

Conference at a Glance - cont.

Session C (1:00 pm - 1:50 pm)

- C1 **Super Charge Your Classroom with Energy Education (K-12 Lucas and Wood County Teachers Only)**
Presented by: Diane Thurber, BP Ohio **Room: AV 125**
 Nancy Pevets, \$10,000 A+ for Energy Grant Winner, Eisenhower Middle School
 Diane Shankland, \$10,000 A+ for Energy Winner, Start High School
- C2 **Mars Interplanetary Geologist Quest Classroom Simulation: Mars Geology on Earth**
Presented by: Julie Muffler, Challenger Learning Center **Room: AV 121**
- C3 **The Numbers Game! Developing Numbers Concepts**
Presented by: Lisa Jones, Carolina Curriculum (Carolina Biological Supply) **Room: AV 122**
- C4 **A Classroom Flight Plan for Success to the Challenger Learning Center!**
Presented by: Ginger Materni, Sylvania City Schools **Room: MS 132**
 Pamela Rentner, Sylvania City Schools
 Leslie Boudouris, Sylvania City Schools
- C5 **How Toys Are Made (Part I) (Part II: D5)**
Presented by: Carin Helfer, University of Akron **Room: MS 133**
- C6 **What's Wrong with These Kids—Why Can't They See It?**
Presented by: Belinda Lee Dewey, Hancock County Educational Service Center **Room: AV 150**
- C7 **A New Degree Program! ...in Computational Sciences!?!?**
Presented by: James Zubricky, The University of Toledo **Room: MS 112**
 James Perry, Owens Community College
- C8 **Using Technology in the Intermediate Science Classroom**
Presented by: Andrea Milner, The University of Toledo **Room: AV 154**
- C9 **Sink Into Science at Stone Lab**
Presented by: Lindsay Manzo, Stone Laboratory and Ohio Sea Grant **Room: MS 134**
- C10 **Two Captains at the Helm: What Could Be Better? Find Out the Secrets to Effective Co-Teaching.**
Presented by: Natalie Fisher, Mentor Exempted Village School District **Room: MS 114**

Conference at a Glance - cont.

Session D (2:00 pm - 2:50 pm)

- | | | |
|-----|---|---------------------|
| D1 | Vermiculite in the Classroom
<i>Presented by:</i> Diane Thurber, Toledo Botanical Gardens | Room: AV 125 |
| D2 | The Reasons Why Your Students Will Love the New TI-30
<i>Presented by:</i> Beryl Stemen, Owens Community College | Room: AV 121 |
| D3 | Preparing for Parent-Teacher Conferences (Part I) (Part II: E5)
<i>Presented by:</i> Sharon A. Shaffer, Rossford Junior High | Room: AV 122 |
| D4 | Elementary GLOBE: Hands-On Environmental Education Program
<i>Presented by:</i> Jodi Haney, Bowling Green State University | Room: MS 132 |
| D5 | How Toys Are Made (Part II) (Part I: C5)
<i>Presented by:</i> Carin Helfer, University of Akron | Room: MS 133 |
| D6 | The Chemistry of Art
<i>Presented by:</i> Elizabeth Wise, Lourdes College | Room: AV 150 |
| D7 | Do the Math: But Which Topics?
<i>Presented by:</i> Daniel Brahier, Bowling Green State University | Room: MS 112 |
| D8 | Multimedia Resources for Science Teachers and Students
<i>Presented by:</i> Renee deValpine, WGTE Public Media | Room: AV 154 |
| D9 | Rock-Solid Certainty or Just a Semblance of Order?
Classification and the Nature of Science
<i>Presented by:</i> Marya Czech, Lourdes College | Room: MS 134 |
| D10 | Students Show What They Know
<i>Presented by:</i> Janet Struble, The University of Toledo | Room: MS 114 |

Conference at a Glance - cont.

Session E (3:00 pm - 3:50 pm)

- E1 **Are You Smarter Than a 5th Grader?**
Presented by: Diane Thurber, Toledo Botanical Gardens **Room: AV 125**
- E2 **Inquiry-Based Instruction for Meeting The Ohio Core**
Presented by: Cathy Holmes, The Ohio Department of Education **Room: AV 121**
- E3 **Preparing for Parent-Teacher Conferences (Part II) (Part I: D3)**
Presented by: Sharon A. Shaffer, Rossford Junior High School **Room: AV 122**
- E4 **Dashing DNA Jewelry (LIMIT 15)**
Presented by: Anjali Gray, Lourdes College **Room: MS 132**
- E5 **Do You Want to Teach the Required Standards and Indicators in a Way That Will Actively Engage Students While They Are Really Learning Deeper Concepts? Are You Looking for a Way to Use Inquiry with Your Students with Lessons and Materials That Are Proven by Research to be Effective?**
Presented by: Kevin Stinson, Delta Education **Room: MS 133**
- E6 **What Is a GPS and How Do They Work? Teaching Students How to Use GPS Technology for Navigation and Recreation.**
Presented by: Melanie Fisher, Eastlake Middle School
Jona Polesovsky, Glass City Academy **Room: AV 150**
- E7 **Kids in the Creek: Starting an Urban Environmental Studies School**
Presented by: Virginia Rhodes, Cincinnati Public Schools **Room: MS 112**
- E8 **Web 2.0 for School Teachers**
Presented by: Lan Li, Bowling Green State University **Room: AV 154**
- E9 **Case Study Methodology for Science and Math Instruction**
Presented by: F. F. Andres, Bowling Green State University
K. T. Keylock, Bowling Green State University **Room: MS 134**
- E10 **Kids Take Charge of Data Analysis!**
Presented by: Janet Emerine, Bowling Green State University **Room: MS 114**

Abbreviations Used:

M: Mathematics
E/S: Earth/Space Science
PS: Physical Science

PED: Pedagogy
LS: Life Science
T: Technology

Session A (10:00 am - 10:50 am)

A1 Clean Air for Kids: Ohio's Biofuel Campaign

Motivate your students. Teach renewable resources, biofuels, and air pollution. Take a "ride" on Mrs. Frizzle's Magic School Bus. Explore the benefits of biodiesel in Ohio's school buses. Find out about the grant funds available for your school district to make the switch. Free activity guides with experiments, web resources, service-learning projects, and grant information for all participants.

Presented by: Jeanne Gogolski, Ohio Soybean Council
Carol Warkentien, Ohio Soybean Council

Content & Grade Levels: (GS, ES, PS) 4-12

Room: AV 125

A2 Breaking Through the Barriers to Student Learning: Addressing Your Students' Science Misconceptions

Discover how student misconceptions become barriers to science learning. The NWO TEAMS staff introduces fun and easy pre-assessment activities to uncover misconceptions and improve science instruction.

Presented by: Michelle Leow-Klinger, NWO TEAMS, Bowling Green State University
Jake Burgoon, NWO TEAMS, Bowling Green State University
Sloan Eberly, NWO TEAMS, Bowling Green State University

Content & Grade Levels: (P, GS, LS, PS, ES) K-8, 11-12

Room: AV 121

A3 GEMS Plate Tectonics

In this session you will use a model volcano to explore important features of Hawaiian shield volcanoes and investigate the relationship between the viscosity, temperature, and speed of lava flow. As a result of the inquiries, you will discover the impact volcanoes have on the Earth's upper mantle and how new islands are formed in the ocean.

Presented by: Lisa Jones, Carolina Curriculum (Carolina Biological Supply)

Content & Grade Levels: (ES) 4-8

Room: AV 122

A4 Integrating Geospatial Technologies in Your Classroom. Come learn about a standards based program that has been proven to be successful in assisting that integration....SATELLITES.

Geospatial technologies are the third fastest growing career path in the US. SATELLITES, an STS partnership, uses standards based activities, a field data collection program, inquiry based project, and a science conference to help teachers share these technologies with their students. Come learn about this free program. If you attend the week-long training session and complete all activities, you receive a free remote sensing instrument, free GIS software, and a free GPS. Handouts provided.

Presented by: Mikell Lynn Hedley, SATELLITES, University of Toledo
Kevin Czajkowski, SATELLITES, University of Toledo

Content & Grade Levels: (M, T, P, GS, PS, ES) 4-11

Room: MS 132

A5 Math on the Move! (Part I)

Bring your coat and come prepared to move! I will share ways that 5th to 10th grade students can learn mathematics using kinesthetic and visual learning modalities. Topics include properties of polygons (concavity, angle sum relationships, etc.), the order of operations, and calculations with integers. Handouts provided! (Part II is session B5.)

Presented by: Julie Nurnberger-Haag, COSMOS, Bowling Green State University

Content & Grade Levels: (M) 4-10

Room: MS 133

A6 Teaching Math and Science in the Middle Grades Using the TI-73 Explorer

Participants will experience innovative ways to effectively teach math and science using technology. Participants will be actively involved with several math and science activities for middle school using the TI-73 Explorer. Experience the many exciting things you can do with the TI-73. Handouts and resource list provided.

Presented by: Debra Gallagher, Bowling Green State University

Content & Grade Levels: (M, T, P, GS) 4-8

Room: AV 150

A7 Remote Sensing for the Classroom

Jackie will introduce a website tool for teachers and students to acquire, manipulate and analyze satellite images to answer questions about how land changes and how those changes affect wildlife, people, and the future or how to create Earth art. <http://usings.googlepages.com>

Presented by: Jackie Kane, St. Ursula Academy

Content & Grade Levels: (GS, LS, PS, ES) 7-12

Room: MS 112

A8 Ma and NCTQ: A Wake Up Call?

Liping Ma found that US teachers do not have a “profound understanding of fundamental mathematics.” The National Council on Teacher Quality has found that education schools are not properly preparing elementary teachers. In fact, they found “many elementary teachers are weak in mathematics.” Should we pay attention to these studies?

Presented by: Raymond Heitger, Bowling Green State University

Content & Grade Levels: (M) K-6

Room: AV 125

A9 I Really Do Study

“I really did study.” How many times have teachers heard this statement from students after a poor performance on a test? We’ll explore the characteristics of these students and compare their learning strategies with those of students who do perform well.

Presented by: Debra A. Bercher, Lourdes College

Content & Grade Levels: (P) 7-12, college

Room: MS 134

A10 Using Sketchpad to Build Online Applets

This talk will present how Geometer’s Sketchpad 4.0 can be used to construct java applets with which students can interact from home without having Geometer’s Sketchpad. In particular, examples of various applets that have been developed will be presented and how teachers can take their ideas and implement them in ways that students can explore as well as compute.

Presented by: David Meel, Bowling Green State University

Content & Grade Levels: (M, T, P) 4-12, college

Room: MS 114

Session B (11:00 am - 11:50 am)

B1 Science in the Energy Industry: Ohio's Oil & Gas Energy Education Program

Six learning stations explore science concepts and technology resources in geology, chemistry and environmental science. Free activity guide includes background information, experiments, career connections, and graphic organizers. Sponsored by OOGEEP (Ohio Oil & Gas Energy Education Program).

Presented by: Carol Warkentien, Ohio Oil & Gas Energy Education Program
Jeanne Gogolski, Ohio Oil & Gas Energy Education Program

Content & Grade Levels: (GS, PS, ES) 4-12

Room: AV 125

B2 Teaching Inquiry Science With Toys

Teachers will explore physical science concepts (energy & motion) through a hands-on, inquiry-based investigation of tops. Preparation, implementation, and assessment will be discussed.

Presented by: Rick Worch, Bowling Green State University

Content & Grade Levels: (ES) 7-10

Room: AV 121

B3 The Zula® Patrol's Exploration Station: Mission: Simple Machines!

Through making and playing with simple machines, children learn about form and function and discover that simple machines make certain tasks and activities—including play—easier. Children's understanding of simple machines is deepened by experimenting and creating with inclined planes and levers, wedges, and pulleys. These fun and engaging Zula® Missions address key concepts directly relating to national standards and goals.

Presented by: Lisa Jones, Carolina Curriculum (Carolina Biological Supply)

Content & Grade Levels: (PS) PK-2

Room: AV 122

B4 Practical Science Literacy Strategies

This session will center the attention on practical strategies designed to improve reading and writing in science. The focus will include comprehension strategies, determining importance, group summarizing, and VOC vocabulary development. Teachers will be able to implement these strategies immediately in their classrooms.

Presented by: Cherie Hunter, Monroe County Intermediate School District

Content & Grade Levels: (GS) 4-6

Room: MS 132

B5 Math on the Move! (Part II)

This session would be most beneficial if you attended Math on the Move either today or last year, but everyone is welcome! Part II will give you a chance to deepen, extend, and share ideas for incorporating visual and kinesthetic methods into every lesson. You'll take home resources to help you do just that! (Part I is session A5.)

Presented by: Julie Nurnberger-Haag, COSMOS, Bowling Green State University

Content & Grade Levels: (M) 4-10

Room: MS 133

B6 Teaching Metric Measurement Is Fun!!!

Metric measurement is everywhere. This session will provide a number of hands-on activities that teachers can use to help students understand the metric system while having fun. Participants will explore many fun ways to use the metric system and, if we must convert, we'll see how the TI-73 Explorer can make that a painless task.

Presented by: Debra Gallagher, Bowling Green State University

Content & Grade Levels: (M, T, P, GS) 4-8

Room: AV 150

B7 Undergraduate Research Coupled with Service Learning in General Education Science Courses

This session will provide two examples of scientific research projects that meet important community needs that have been incorporated into general education science courses that are suitable for all college students. Thus first year college students are able to learn science by participating in real scientific research projects even if they are not science majors.

Presented by: Bob Midden, Bowling Green State University

Content & Grade Levels: (GS, LS, PS, ES) 9-12, college

Room: MS 112

B8 Mozart, Einstein, and Leonardo de Vinci: Interaction Effects in College Course Grades and Choice of Major Due to Differences in Visualization Skills and Language Processing Speed

As part of an NWO supported research project, BGSU math and science professors hypothesized that doing well on 3-D visualization assessment would predict which college students would be successful in math, science, art, and music. Reading professors hypothesized a measure of speech and language processing speed would predict which sub-field of study students choose. Results support both predictions. Results also predict field of study for teachers and suggest potential mismatches with students.

Presented by: Richard Oldrieve, Bowling Green State University

Content & Grade Levels: (M, P, GS) Any grade level

Room: AV 154

B9 Myth Busted

Several experiments you can use in your classroom relating to myths examined on the show Mythbusters will be presented. Explanation of how episodes can fit into various lessons will be provided.

Presented by: Christine Pinney, Fairview High School

Content & Grade Levels: (PS) 9-12

Room: MS 134

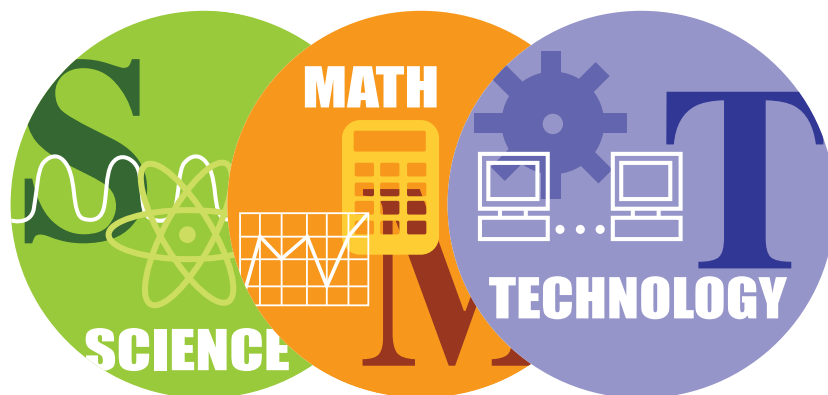
B10 Reptiles in the Classroom

A hands-on demonstration of reptiles that can reside in a classroom and be utilized as engagement activities for lessons, along with a description of activities designed by in-service teachers taking the BGSU course "Reptiles in Teaching."

Presented by: Eileen Underwood, Bowling Green State University

Content & Grade Levels: (LS) 4-10

Room: MS 114



Northwest Ohio Symposium on Science,
Math, and Technology Teaching

*Session C (1:00 pm - 1:50 pm)***C1 Super Charge Your Classroom with Energy Education (K-12 Lucas and Wood County Teachers Only)**

Energy education is an important, timely, and integral topic for science, math, and technology teachers. From first grade through high school, clear and accurate teaching of this subject is vital to your students and ultimately our entire community. This session will focus on BP Energy Education resources available for all age levels. We'll get you "fueled up" with information about our free online resources, our A+ for Energy grants (which have awarded over 55 teachers in Toledo area with over \$600,000 in the past 2 years), and hands on lessons and take homes from some of our current A+ winners. The first 30 participants will receive free materials.

Presented by: Diane Thurber, BP Ohio A+ for Energy Coordinator

Nancy Pevets, \$10,000 A+ for Energy Grant Winner, Eisenhower Middle School

Diane Shankland, \$10,000 A+ for Energy Winner, Start High School

Content & Grade Levels: (All Subjects) K-12

Room: AV 125

C2 Mars Interplanetary Geologist Quest Classroom Simulation: Mars Geology on Earth

This session provides the opportunity for participants to model sedimentation, lava flow, water flow, and ice flow and to see how these gradual and catastrophic forces created the various features we observe on Earth. Through the observation of images of erratic rock fields, chaotic terrain, and huge-scaled ripple marks on Earth and on Mars, they will be able to draw conclusions as to what formed these features on Mars. Everyone will receive a CD.

Presented by: Julie Muffler, Challenger Learning Center

Content & Grade Levels: (ES, Space) K-6

Room: AV 121

C3 The Numbers Game! Developing Numbers Concepts

Describe the patterns in the world around us through the various representations of numbers using addition, subtraction, multiplication, division, fractions, decimals, and probability in Math Out of the Box, an inquiry-based mathematics curriculum developed at Clemson University. Participants will engage in hands-on activities that students would use to explore number concepts from the program's Developing Numbers Concepts strand.

Presented by: Lisa Jones, Carolina Curriculum (Carolina Biological Supply)

Content & Grade Levels: (M) K-6

Room: AV 122

C4 A Classroom Flight Plan for Success to the Challenger Learning Center!

This session will give upper elementary teachers practical ideas on how to implement all of the fantastic pre mission activities provided by the Challenger Learning Center. Activities and materials will be provided to transform your classroom into an astronaut training center.

Presented by: Ginger Materni, Sylvania City Schools
Pamela Rentner, Sylvania City Schools
Leslie Boudouris, Sylvania City Schools

Content & Grade Levels: (ES, Space) 4-8

Room: MS 132

C5 How Toys Are Made (Part I)

Do you want to engage your students by linking their everyday lives to the larger principles of science and math that they need to learn? The Akron Polymer Institute will present two sessions for teachers on How Toys Are Made. This fun hands-on session will present new, no/low cost lab ideas and experiments for your classroom. (Part II is session D5.)

Presented by: Carin Helfer, University of Akron

Content & Grade Levels: (T, P, GS, PS) 4-12, college

Room: MS 133

C6 What's Wrong with These Kids—Why Can't They See It?

Vision perception difficulties could be interfering with your students' ability to succeed. Approximately 1 out of 4 children and 7 out of 10 juvenile delinquents have vision problems that routine eye exams fail to detect. A child may have good eyesight but still have poor vision. The eyes are light receptors, vision is in the brain. Vision is a learned skill. In this session explore how you can help your struggling students to become visually ready for reading instruction.

Presented by: Belinda Lee Dewey, Hancock County Educational Service Center

Content & Grade Levels: All (any age)

Room: AV 150

C7 A New Degree Program! ...in Computational Sciences?!?

Owens Community College has recently joined forces with the Ralph Regula School of Computational Sciences at the Ohio Supercomputing Center to offer a new Associate's degree program in Computational Science. We are also working with several community colleges in the state to develop new courses in computational biology, physics, chemistry, and mathematics/computer science. Learn more about what computational science is, plus how to get involved in this exciting new program!

Presented by: James Zubricky, The University of Toledo
James Perry, Owens Community College

Content & Grade Levels: (M, T, P, GS) 11-12, college

Room: MS 112

C8 Using Technology in the Intermediate Science Classroom

Technology use in the intermediate classroom can provide students access to resources and authentic data that enables them to process information and report the findings within a global learning community. Students can create artifacts using technology to illustrate their understanding of a concept enabling construction of multiple representations as well as richer presentations of the students' communication of their conclusions/concepts/artifacts in a non-sequential; non-linear method.

Presented by: Andrea R. Milner, University of Toledo

Content & Grade Levels: (T, GS) 4-6

Room: AV 154

C9 Sink into Science at Stone Lab

Looking for ways to increase your science content knowledge while acquiring hands-on, inquiry-based teaching strategies? Learn about pre- and inservice educator courses at OSU's Stone Laboratory on Lake Erie. Find out how your students (grades 4 - 12) can participate in aquatic sampling cruises, post-secondary opportunities, and FREE videoconferences.

Presented by: Lindsay Manzo, Stone Laboratory and Ohio Sea Grant

Content & Grade Levels: (GS, LS, ES) 4-12

Room: MS 134

C10 Two Captains at the Helm: What Could Be Better? Find Out the Secrets to Effective Co-Teaching

What are the secrets to effective co-teaching? This session is for regular education teachers and special education teachers alike. Come as an individual or bring your co-teaching partner. Each teacher will walk away with nine models of co-teaching, strategies for implementing, communication tips, building models, difficulties, and solutions.

Presented by: Natalie Fisher, Mentor Exempted Village School District

Content & Grade Levels: (P, any subject) 7-12

Room: MS 114

Session D (2:00 pm - 2:50 pm)

D1 Vermiculite in the Classroom

What's dark brown and very green? Compost, of course! Going green is the wave of the future, and worm composting provides an inexpensive and effective tool to help you teach your students about decomposition, soil conservation, land management, organic gardening, waste management, and of course basic science, math, English, and more. TBG educators will share lots of ideas for using worms and the vermiculture they make as a fun and inspiring classroom manipulative. One bin will be raffled.

Presented by: Diane Thurber, Toledo Botanical Gardens

Content & Grade Levels: (GS, LS) K-8

Room: AV 125

D2 The Reasons Why Your Students Will Love the New TI-30

The new TI-30XS multiview is a fantastic calculator that is a cross between the TI-83/84 and the TI-30 and equation editor for MS Word. It is inexpensive (under \$20) and has some great features that I will demonstrate. It is great for statistics and for doing the quadratic formula. It will help in reducing errors done on other calculators. My Algebra class and my Intro to Stats class love this calculator. Come and see why.

Presented by: Beryl Stemen, Owens Community College

Content & Grade Levels: (M, T) 4-12, college

Room: AV 121

D3 Preparing for Parent-Teacher Conferences (Part I)

Dealing with parents is scary for experienced teachers so pre-service and new teachers are probably petrified. This session will show several ways to compile, organize, and present data to parents. Being organized will give you confidence and if you have confidence you will have better control of the meeting. Teacher led and student led conferences are better than parent led. Also includes hints for defusing confrontations and using them to help the student. (Part II is session E3.)

Presented by: Sharon A. Shaffer, Rossford Junior High

Content & Grade Levels: (P) Any grade level

Room: AV 122

D4 Elementary GLOBE: Hands-On Environmental Education Program

Join us for an interactive presentation on the Elementary GLOBE Program, an international environmental education program focusing on topics including soil, weather and atmosphere, water, and earth as a system. Participants will leave with classroom-ready, standards-based lessons that will motivate both students and teachers. Good stuff... don't miss it!

Presented by: Jodi Haney, Bowling Green State University

Content & Grade Levels: (P, LS, ES) K-6, college

Room: MS 132

D5 How Toys Are Made (Part II)

Do you want to engage your students by linking their everyday lives to the larger principles of science and math that they need to learn? The Akron Polymer Institute will present two sessions for teachers on How Toys Are Made. This fun hands-on session will present new, no/low cost lab ideas and experiments for your classroom. (Part I is session C5.)

Presented by: Carin Helfer, University of Akron

Content & Grade Levels: (T, P, GS, PS) 4-12, college

Room: MS 133

D6 The Chemistry of Art

The general format of this introductory chemistry course for non-science majors will be described, a mini lecture will be presented, and a class activity will be performed by attendees. Basic principles of chemistry are applied to the topics of color, paint, clay, glass, metals, photography, and art restoration.

Presented by: Elizabeth Wise, Lourdes College

Content & Grade Levels: (PS) 9-12, college

Room: AV 150

D7 Do the Math: But Which Topics?

With the release of NCTM's "Focal Points" for grades K-8 and its soon-to-be-released high school companion document, teachers need to re-evaluate how they spend their class time. In this session, we will explore the process of deciding which math topics need emphasis and which content might be considered "less important."

Presented by: Daniel Brahier, Bowling Green State University

Content & Grade Levels: (M) K-12

Room: MS 112

D8 Multimedia Resources for Science Teachers and Students

Enrich your curricula and enhance your students' experience with effective and content rich websites, images, videos, authoritative articles, and standards-based lesson plans. Explore the multi-media resources available through World Book, Science Online, quality PBS resources, and more! Best of all, all resources are FREE!

Presented by: Renee deValpine, WGTE Public Media

Content & Grade Levels: (T, GS) K-12

Room: AV 154

D9 Rock-Solid Certainty or Just a Semblance of Order? Classification and the Nature of Science

Because science is a process rather than a body of knowledge, our students should experience classification systems as arbitrary and evolving. Participants will receive and share ideas about content standard lessons which enhance students' understanding of "disorder is more probable than order" and how we try to make sense of that disorder by imposing an order we can understand.

Presented by: Marya Czech, Lourdes College

Content & Grade Levels: (P, LS, ES) 4-10

Room: MS 134

D10 Students Show What They Know

Looking for ways students can illustrate their understandings of science concepts? Graphic Organizers are quick to do and easy to assess. Thinking Works provides strategies in which students can develop their writing skills. Foldables are graphic organizers in 3-D form. This session combines all three!

Presented by: Janet Struble, The University of Toledo

Content & Grade Levels: (P, GS) 4-10

Room: MS 114

*Session E (3:00 pm - 3:50 pm)***E1 Are You Smarter than a 5th Grader?**

Are you smarter than a 5th grader? You don't need to go on TV to find out! In this fast paced "game show style" presentation, Toledo Botanical Garden educators will challenge volunteers to compete with each other using games from TBG's award winning children's education curriculum, Growing Science. From identifying seeds and animal tracks, to listening to birdcalls, you'll get a brief taste of what our field trips are like and see how you score compared to thousands of Toledo area children who visit TBG each year. The only difference is they don't get prizes but you will! Take home TBG activity kits will be awarded to all participants.

Presented by: Diane Thurber, Toledo Botanical Gardens

Content & Grade Levels: (GS, LS) K-5

Room: AV 125

E2 Inquiry-Based Instruction for Meeting the Ohio Core

The Ohio Department of Education advocates the use of scientific inquiry for quality standards-based instruction. This session will explore the definition and implementation of a range of inquiry for classrooms. Inquiry in the classroom can range from teacher-directed to student-centered. Students' background knowledge determines the type of inquiry that should be employed for instruction. Teaching with the learning cycle can support the level of inquiry that may be successfully implemented.

Presented by: Cathy Holmes, The Ohio Department of Education

Content & Grade Levels: (P, GS, LS, PS, ES) 7-10

Room: AV 121

E3 Preparing for Parent-Teacher Conferences (Part II)

Dealing with parents is scary for experienced teachers so pre-service and new teachers are probably petrified. This session will show several ways to compile, organize, and present data to parents. Being organized will give you confidence and if you have confidence you will have better control of the meeting. Teacher led and student led conferences are better than parent led. Also includes hints for defusing confrontations and using them to help the student. (Part I is session D3.)

Presented by: Sharon A. Shaffer, Rossford Junior High School

Content & Grade Levels: (P) Any grade level

Room: AV 122

E4 Dashing DNA Jewelry (LIMIT 15)

I will demonstrate two DNA based activities. The first is a simple extraction of your own cheek cell DNA to make a necklace using grocery store supplies. Second, we will make DNA model earrings using multicolor and multisize beads. Be the best dressed symposium attendee with the complete set!

Presented by: Anjali Gray, Lourdes College

Content & Grade Levels: (LS) 11-12, college

Room: MS 132

E5 Do You Want to Teach the Required Standards and Indicators in a Way That Will Actively Engage Students While They Are Really Learning Deeper Concepts? Are You Looking for a Way to Use Inquiry with Your Students with Lessons and Materials That Are Proven by Research to be Effective?

FOSS is the premier research-based curriculum in the United States. It has been proven in classrooms across the country. Come see how FOSS lessons use a hands-on, inquiry approach to lead students to true learning. Experience how the lessons are structured to give teachers the opportunity to use inquiry with their students in the classroom. Learn how Delta Education products will help you meet your standards and indicators with research to show their effectiveness. Door prizes will be awarded.

Presented by: Kevin Stinson, Delta Education Regional Sales Manager

Content & Grade Levels: (ES, LS, PS, GS) K-8

Room: MS 133

E6 What Is a GPS and How Do They Work? Teaching Students How to Use GPS Technology for Navigation and Recreation

This session is for 6th-12th grade teachers who want to gain a better understanding of Global Positioning System technology and how to implement it in modern science and math classrooms. Teachers will learn how the system works and how to use a GPS. Resources include ideas, ready to implement hands-on activities, and lesson plans incorporating GPS technology.

Presented by: Melanie Fisher, Eastlake Middle School
Jona Polesovsky, Glass City Academy

Content & Grade Levels: (M, T, GS) 7-12

Room: AV 150

E7 Kids in the Creek: Starting an Urban Environmental Studies School

Using an environmental studies theme, get kids connected with science in a wholistic way. By combining college/tech prep with the power of STEM, low-income students can overcome the single biggest obstacle to graduation in the state of Ohio--the (Science) OGT. Use outdoor venues to address kids' emotional and developmental needs. Increase instructional quality and re-energize your science colleagues. Spark the relationship-building skills of staff while building community around the future.

Presented by: Virginia Rhodes, Cincinnati Public Schools

Content & Grade Levels: (ALL) 4-10

Room: MS 112

E8 Web 2.0 for School Teachers

This presentation is to introduce Web 2.0 tools such as Blog, Wiki, Podcast, RSS, and Flickr, and discuss their applications in K-12 classrooms.

Presented by: Lan Li, Bowling Green State University

Content & Grade Levels: (T) K-12

Room: AV 154

E9 Case Study Methodology for Science and Math Instruction

Case studies or story problems are used for education in medicine, law, and the social sciences. The presenters will discuss case study methods and provide participants with the opportunity to develop questions for guided discovery and divergent teaching in the sciences using real world examples.

Presented by: F. F. Andres, Bowling Green State University

K. T. Keylock, Bowling Green State University

Content & Grade Levels: (M, LS, PS) 7-12, college

Room: MS 134

E10 Kids Take Charge of Data Analysis!

Experience data analysis activities for students. Let them do some inquiry activity that they normally do not get the chance to do. These activities can be implemented very easily in your classroom.

Presented by: Janet Emerine, Bowling Green State University

Content & Grade Levels: (M) 4-6

Room: MS 114

Presenters

Keynote Speaker

Mrs. Deborah Wickerham, 2008 Ohio Teacher of the Year, Findlay City Schools

Session Presenters

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Debra Bercher, Lourdes College

Leslie Boudouris, Sylvania City Schools

Dan Brahier, Bowling Green State University

Anne Bullerjahn, Owens Community College

Jake Burgoon, Bowling Green State University

Kevin Czajkowski, The University of Toledo

Marya Czech, Lourdes College

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Pamela Rentner, Sylvania City Schools

Virginia Rhodes, Cincinnati Public Schools

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Diane Shankland, Toledo Public Schools, BP A+ for Energy Winner

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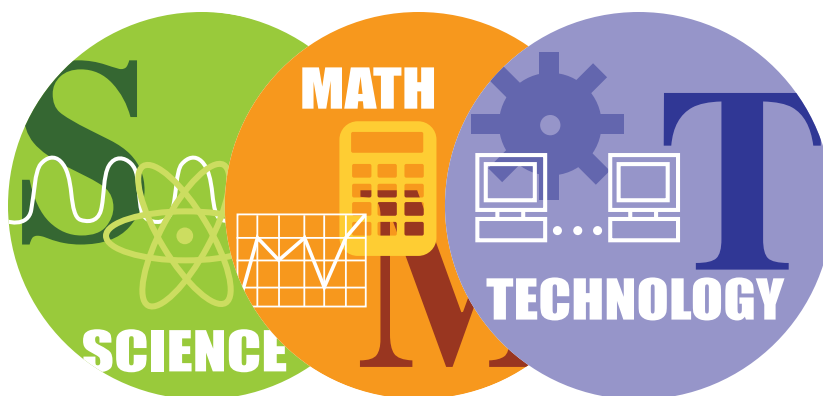
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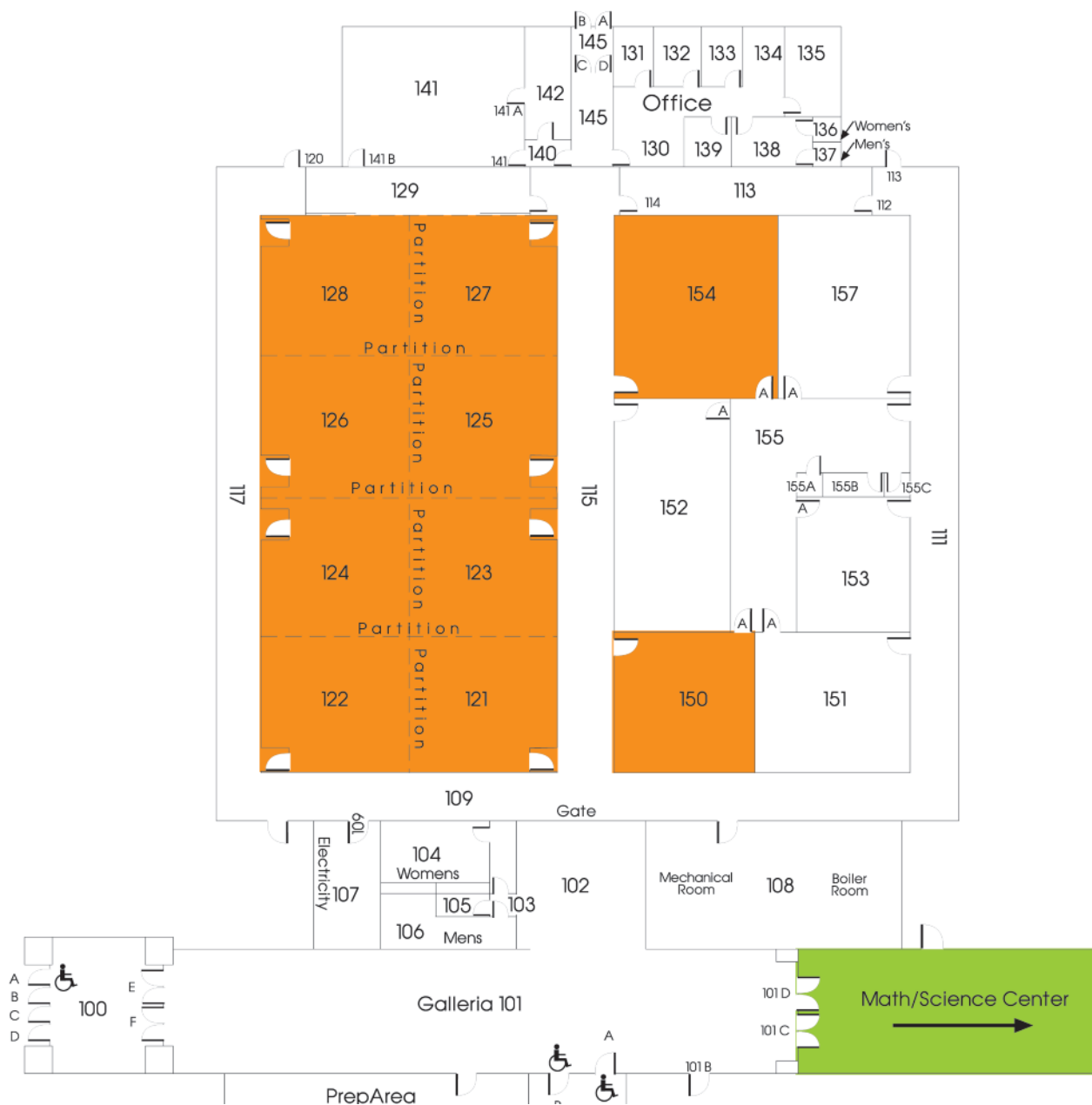
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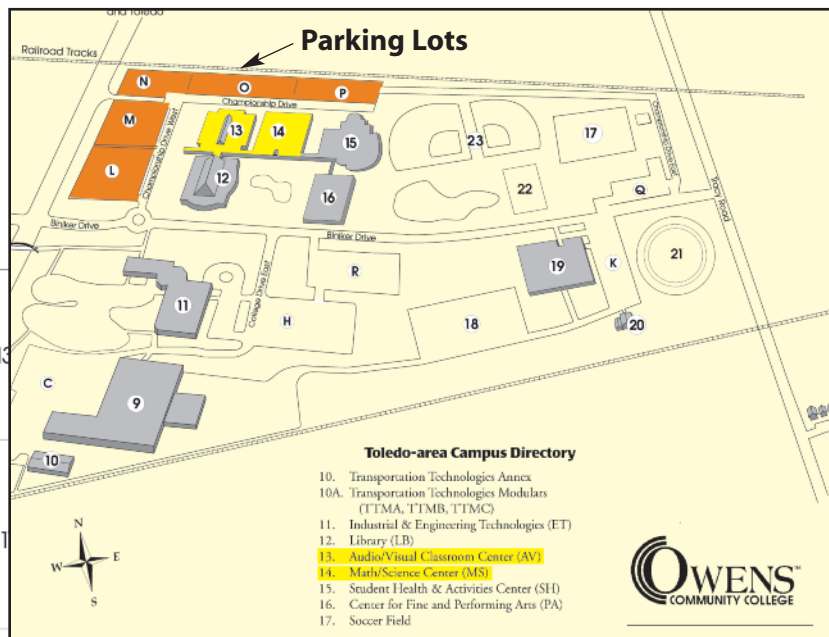
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Audio/Visual Classroom Center



Owens CC Building Maps cont.

Math/Science Center



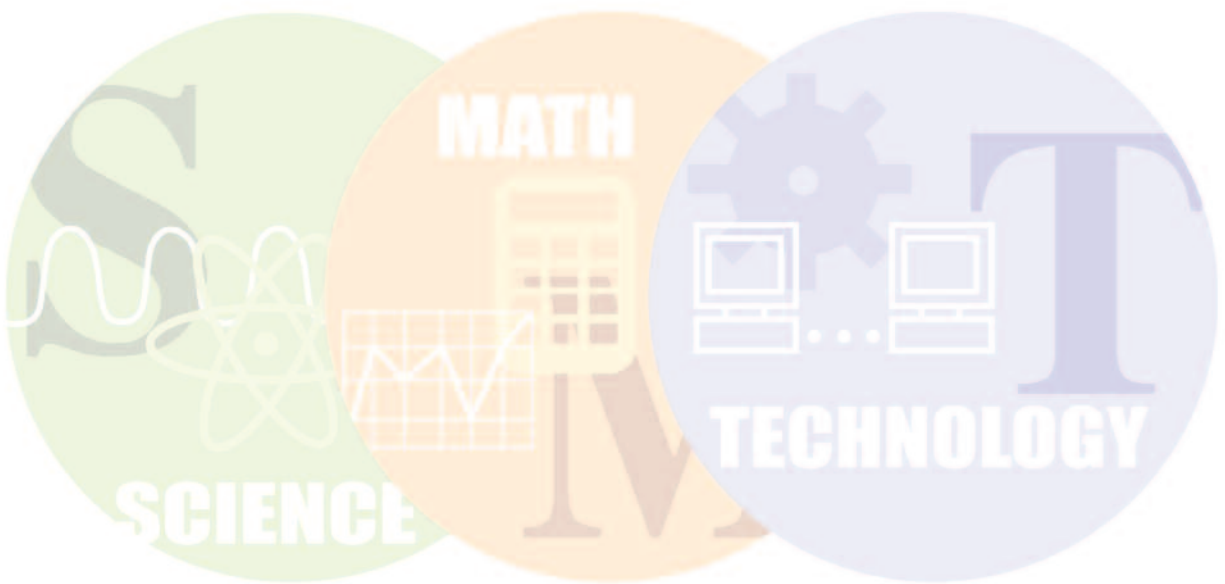
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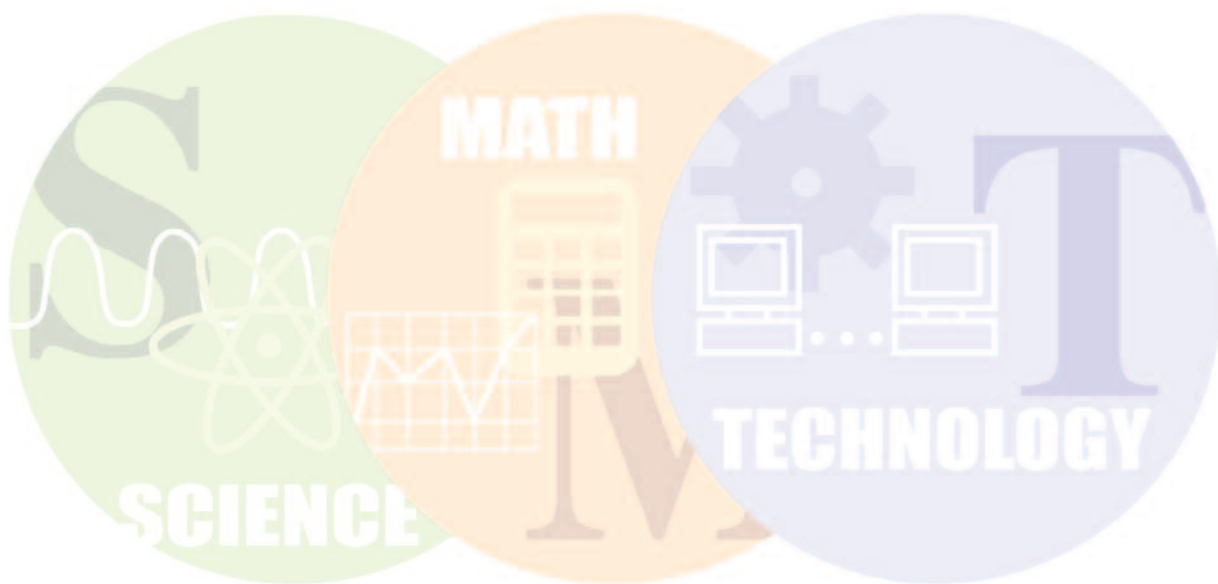
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Notes



Notes





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in Science and Mathematics Education***

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