# 2024 HASTI & ICTM Conference
## Event Schedule

**Sun, Feb 18, 2024**

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<tr>
<th>Time</th>
<th>Event</th>
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| 1:00 PM| **World Food Prize Purdue Youth Institute**                                                      | Kennedy  | Speaker: Anna Egan  
Purdue University College of Agriculture                                                                                                                                                        |
|        | **NGSS Bootcamp**                                                                              | Indianapolis A | Speaker: Shannon Hudson  
Teacher  
Crawfordsville Middle School  
The Indiana Science Standards changed, so now what? Come learn all the new acronyms and just how easy it is to incorporate them into existing lessons. |
|        | **Xplorlabs: Extraction to E-Waste**                                                            | Indianapolis B | Speaker: Amy Gilbert  
Consultant  
Underwriters Laboratories Research Institutes, Office of Research Experiences and Education  
Xplorlabs: Extraction to E-Waste online pathway supports students in deep reflection of their relationships with energy consumption. |
|        | **Water Moves Our Earth; Plants Stabilize Our Earth**                                          | Indianapolis C |                                                                                                                                                                                                                  |
Advancing Research on a Questioning Strategy in STEM Education: A Collaborative Initiative Between Teacher Educators and Elementary Teachers

Suzanne Cunningham  
Other  
Purdue University

This research utilized a questioning strategy in elementary STEM lessons, to increase student-led questioning, critical thinking, and engagement. Results of the study will be shared.

Fractions are Fascinating: Utilizing Concrete Materials Before Jumping to Traditional Algorithms

John Somers  
Professor  
University of Indianapolis

Educators are currently asked to teach mathematics with methods very different from those they, themselves, were taught when they were young. In this session, participants will utilize concrete materials (pattern blocks) to explore addition, subtraction, multiplication, and division of fractions.

Using Desmos Art Projects as Math Assessments

Ryan Flessner  
Professor of Teacher Education  
Butler University

Desmos Art Projects are such a fun and assess student knowledge of various functions. My 8th graders love using lines to create "pet houses" on the graphing calculator. My geometry students enjoyed graphing circles to create bubble wands--and printing them on the 3D printer. And my Algebra II students love designing roller coasters with polynomial graphs. Desmos Art can be applied to many secondary math classes. And there is really no ceiling. Check out the amazing work in the Desmos Art Show. This workshop will be interactive and participants will have the opportunity to start working on their own graphs and maybe even explore some of the newer graphing features of Desmos.
SEL: What’s Math Got to Do with It?
⊙ 1:00 PM - 1:45 PM, Feb 18
📍 Grand 7

**Themes:** Middle Level 6-8, High School 9-12, Mathematics

Strengthen SEL in your classroom by prioritizing the Social Emotional and Academic Development (SEAD) themes- Agency, Belonging, Discourse, and Identity. Engage in a math task, and connect the themes with the Standards for Mathematical Practice and content to promote a safe, equitable, and empowered class culture.

**Speaker**

Rhonda Pierre
Professional Learning Specialist
CPM Educational Program

Mathematizing Light to Make Art: An Integrated STEM Activity
⊙ 1:00 PM - 2:45 PM, Feb 18
📍 Grand 8

**Themes:** College, High School 9-12, Mathematics, Workshop (1 hour 45 minute session)

An activity where learners use mathematical terminology, concepts, and processes to build an art display using laser pointers and mirrors would provide an opportunity to apply the mathematics of angle measure and the science of light reflection in their designs.

**Speaker**

Hanna Alyami
Purdue Fort Wayne

Teaching Critical Thinking in Science in the Age of Climate Denial and Misinformation
⊙ 1:00 PM - 1:45 PM, Feb 18
📍 Veterans 1

**Themes:** Middle Level 6-8, High School 9-12, General

**Speaker**

J. Adam Scribner
Director of STEM Education Initiatives
Indiana University

Education's Role in Generative AI: Nuts, Bolts, and Prompt Engineering
⊙ 1:00 PM - 1:45 PM, Feb 18
📍 Veterans 2

**Themes:** Science Education, High School 9-12

Generative AI is the scientific calculator of this decade. Learn how to use it and where it fits. Equity, ethics, and new science career paths.

**Speaker**

Hall Davidson
Harrison High School, Evansville-Vanderburgh County School Corporation (Student)
30 Demos in 60 Minutes

1:00 PM - 1:45 PM, Feb 18
Veterans 3

Physical Science/Physics  Middle Level 6-8

A demo show presented by members of the Indiana chapter of the American Association of Physics Teachers.

 Speakers

Spencer Perry
PHD Student
Indiana University Bloomington

Ben Grimes
Physics Teacher
Roncalli High School

What are phenomena and how do they work with the new Indiana Science Standards?

1:00 PM - 2:45 PM, Feb 18
Veterans 4

Science Education  Elementary K-5  Middle Level 6-8  High School 9-12

Phenomena are the basis for scientific discovery. At the end of the session, participants will better understand what phenomena are and why they are a key to science education using the new standards.

 Speaker

Sharon Cates
Vice President
Phenomenon Science Education

2:00 PM

Bite-Size Inquiry in the STEAM Classroom

2:00 PM - 2:45 PM, Feb 18
Indianapolis C

Interdisciplinary (i.e. STEM)  Elementary K-5  Middle Level 6-8  High School 9-12

Participants will walk away with "bite-sized" or small scale inquiry-based strategies and activities that can be incorporated within the content areas in the STEAM classroom.

 Speaker

Annamarie Vandrevala
Teacher
Franklin Park District 84 & DePaul University

Building a Hopeful Climate Future Together: An Authentic Group-Worthy Task Using Climate Simulations

2:00 PM - 2:45 PM, Feb 18
Indianapolis D

Ecology/Environmental Science  High School 9-12

Bring your laptop to explore a ready-to-go, NGSS-aligned climate lesson perfect for middle/high school groupwork!
Increasing Teacher Awareness Student Performance on the New Digital PSAT and SAT Assessments

Speaker: Catherine Peterson
Teacher
Bloomington High School South

2:00 PM - 2:45 PM, Feb 18
Indianapolis E
Middle Level 6-8 High School 9-12 Mathematics

Specific materials and resources for students, parents, and educators to understand, and for students score their best, on the new Digital PSAT and SAT Assessments will be discussed and provided.

Building Thinking Classrooms Across Curriculum

Speaker: Bill Reed
Consultant
INcompressing Education

2:00 PM - 2:45 PM, Feb 18
Grand 6
Elementary K-5 Middle Level 6-8 High School 9-12 Mathematics

Have you ever wondered how to implement BTC practices outside of the math classroom? Let us show you through a hands-on presentation where we will model how to utilize BTC practices in various content areas.

Cultivating Teachers who Flourish!

Speaker: Katie Sinzinger
Instructional Coach
Franklin Community Schools

2:00 PM - 2:45 PM, Feb 18
Grand 7

Drawing on the principles outlined in "The Imperfect and Unfinished Math Teacher" (Orton, 2022) and particular case studies, we will share strategies and systems that have worked to create a healthy environment for the coaching and development of teachers and leaders - leading to true professionalism and "flourishment"! Walk away with specific action steps that you can implement in your own building!

Developing STEM literate students in Kindergarten

Speaker: Jennifer Jensen
Academics Director
TNTP

2:00 PM - 2:45 PM, Feb 18
Veterans 1
Interdisciplinary (i.e. STEM) Elementary K-5 Pre-Elementary Pre-K-2nd
Learn how to develop STEM literate students by engaging them in a literacy based unit about Monarch Butterflies.

Speaker

Kristen Poindexter
Teacher
Allisonville Elementary School

Who's Asking the Questions in Math Class? Using Curiosity as a Catalyst for Changing Curricula and Classrooms

Even though we want students to be curious in math, see its beauty, and wonder how it applies to their world, most students believe math class is a place where they’re just given answers to questions they’ve never asked. Math leaders and teachers can change this belief by cultivating curiosity in math courses and classrooms. Learn strategies for inspiring students to ask their own questions, self-assess their curiosity, and value questions as much as answers.

Genetics and Natural Selection Through Integrated STEM

Presentation of curriculum materials for engaging students with genetics and natural selection through mini robots that students design, 3D print, and compete against classmates.

Speaker

Stuart White
STUART WHITE

Star Light, Star Bright! Learning to Read the Sky!

Become a part of an exciting community of international star-spotters that report on the mysterious and ever-changing patterns they see in the night

Speakers

Allyson Mayer
Tess Burns
Professional Development Specialist
Imagine Learning

It's Elementary (Forensics)
Analyze fingerprints, footprints, handwriting, ink (chromatography), and fibers that can be done by elementary students. Then, create your own forensic science "whodunit".

Speaker

Tyler Hudson
Other
AWS/Purdue

Xplorlabs: Science of Thermal Runaway

3:00 PM - 4:45 PM, Feb 18
Indianapolis B
Physical Science/Physics General

Through the currently relevant problem of thermal runaway, participants are inspired to integrate the no-cost Xplorlabs: Science of Thermal Runaway as part of their classroom curriculum.

Speaker

Amy Gilbert
Consultant
Underwriters Laboratories Research Institutes, Office of Research Experiences and Education

Formative Assessments Unleashed: Fueling Growth and Engagement

3:00 PM - 3:45 PM, Feb 18
Indianapolis C
Interdisciplinary (i.e. STEM) Elementary K-5 Middle Level 6-8 High School 9-12

I will present 15 engaging formative assessment strategies that I use in my classroom.

Speaker

Brooke Stewart
High School Science Teacher
South Central Jr Sr High School

Centering on Students’ Communities and Lived Experiences in Integrated STEM Education

3:00 PM - 4:45 PM, Feb 18
Indianapolis D
Interdisciplinary (i.e. STEM) Middle Level 6-8 High School 9-12 College

This session focuses on integrating students’ communities and local knowledge in learning science and engineering in secondary science classrooms.

Speaker

Khanh Tran
Postdoctoral Researcher, CATALYST
Purdue University, West Lafayette

Integrating Diversity, Equity, and Inclusion into Our Elementary Mathematics Classrooms

3:00 PM - 3:45 PM, Feb 18
Indianapolis E
In the summer of 2020, protests took place across the country. Citizens demanded attention be paid to diversity, equity, and inclusion. These initiatives must remain top-of-mind as we work with students. This session will tie mathematics to these important issues.

Speaker

Ryan Flessner  
Professor of Teacher Education  
Butler University

Intervention Equity in the Secondary Math Classroom

3:00 PM - 3:15 PM, Feb 18  
Grand 7

We will explore various different ways to facilitate and integrate intervention strategies in the secondary math classroom to promote intervention equity for all students.

Speaker

Michael Wagner  
National STEM Content Specialist  
Houghton Mifflin Harcourt

Cultivating Math Confidence: Leveraging the Affective Domain to Ease Math Anxiety and Empower Learning

3:00 PM - 3:45 PM, Feb 18  
Grand 8

Unlocking Confidence: Exploring the Affective Domain's Role in Alleviating Math Anxiety. Discover how nurturing the affective domain of learning cultivates a positive mindset, reducing math anxiety's grip. Practical strategies for educators to empower students and foster a harmonious relationship with mathematics.

New Free HHMI BioInteractive Resource: Using Model Builder to Explore the Central Dogma, Biology of Skin Color, and More!

3:00 PM - 4:45 PM, Feb 18  
Veterans 1

Explore a powerful interactive model-building tool, which allows students to check their own work while building their models. Participants are encouraged to bring a laptop.

Speaker

Sherry Annee  
Biotechnology Teacher  
Brebeuf Jesuit Preparatory School

Connecting to the Sun Beyond the Eclipse

3:00 PM - 3:45 PM, Feb 18  
Veterans 2

Examples of hands-on lessons that demonstrate the Sun's broad connections to multiple science standards.
Birdwatching: A field-based unit or short course

Sarah Reynolds
Assistant Professor, Dept. of Physics & Earth-Space Science
University of Indianapolis

Birdwatching: A field-based unit or short course

I taught Birdwatching for the Indiana Academy’s 2023 May Term, focusing on recreational observation of birds with a modest introduction to the science of ornithology.

Activities and Opportunities for Learning on the Energy Frontier

Donald Winslow
Assistant Teaching Professor of Life Science
Indiana Academy for Science, Mathematics, and Humanities

Activities and Opportunities for Learning on the Energy Frontier

This session presents professional learning opportunities for teachers and activities to bring High Energy Physics Research into the Classroom for students.

Mastering the Teaching of Basic Fact Fluency - We Can Do It!

Marla Glover
PhD student in Physics Education
Purdue University

Mastering the Teaching of Basic Fact Fluency - We Can Do It!

In this session, participants will deepen their understanding of basic fact fluency progressions and engage in fluency activities for assessment and practice in the elementary classroom. Participants will be armed with tools they can immediately use in their classrooms.

BTC Across Curriculum

Courtney Flessner
Consultant
Keep Indiana Learning

BTC Across Curriculum


Have you ever wondered how to implement BTC practices outside of the math classroom? Let us show you through a hands-on presentation where we will model how to utilize BTC practices in various content areas. We will be modeling how to implement the Building Thinking Classroom practices in other content areas outside of math. We will work through the 4 toolkits focusing on different ones with the different contents. We will be modeling these through sample lessons where teachers will be acting as the students in the lesson. They will be up and working at vertical non-permanent surfaces.

Speaker

Mandy Ramey
Instructional Coach
Franklin Community Schools

Katie Sinzinger
Instructional Coach
Franklin Community Schools

4:00 PM
Rocketry + Avionics: Taking Data to New Heights

Presentation on free online courses that teach rocketry. Two strands of scaffolded rocketry courses, one for 8th Science - Physical Science and one for Physics classrooms.

Speaker

Heather Arnett
Other
University of Illinois

Beyond Key Words in Story Problems

How can we teach through the lens of reading comprehension to support understanding and meaning of math in context? Approaching problem solving with reasoning and comprehension in mind.

Speaker

Leah Stayer
Professor
Indiana University

We Fit Together Like a Stack of Swiss Cheese: Teaching using Reveal Math in a Thinking Classrooms

Immerse yourself in a lesson from beginning to end using Reveal Math and Building Thinking Classrooms Practices. Learn how the essential component of Reveal Math provides the perfect resources to structure conceptual learning and critical thinking for all students when partnered with Peter Liljedahl’s 14 practices for Building Thinking Classrooms.
Adapting Math Activities for Learners with Intellectual Disabilities

Melisa McCain
Instructional Coach
Franklin Community Schools

4:00 PM - 4:45 PM, Feb 18
Grand 7

In this session the presenters will share classroom mathematics activities for students in grades 2-8 with the audience and demonstrate how they have been adapted or modified for learners with intellectual disabilities.

"You Do, We Do, I Do" in STEM Classrooms: Active Student Learning Top 10 Ideas Building Thinking Classrooms and Mathematical Mindsets

David Feikes
Professor
Purdue University Northwest

4:00 PM - 4:45 PM, Feb 18
Grand 8

You Do, We Do, I Do is a teaching strategy that transitions the responsibility of learning from the teacher to the student. Discover how engaging activities, discussions, and hands-on experiences foster deeper understanding, critical thinking, and collaboration.

Re-Thinking the STEM Pipeline

Alan Zollman
Professor
Indiana University Southeast

4:00 PM - 4:45 PM, Feb 18
Veterans 2

This session will look at opportunities to develop STEM identities in all learners using Universal Design for Learning and Culturally-Relevant Pedagogy.

It’s Phenomenal! Using Real-World Connections to Support Three Dimensional Learning

Ryan Murray
Professional Learning Specialist
Keep Indiana Learning

4:00 PM - 4:45 PM, Feb 18
Veterans 3

This session will focus on using real-world connections to support three-dimensional learning in STEM classrooms.
Explore the purpose of phenomena, the power of using it to drive your instruction, and the way it will support your students.

Speaker
Greg Sloan
Curriculum Specialist
Savvas Learning Company

Mon, Feb 19, 2024

8:00 AM

Using Interactive STEM Cases to Power Up Thinking!
⊙ 8:00 AM - 8:45 AM, Feb 19
📍 Indianapolis A

Interdisciplinary (i.e. STEM)  Middle Level 6-8  High School 9-12

Gizmos are proven solution that provides a deep and personalized learning experience for students that allow them to apply STEM concepts and make connections between the classroom and the world around them.

Speaker
Patty Low
Curriculum Consultant
ExploreLearning

A Few of my Favorite Chemistry Things
⊙ 8:00 AM - 8:45 AM, Feb 19
📍 Indianapolis B

Chemistry  High School 9-12  College

I will share some of my favorite chemistry introductory, conceptual, and review activities. Join me for instructions, how-tos, and tips/tricks for using these activities.

Speaker
Heather Jackson
Teacher
Danville Community High School

The Fires of 1871: the Chicago, Peshtigo, and Michigan
⊙ 8:00 AM - 8:45 AM, Feb 19
📍 Indianapolis C

Ecology/Environmental Science  General

Thousands of people lost their lives in these 1871 fires, with millions of dollars of property and millions of acres of land burned. Though the exact causes of all the fires are unknown, the weather conditions and human circumstances combined to supply an environment conducive to disaster

Speaker
James Hollenbeck
Professor
Indiana University Southeast

Bringing the JOY of Learning to the Classroom!
Come learn how to engage your students and bring the JOY to learning STEM in elementary classrooms through a simple easy to use method!

Speaker

Douglas Hunnings
STEM Specialist & Director of Inquiry Services
ETHOS Innovation Center

Don't Believe Everything You Believe!

The Generation Skeptics curriculum fosters an understanding of the world through inquiry-based learning. We provide free materials to complement existing science and educational programs.

Speaker

Katie Clemmons
Educator
Endeavor Charter School

Reaching More Students in Less Time

Join me to teach differently than how we were taught AND differently than how we were taught to teach math. Let’s shift the focus from memorizing / mimicking to reasoning and math-ing. And get results. Math is Figuroutable!

Speaker

Pam Harris

Connect and Respect = Change We Can Believe In

Are you drowning in behavior plans, documentation and interruptions? Reduce disruptive behavior and increase achievement with our practical strategies. Learn how we went from individual behavior plans for 28% of our students to ONLY 4% while increasing achievement.

Speaker

Stephen Troehler
Teacher and Admin Mentor
Forest Hills High School
Feeding the World with Science

With a global population nearing 10 billion by 2050, discover how science tackles the challenge of feeding our world's growing population.

Speaker

Haley Siergiej
Nutrients for Life

Grasping Innovation: Engineering Hydraulic Claws in STEM Classrooms

Design and build a hydraulic claw that can pick up space trash, gather samples, or load materials in a series of challenges.

Speaker

Amber Hudson
Vice President of Education Services
1st Maker Space

Encourage curiosity, spark inquiry: Teach students to ask their own questions

The Question Formulation Technique (QFT) will be explored in a hands-on, educator-to-educator training session on teaching students to ask their own questions.

Speaker

Maureen McGrail
Science Content Director AP-TIP
University of Notre Dame

Mathematical Problem Solving for All Students

This session will highlight several engaging strategies such as Three Reads, Numberless Word Problems, and more!

Speaker

Margo Dye
STEM Coach/Specialist
Accelerate Learning
Understanding the 2023 IAS for Math and How They Relate to the State Assessments

10:00 AM - 10:45 AM, Feb 19
Indianapolis E

Middle Level 6-8, High School 9-12, Mathematics

A Crosswalk comparing the 2020 IAS, 2023 IAS, and the CCSS for Math, how the standards are assessed on State Assessments, and wording changing in the 2023 IAS for Math will be provided. What standards must be taught for students to be successful will be shown.

Speaker

Bill Reed
Consultant
INcompassing Education

Process > Product

10:00 AM - 10:45 AM, Feb 19
Grand 8

Interdisciplinary (i.e. STEM), Elementary K-5, Middle Level 6-8, High School 9-12, General

Teacher Educators

Join @Dr_LeDune for an entertaining and enlightening journey of theories, models, and practices of fostering academic, social, and life skills through inquiry-based instructional methods.

Speaker

Chad LeDune
STEM Coach
Southwest School Corporation

Solar Eclipse & Wildlife

10:00 AM - 10:45 AM, Feb 19
Veterans 1

Biology, Life Science, Elementary K-5, Middle Level 6-8, High School 9-12

Activities to explore Indiana wildlife behavior during a solar eclipse

Speaker

Kathy Madren
Education Outreach Specialist
DNR Division of Fish & Wildlife

COVID-19, eLearning, the Digital Divide and Underprivileged Children

10:00 AM - 10:45 AM, Feb 19
Veterans 2

Interdisciplinary (i.e. STEM), General

The pressure students feel from not having access to the technology they need leads to academic decline. Students with lower socio-economic status and limited access to eLearning and technology were unable to complete their homework or receive an adequate education.
Evolution for Middle School Educators

Speaker: James Hollenbeck
Professor
Indiana University Southeast

Teach evolution with confidence! Participants will receive a free unit of materials, including many with K12 Indiana Academic Standards active learning ideas.

Make Them Curious Again

Speaker: Katie Clemmons
Educator
Endeavor Charter School

Build a classroom where curiosity is the focus.

A Week in Hawaii with Dr. Peter Liljedahl

Speaker: Robin Coffman
Biology & AP Biology Teacher
Whitko Jr./Sr. High School

Come join us as we take you on our journey shadowing Dr. Peter Liljedahl as he spends 3 days in the classroom with students at Mckinley High School, Honolulu HI. We will share our incredible observations, insightful conversations, and lifelong lessons learned from this once in a lifetime adventure. Then we will share the impactful shifts that were implemented as a result of our experiences along with the successes and bumps in the road encountered along the way.

Speakers

Candy Miller
High School Math Teacher
Franklin Community Schools

Hailey Anderson-Roberts
High School Mathematics Teacher
Franklin Community Schools

Melisa McCain
Instructional Coach
Franklin Community Schools
Creating Curious Classrooms in Indiana: K-12 Science

In this session, discover how phenomena-based science instruction can promote student curiosity and maximize learning while supporting Indiana State Academic Standards for Science.

Speaker
Brad Fountain
Senior Specialist, Regional Marketing & Events
Discovery Education

Promoting Equity and Diversity in Your Classroom

Do you believe that education changes lives and that the safety and health of students are critical parts of education this workshop might be for you.

Speakers
Kady Lane
Past Board Director HASTI (Hoosier Association of Science Teachers Inc.) District 8 Director HASTI and Indiana University
Stephanie Crook
Teacher

Looking for Patterns in Species Diversity

Look for patterns in species diversity in coral reef ecosystems and other animals to determine cause and effect relationships and understand how ecosystem interactions affect patterns of biological diversity.

Speaker
Billee Procknow
Marketing and Events Manager
Lab-Aids

Solar Eclipse 101 - Everything You Need to Know!

Join Rick Crosslin to explore eclipse using various demonstrations, classroom activities, and strategies and lessons learned from the 2017 Great American Total Eclipse.
Climate Change in Your Own Backyard

Rick Crosslin
Scientist in Residence
MSD Wayne Township Schools

11:00 AM - 11:45 AM, Feb 19
Veterans 2

Biology Life Science High School 9-12

Engage in activities and leave with a complete lesson from the National Center for Science Education about the relationship between climate change and severe weather.

How We Grade in a Thinking Classroom

Jeremy Cook
Science Teacher
Carmel High School

12:00 PM
Grand 8

High School 9-12 Middle Level 6-8

Chapter 14 of Peter Liljedahl's book, Building Thinking Classrooms focuses on how we can effectively grade students in a thinking classroom. In this session, we will explore how teachers can begin to easily transition from points-based grading to outcomes-based grading. In addition, to make this transition seamless, Melisa will share the free digital grading rubric designed in collaboration with Tim Brzezinski and through consultation with Peter Liljedahl. Participants will be shown how to use the Google Sheets application that automates the grading process exactly the way Peter describes in his text.

The Power of Multiyear Professional Development: Reinvigorating Teaching and Learning of Mathematics in One District

Melisa McCain
Instructional Coach
Franklin Community Schools

Caleb Sinzinger
Middle and High School Math Teacher
Franklin Community Schools

12:00 PM - 1:45 PM, Feb 19
Veterans 5

General Mathematics
During this presentation, participants will first learn about the planning and implementation of a three-year professional development plan. This will include what the roles of the consultant, administrators, and teachers were throughout implementation. Participants will learn of the design of each year’s professional development sessions, and how the consultants, school administrators, and district administrators worked together to differentiate based on teachers and grade level needs. After that, participants will engage in three different activities that took place to increase teacher efficacy and mathematical content knowledge while also modeling mathematical pedagogical practices in classrooms. Finally, participants will learn about the results of the three-year professional development plan. Districtwide, students made noticeable and quantifiable improvement in standardized tests. Additionally, there is anecdotal and qualitative evidence of reinvigorating teachers and even extending careers beyond retirement announcements. As well, numerous teachers and students vocalized that they like teaching and learning math for the first time. Participants will hear firsthand from the consultant, teachers, and administrators to understand the breadth and depth of the entire professional development experience.

1:00 PM

Developing Conceptual Explanations for Elementary Grades
Courtney Flessner
Consultant
Keep Indiana Learning
Freedom
Elementary K-5
Mathematics

Teachers often explain content to students. However, not all explanations are meaningful. We will discuss research-based practices for creating conceptual explanations and when it is best to give a conceptual explanation instead of letting students discover the concept for themselves.

1:00 PM

Pythagorean Theorem: Investigations Using Desmos
Mark Creager
Associate Professor
University of Southern Indiana
Reagan
Middle Level 6-8, High School 9-12
Mathematics

How to modify pre-existing curricular resources to create locally relevant instruction.

1:00 PM

Creating Regionally Relevant Units/Lessons
Ben Dillon
St. Joseph High School
Indianapolis A
Interdisciplinary (i.e. STEM), Middle Level 6-8

Creating Regionally Relevant Units/Lessons
Teresa Rockwood
Science Curriculum Specialist
Kendall Hunt

1:00 PM

IABT Quick Hits
Indianapolis B
Beyond Memorizing Formulas: Leveraging Social Justice to Foster Flexible Thinking in Mathematics

1:00 PM - 2:45 PM, Feb 19
Indianapolis C

Explore innovative strategies for pushing all students to go beyond formula memorization. Learn to integrate social justice principles to promote flexible, adaptable thinking in math education. Empower students with creativity and critical thinking skills through interactive examples and discussions. Leave the session with practical strategies to put in practice.

The Algebra / Finance Connection: Real-World, Real-Math, Real-Interest

1:00 PM - 2:45 PM, Feb 19
Indianapolis E

Learn ways to embed financial applications in HS math courses and in an Advanced Algebra with Financial Applications course. The math will be explored in the contexts of discretionary expenses, banking, credit, auto ownership, employment, taxes, housing, investing, entrepreneurship, retirement, and budgeting.

Media Materials to Aid YOU in Teaching About Eclipses

1:00 PM - 1:45 PM, Feb 19
Veterans 1

Want to teach about the eclipse but don't have time to look up resources? Let me help with those I use in Astronomy!
The Mitosis and Meiosis Board Game

Workshop participants will receive instructions and materials to construct The Mitosis and Meiosis Board Game components and materials for use in their own biology classes.

Speaker

Joe Ruhl
Speaker and Author
Lafayette Jefferson High School (retired)

Conservation Educator Academy at the Indianapolis: What’s Coming in Summer 2024?

Find out what the Indianapolis Zoo and Ball State’s science educators have planned for the 2024 Conservation Educator Academy, A Summer PD Program for Teachers.

Speakers

Tom J. McConnell
The Hoosier Science Teacher Advisory Board
Ball State University

Tolly Foster
Education Programs Manager
Indianapolis Zoo

An Introduction to Future-Focused Mathematics: An Overview of the 2023 Streamlined and Prioritized Mathematics Standards

Join IDOE for an overview of the 2023 mathematics standards, including domain and content shifts, classroom considerations, and resources for implementation. Participants will take a closer look at updated resources including mathematics frameworks, correlation and vertical articulation guides, and other supporting documents.

Speaker

Dana Hartzell
Elementary STEM Specialist
Indiana Department of Education

Children's Literature in the Elementary Mathematics Classroom

Educators often use children's literature to teach reading and writing. However, there are many excellent books that tie to the teaching of mathematics as well! This session will introduce attendees to a plethora of picture books as well as the ways these books can be used to make mathematical connections for students.
Grading in a Thinking Classroom

2:00 PM - 2:45 PM, Feb 19
Reagan

You've built a thinking classroom and kids are loving learning on their feet. They're talking more, collaborating more, and you love it, too. But how do I put that learning in the gradebook? In this session we'll investigate some solutions and discover what's possible to grade equitably in a thinking classroom.

Encouraging Environmental Curiosity and Discovery with Envirothon

2:00 PM - 2:45 PM, Feb 19
Indianapolis A

Teachers will share lesson plans and activities they use to prepare their high school students for the Indiana Envirothon competition and share how to bring a team to the 2024 event.

What's the T? Digital Innovation in STEM is More Than Tech Tools!

2:00 PM - 2:45 PM, Feb 19
Indianapolis B

Take the challenge to become a true STEM innovator in this hands-on, digital learning session. The "T" is the development and implementation of engaging, purposeful technology that empowers students to develop a love for science and provide access to learning that would otherwise not be possible!
Teacher Leaders are powerful change-makers in elementary schools. This session will focus on key moves teacher leaders can make as they grow in their own leadership and advocacy for high-quality math instruction for all learners.

Speaker

Jessica Miller
Professional Learning Specialist
Keep Indiana Learning

Integrating History & Science in Educating about the Eclipse

Date: Feb 19, Time: 2:00 PM - 2:45 PM

Veterans 1
Earth/Space Science, Middle Level 6-8

In this session, we'll discuss ways to integrate history and science in lessons surrounding the eclipse and share our work on exploring the history of Indiana through eclipses and their related science.

Speaker

Sarah Reynolds
Assistant Professor, Dept. of Physics & Earth-Space Science
University of Indianapolis

Space Mining Challenge

Date: Feb 19, Time: 2:00 PM - 3:45 PM

Veterans 2
Interdisciplinary (i.e. STEM), High School 9-12

Design and build an electromagnetic crane to mine minerals from an asteroid and load them into your spacecraft!

https://www.canva.com/design/DAFuJpqblFg/5GGLnSMvqjM7qTvt_uIFg/view?
utm_content=DAFuJpqblFg&utm_campaign=designshare&utm_medium=link&utm_source=publishsharelink

Speakers

Megan Ewing
Professional Development Specialist
1st Maker Space

Amber Hudson

Composting with Worms (supplies available for 25 compost bins)

Date: Feb 19, Time: 2:00 PM - 2:45 PM

Veterans 3
Ecology/Environmental Science, General

Attendees will construct a vermicompost (worm) bin during the presentation that they can keep in their classroom which can be used for ongoing education.
STEAM Cheap, Simple, and in a Snap!

This session will present ideas for 3 quick, inexpensive, and classroom-tested STEAM ideas for all levels. Handouts are provided; kits will be given out.

Bridging Mathematics the Gap: Making the Shift from the 2020 to the 2023 Standards

Wondering how to make the shift from the 2020 mathematics standards to the 2023 standards? Join IDOE in a working session to identify shifts in mathematics content and build bridges to avoid possible learning gaps using newly updated resources. Participants should bring a fully charged device, have an Indiana Learning Lab account, and be ready to dive into their grade-level or course standards.

Fluency with Multi-Digit Numbers

Once students are fluent with their basic math facts, it's important to transfer that knowledge to multi-digit computation. This session will engage participants in connecting to - and moving beyond - basic math facts as students engage in solving problems with multi-digit numbers.
Before --> During --> After: Implementing a Problem-Based Curriculum

3:00 PM - 3:45 PM, Feb 19
Reagan

Harvesting the Power of Simulations in Science Education

3:00 PM - 3:45 PM, Feb 19
Indianapolis A

By harnessing the power of simulations and combining them with instructional best practices, teachers can create dynamic 3D learning experiences that empower students to ask questions, analyze data, and construct explanations.

Fostering Math Discourse and Engagement with Language Routines

3:00 PM - 3:45 PM, Feb 19
Indianapolis B

Utilize proven and teacher-created instructional routines to build engagement with students, and more willing to share, participate... and even mess up!

Why We Shouldn't Teach the Way We were Taught

3:00 PM - 3:45 PM, Feb 19
Indianapolis C

The latest research in approaches to teaching and learning that supports strategies that can be used in the classroom.
BTC Across the Curriculum

Have you ever wondered how to implement BTC practices outside of the math classroom? Let us show you through a hands-on presentation where we will model how to utilize BTC practices in various content areas. We will be modeling how to implement the Building Thinking Classroom practices in other content areas outside of math. We will work through the 4 toolkits focusing on different ones with the different contents. We will be modeling these through sample lessons where teachers will be acting as the students in the lesson. They will be up and working at vertical non-permanent surfaces.

Preparing for the Solar Eclipse in the Science Classroom

We will present around 15 lessons/labs around the content behind the solar eclipse.

Claim-Evidence-Reasoning (CER): Are you CERtain Your Students Understand the Data?
Experience how CER supports multiple elements in our science and math platforms, interact with exemplary CER responses relating to hands-on investigations.

**Speaker**

Margo Dye  
STEM Coach/Specialist  
Accelerate Learning

**ILEARN Assessment Updates**

3:00 PM - 3:45 PM, Feb 19  

**Speaker**

Mary Krivulka  
Indiana Department of Education

**Using Wicked Problems in Agriculture to Engage Students in Plant Science and Biotechnology**

4:00 PM - 4:45 PM, Feb 19  

**Speaker**

Heather Bryan  
Nourish the Future - Education Projects

**ICTM Business Meeting**

4:00 PM - 5:00 PM, Feb 19  

**HASTI Awards Program**

4:00 PM - 5:00 PM, Feb 19  

Join us as we celebrate the recipients of this years HASTI awards! Light refreshments will be provided.

**Tue, Feb 20, 2024**

**The Hoosier Science Teacher Journal: Write, Review, and Participate**

8:00 AM - 8:45 AM, Feb 20  

**Kennedy**
The ultimate professional development! Publish an article and participate in the editorial process. We will show you how.

Speaker
Teddie Phillipson-Mower
Indiana University

Blending SEL into Math Class Activities
⏰ 8:00 AM - 8:45 AM, Feb 20
📍 Reagan

Attendees will receive information on the five SEL competencies and how to seamlessly incorporate them into math classroom activities. Example activities will be presented.

Speaker
John Riley

Teaching Human Ecology with 3D Models and Simulations
⏰ 8:00 AM - 8:45 AM, Feb 20
📍 Indianapolis A
GroupId: Ecology/Environmental Science, High School 9-12

Engage in three-dimensional learning with hands-on activities to explore human population, biodiversity, climate change, land and natural resource use, and paths to sustainability.

Speaker
Norman Leonard
Teacher
Ben Davis University High School

Nature Engagement through Connections to Conservation
⏰ 8:00 AM - 8:45 AM, Feb 20
📍 Indianapolis B
GroupId: Ecology/Environmental Science, Elementary K-5, Middle Level 6-8

Link your learners to nature with connections to conservation. The Indianapolis Zoo will engage you in creating meaningful connections to field conservation, near and far.

Speakers
Tolly Foster
Education Programs Manager
Indianapolis Zoo

Laurie Christie

What if your students could predict the weather?
Learn how regular and intentional nature journaling can cultivate healthy, happy, creative students.

Speaker

Danielle Racke
Explore Nature By Nurture LLC

Engaging Middle School Students in Insect Taxonomy with Augmented Reality (AR)

Traditional methods of teaching taxonomy rely on 2D static images of organisms that students learn how to identify using a dichotomous key tool. However, such methods do not effectively convey taxonomic concepts in a manner that engages student interest, nor do they encourage further scientific inquiry (Wu & Wu, 2020). To address this concern, the team, led by Dr. Victoria Lowell, along with two PhD students, Stuart White and Anthony Ilobieso, and myself, pursued funding to support a vision we had of improving the learning of taxonomy and classification. Our goal was to provide students with an authentic learning experience of taxonomy by having them observe and interact with the insects through augmented reality (AR).

Speaker

Kevin Jones

Indiana Mathematics Leadership Academy: The Role of a Mathematics Instructional Leader

What’s an instructional leader in mathematics and how does one embrace that role when they don’t perceive themselves a content expert? In this session, participants will ponder the role of leadership in mathematics and how to build leadership efficacy.

Speaker

Courtney Flessner
Consultant
Keep Indiana Learning

Positioning Yourself for Success: The Imperative for AI Literacy in K-12 Schools

Positioning Yourself for Success: The Imperative for AI Literacy in K-12 Schools
In the age of artificial intelligence, the rapid rate of advances in technology make it difficult to keep up. Not only are there tools and resources to evaluate and consider, but there are also implications for preparing students to be knowledgeable and competitive in this new era. Join this session to discuss what this means for K-12 schools in terms of decision-making and planning around the use of artificial intelligence in schools and classrooms.

**Parachutes plus Young Students: A STEM Activity which includes Reading**

- **Speaker**: Dana Calfee  
  Indiana Department of Education

- **Event Details**:  
  - **Time**: 8:00 AM - 8:45 AM, Feb 20  
  - **Location**: Veterans 1
  - **Categories**: Interdisciplinary (i.e. STEM), Elementary K-5

  In this STEM activity student groups design, build, test, and analyze parachute models, as well as read and discuss two books.

**Opportunities in Aquatic Sciences, Forestry, and Wildlife from the Department of Forestry and Natural Resources at Purdue University**

- **Speakers**:  
  - **Megan Gunn**: Purdue University - Department of Forestry and Natural Resources  
  - **Julie Pluimer**: Assistant Director, Purdue University

- **Event Details**:  
  - **Time**: 8:00 AM - 8:45 AM, Feb 20  
  - **Location**: Veterans 2
  - **Categories**: Ecology/Environmental Science, Elementary K-5, Middle Level 6-8, Pre-Elementary Pre-K-2nd

  Learn about the field ecology majors, and outreach presentations that can be offered in your classroom, from the Purdue Department of Forestry & Natural Resources.

**Preparing Students for a Changing World - Lessons in Climate Change**

- **Speaker**: Tina Harris  
  Teacher, Bedford North Lawrence High School

- **Event Details**:  
  - **Time**: 8:00 AM - 8:45 AM, Feb 20  
  - **Location**: Veterans 3
  - **Categories**: Ecology/Environmental Science, Middle Level 6-8, High School 9-12

  Lessons and resources I incorporate to try to help students grasp the impact of climate change and severe weather events on their lives.
### You Design It

**8:00 AM - 8:45 AM, Feb 20**  
**Veterans 4**

Edcuators will learn how to Give Students opportunities to Design their own Lessons as groups, as a great review/co-teaching tool, after covering class content.

#### Speaker

**Dr Deborah Daniels**  
Science Teacher  
Pike High School / MSD of Pike Township

### BTC Across the Curriculum

**8:00 AM - 8:45 AM, Feb 20**  
**Veterans 5**

Have you ever wondered how to implement BTC practices outside of the math classroom? Let us show you through a hands-on presentation where we will model how to utilize BTC practices in various content areas. We will be modeling how to implement the Building Thinking Classroom practices in other content areas outside of math. We will work through the 4 toolkits focusing on different ones with the different contents. We will be modeling these through sample lessons where teachers will be acting as the students in the lesson. They will be up and working at vertical non-permanent surfaces.

#### Speakers

**Mandy Ramey**  
Instructional Coach  
Franklin Community Schools

**Amanda Ray**  
5th Grade Teacher & PLC Lead  
Franklin Community Schools

### The Urban Immersion Internship: Learning to Engage with Students from Diverse Backgrounds and Their Mathematics

**10:00 AM**  
**Freedom**

We discuss the impact of a semester-long immersive experience for elementary pre-service teachers in a large, Urban school district the semester prior to student teaching.

#### Speakers

**Jerry Woodward**  
Associate Professor of Mathematics Education  
Ball State University

**Veronica Fife-Demski**  
Assistant Professor in Elementary Education  
Ball State University
Leverage Formative Assessment in the Elementary Classroom

10:00 AM - 10:45 AM, Feb 20
Reagan

Elementary K-5  Mathematics

In this session I will share a variety of formative assessment methods that can be used in the Elementary Mathematics classroom. These will include observations, interviews, quick-checks, and tasks for assessment. I will share a variety of methods and then invite participants to share about some of their favorite and most effective formative assessments.

Speaker

Christine Taylor
Assistant Professor, Mathematics Education
Indiana State University

Designing Three Dimensional Assessments to Maximize Instruction of the IAS 2023 Science Standards

10:00 AM - 10:45 AM, Feb 20
Kennedy

Implementing computers science core practices in every classroom

10:00 AM - 10:45 AM, Feb 20
Indianapolis A

Interdisciplinary (i.e. STEM)  Elementary K-5  Middle Level 6-8  High School 9-12  General

Explore how the nationally-recognized computer science core practices and CS teaching pedagogy is transferable to all subjects and problem solving domains.

Speakers

Kerry Sensenbrenner
Computer Science Professional Development Specialist
Nextech

Jenna Garcia
Other
Nextech

Science and Student Identity

10:00 AM - 10:45 AM, Feb 20
Indianapolis B

Science Education  General

This presentation covers information on how students’ science identities (and identities in general) can impact student learning and engagement.

Speaker

Krystal Brand
Assistant Instructor of Education
IUPUI

Inspire and empower students through citizen science in the outdoors

10:00 AM - 10:45 AM, Feb 20
Indianapolis C
Regular and intentional outdoor education can raise overall wellness and academic performance. Learn how to get started.

Speaker

Danielle Racke
Other
Explore Nature By Nurture LLC

Educating for Environmental Change

10:00 AM - 10:45 AM, Feb 20
Indianapolis D

Speaker

J. Adam Scribner
Director of STEM Education Initiatives
Indiana University

The Thinking Classroom and Exemplars Performance Tasks

10:00 AM - 10:45 AM, Feb 20
Indianapolis E

Speaker

Brendan Scribner
4th Grade Teacher
Bernice A. Ray School

Leveraging Technology to Develop Students’ Mathematical Understanding and Equitable Teaching Practices

10:00 AM - 10:45 AM, Feb 20
Grand 8

Speaker

Brendan Scribner
4th Grade Teacher
Bernice A. Ray School

Digital tools and Apps can support access to rich and meaningful mathematics by all students. We will examine several examples in which technology can be used to develop students’ mathematical understanding in the secondary classroom and support equitable instruction.
Shifting Toward Digital Storytelling to Engage and Teach STEM Learners

Our students access information in different ways that we did. Come see examples of ways to use digital storytelling to engage STEM learners through digital storytelling.

A-Z STEM: Using the Alphabet as a Framework for Science Learning

Use Children's Museum tools to teach any STEM topic using the alphabet. This strategy is useful for simple or complex topics, from Astronomy to Zoology.

Ensuring Access and Equity for All Doesn’t Have to be Rocket Science!

Design a system to model rocket launchers, highlighting support for gender equity, economically disadvantaged youth, English learners, students with disabilities and advanced and gifted learners.
In this hands-on workshop edit a chromosomal gene, complete with essential experimental controls, using the same cut-and-repair technology used in medicinal and agricultural applications.

Speaker

Tamica Stubbs
Curriculum and Training Specialist
Bio-Rad Laboratories

Unpacking Word Problems: Preparing Students to Understand and Explain Content

10:00 AM - 10:45 AM, Feb 20
Veterans 5
Interdisciplinary (i.e. STEM)  Elementary K-5  Middle Level 6-8  High School 9-12

The main focus will be research-based methods and strategies that improve student verbal and written communication using academic vocabulary. Help students break down word problems and performance tasks to meet the IDOE Performance Level Descriptors.

Speaker

Sydney Peacock
Teacher
Metropolitan District of Washington Township

11:00 AM

POSTER SESSION: We're Expecting: Following Pregnancy as an Anatomy & Physiology Phenomenon

11:00 AM - 11:45 AM, Feb 20
Exhibit Hall
Biology  Life Science  High School 9-12

For my Anatomy & Physiology class the order of units that I follow directly tie to the system development of a fetus. I introduce a class pregnancy at the beginning of the year and follow the order of systems as they would actually be developed during human gestation.

Speakers

Caitlyn Garber
Teacher
Frankton Jr/Sr. High School

Reena Markstahler
Biology & Anatomy/Physiology
Southwood High School

POSTER SESSION: Teaching STEM to Upper Elementary and Middle School Students Using STEM Comic Books

11:00 AM - 11:45 AM, Feb 20
Exhibit Hall
Interdisciplinary (i.e. STEM)  Elementary K-5  Middle Level 6-8  High School 9-12

This presentation will feature the use of STEM comic storytelling in teaching Elementary/Middle Schoolers about the interdisciplinary nature of STEM and the concept of innovation in STEM.
POSTER SESSION: Indiana Geo-Photo Library

Speaker: Taiwo Ogundapo
Doctoral Student
Indiana University

Targeted for secondary and undergraduate level students, the Indiana Geo Photo Library consists of high quality images, descriptions, and lesson plans that debuts Indiana's geology.

Chemical Reactions: Recovering Copper from Waste Solutions

Speaker: Audrey Holmes
University Of Indianapolis

Come explore this interactive session that examines the real-life issue of circuit board waste. Students investigate the use of reactions with three metals for reducing copper waste and reclaiming copper from a used copper etching solution.

Nourish the Future: Tomorrow’s science is looking for leaders

Speaker: Billee Procknow
Marketing and Events Manager
Lab-Aids

Introduce students to high-tech STEM careers through the lens of agriculture! Learn about teacher leadership opportunities and explore free resources from nourishthefuture.org that connect your curriculum to a real-world context.

Computer Science and Science ILEARN assessment updates
Unpacking the Science Behind LFA Tests that Identify Hormones, Drugs & Pathogens!!

1:00 PM - 1:45 PM, Feb 20
Veterans 4

Come and learn the science behind lateral flow assays or test sticks. Participants will learn how immunological agents can be used to assess a diverse range of agents of interest.

Speaker
Tamica Stubbs
Curriculum and Training Specialist
Bio-Rad Laboratories

Turn On Learning With Non-Curricular Tasks

1:00 PM - 1:45 PM, Feb 20
Freedom

The importance of non-curricular tasks cannot be overstated. They ignite the curiosity and problem solving centers of our brain and prepare us for learning. Without them, it's like trying to pour water from a bucket into a straw. Some water's going to get in, but what have you wasted in the meantime?!

Speaker
Jeff Harker
Professional Learning Specialist
Keep Indiana Learning

Exploring Mathematics Teachers' Attribution Beliefs for Students’ Mathematical Success and Struggle

1:00 PM - 1:45 PM, Feb 20
Reagan

Teachers' attribution beliefs influence the judgments they make about their students and the opportunities they provide for engaging them in mathematical tasks. In this study, we explored in-service and preservice elementary and middle school teachers’ stated beliefs about mathematical success.

Speaker
Selim Yavuz
Ph.D. Candidate
Indiana University

Computer Science in K-2 English Language Arts

1:00 PM - 1:45 PM, Feb 20
Indianapolis A

Learn to integrate Computer Science standards across the curriculum to cultivate science/STEM literate students in K-2 English Language Arts.
Using a Study Cycle to Teach Science Content with Metacognition Reading Strategies

1:00 PM - 1:45 PM, Feb 20
Indianapolis B

Session participants will be using children’s books to learn the steps of a study cycle that will enhance student motivation to read science textbooks.

ChatGPT (In)Accuracy in Physics Education

1:00 PM - 1:45 PM, Feb 20
Indianapolis C

This session will showcase responses by ChatGPT to questions relevant to student learning in physics.

Getting Involved in HASTI

1:00 PM - 1:45 PM, Feb 20
Indianapolis D

Want to get involved with HASTI, but don't know how or what the commitment would be? Come and find out!
### Equitable Adjustments to Indiana Department of Education Accountability Scores: Which Schools Truly Scored an A?

**1:00 PM - 1:45 PM, Feb 20**  
**Indianapolis E**

This presentation describes a process for effectively and equitably evaluating schools’ assessment data. IDOE’s current A-F Grading Scale does not account for the many variations across student populations, such as free and reduced lunch, special education, and ELL services.

### Growing Student Partnerships Through Math Games

**1:00 PM - 2:45 PM, Feb 20**  
**Grand 8**

Supporting mathematicians means supporting their learning AND developing their ability to work and grow with others. Join this session to learn ways to teach SEL through math games. As we strengthen student partnership and collaboration skills, we strengthen their learning.

### Climate, Water, Wildlife & Resilience

**1:00 PM - 2:45 PM, Feb 20**  
**Veterans 1**

Engage in STEM activities designed unpack the complex topic of climate and its impact on Indiana ecosystems.

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### Speakers

- **Stacy Hootman**  
  Dean of the Schools of Health Sciences and Arts, Sciences, and Education  
  Ivy Tech Community College

- **Shannon Hudson**  
  Teacher  
  Crawfordsville Middle School

- **Kristen Poindexter**  
  Teacher  
  Allisonville Elementary School

- **Jenny Cox**  
  Professor  
  Butler University

- **Chloe Enk**  
  Student  
  Butler University

- **Jessica Miller**  
  Professional Learning Specialist  
  Keep Indiana Learning
Kathy Madren
Education Outreach Specialist
DNR Division of Fish & Wildlife

No More Mistake Paralysis: Creating the Psychological Safety to Learn from Mistakes

1:00 PM - 2:45 PM, Feb 20
Interdisciplinary (i.e. STEM)  Elementary K-5  Pre-Elementary Pre-K-2nd

Discover strategies for fostering a psychologically safe learning environment that encourages embracing and learning from mistakes. Learn to transform setbacks into valuable learning opportunities, empowering students to take risks. Walk away with practical strategies to create a culture that values mistakes as a vital part of the learning journey.

Katrice Quitter
Head of Partnerships
thinkLaw

Chemistry of Air Bags

1:00 PM - 1:45 PM, Feb 20
Chemistry  College  Elementary K-5

The chemistry of automotive air bags will be explored and students will have to make the calculations necessary to fill their own "air bag". Using stoichiometry and inquiry, students will determine how much gas is needed to fill their air bag.

Kelly Kuchenbrod
Science Teacher
Harrison High School

Beyond Key Words in Story Problems

1:00 PM - 1:15 PM, Feb 20
Elementary K-5  Middle Level 6-8  Mathematics  Teacher Educators

How can we teach through the lens of reading comprehension to support understanding and meaning of math in context? Approaching problem solving with reasoning and comprehension in mind.

Leah Stayer
Professor
Indiana University

We Need More Teachers! Repairing the Reputation of the Teaching Profession Using Data

2:00 PM - 2:45 PM, Feb 20
This session prepares teacher educators to debunk myths about the teaching profession using data. Leave equipped to change the narrative about the teaching profession with usable resources, and explore tools that can support your recruitment efforts.

Speaker

Jean Lee
Professor
University of Indianapolis

Promoting Conversations in a Student-Centered Classroom

Promoting Conversations in a Student-Centered Classroom

Speaker

Kaitlin Fields
District MS Instructional Coach
Washington Township Schools

Leveraging assessment with BIOZONE

Speaker

Pam Temons
Marketing Manager North America
BIOZONE Corporation

A formative assignment on interpretation of scientific journal articles

Speaker

Donald Winslow
Assistant Teaching Professor of Life Science
Indiana Academy for Science, Mathematics, and Humanities
Using Edpuzzle in Your Science Classroom: Examples from Physics

A demonstration of how the free program Edpuzzle provides instructors with a way to embed assessment into video clips.

Speaker

Joel Bryan
Associate Professor
Ball State University

Assessing and Planning for Integrated STEM Within Schools and Districts

Looking to change the narrative from what students cannot do, to using performance-based assets to move student's thinking forward in mathematical reasoning and developing of basic operations, facts, and procedural fluency across the k-8 math continuum.

Speaker

Cory Howard
Professor
Trine University

A Dog's Life: Using Data To Explore Genomics With HHMI BioInteractive

How can genetic studies in dogs inform human medicine? Using free HHMI BioInteractive resources, we'll explore how scientists identify genes that affect human traits.

Speaker

Sherry Annee
Biotechnology Teacher
Brebeuf Jesuit Preparatory School

Get Started with Building Thinking Classrooms: How to go from Non-Curricular to Curricular

Elementary K-5 Middle Level 6-8

High School 9-12 Interdisciplinary (i.e. STEM) General
Our presentation will cover highlights from BTC tool kit one and two. With one year under our belt trying BTC strategies, we have tips, tricks, and resources for defronting classrooms, creating random groups, creating tasks, etc. We want teachers of middle level learners walk away from our presentation excited to begin their year with all things BTC.

**Speakers**

**Amanda Ray**  
5th Grade Teacher & PLC Lead  
Franklin Community Schools

**Mandy Ramey**  
Instructional Coach  
Franklin Community Schools