Please Note: This is NOT the final agenda. Be aware that cancellations, substitutions, or other information may be changed. The FINAL agenda with sessions will be posted with Whova. All registered attendees will have access to this app for the conference.

Sunday – February 13, 2022

Time: 1:00-1:45
Title: Reciprocal Teaching in the Inquiry-Based Science Classroom
Description: Methods and examples of reciprocal teaching where small groups of students lead and design content-based discussions for their peers with teacher facilitation will be discussed.
Grade Level: Elementary (K-5),Middle Level (6-8),High School (9-12)
Presenter: Annamarie Vandrevala

Time: 1:00-1:45
Title: Forming STEM Questions with Dancing Bugs
Description: How can we get students interested in STEM, and inspire curiosity? An example of an activity to do just that will be given.
Grade Level: Elementary (K-5),Middle Level (6-8),High School (9-12),College,General
Presenter: Clay Roan

Time: 1:00-1:45
Title: Virtual Asynchronous Elementary Science Methods Course: Strategies to Succeed and Thrive Using Inquiry during COVID-19.
Description: Consistent communication using the Training Future Scientist pedagogy in an asynchronous elementary science methods course motivated me to stay on task and thrive during COVID-19.
Grade Level: General
Presenter: Chelsie Jones

Time: 1:00-1:45
Title: Let's Keep it Real
Description: Participate in a lesson that engages students with local and relevant phenomena. Learn how to “keep it real” by incorporating phenomena into your science instruction.
Grade Level: Elementary (K-5),Middle Level (6-8)
Presenter: Deborah Vannatter

Time: 2:00-2:45
Title: Training Future Scientist – eNVision: A Collaborative Redesign of Pre-service Teacher
Description: A Re-design of Pre-service Teacher Candidate and Faculty in a Professional Development School Partnerships to Enhance Traditional Practicum Courses
Grade Level: Elementary (K-5),College,Supervisory
Presenter: Rona Robinson-Hill

Time: 2:00-2:45
Title: Visualizing the central dogma and protein structure using authentic hands-on BioBits® experiments
Description: Join our hands-on demonstration on how the cell-free BioBits® system can authentically demonstrate molecular biology concepts, such as transcription/translation or protein structure/function.
Grade Level: Middle Level (6-8),High School (9-12),College
Presenter: Ally Huang

Time: 2:00-2:45
Title: Marie Curie & The Radium Girls
Description: Three-week Spring Term courses at UIndy allow for unique learning opportunities. Using the book Radium Girls, non-major students learned about the history of radioactivity.
Grade Level: High School (9-12),College
Presenter: Stacy Hootman

Time: 2:00-2:45
Title: An Updated Approach to Teaching Homeostasis
Description: This presentation will outline how pulse oximetry can be used to understand homeostatic function.
Grade Level: High School (9-12),College
Presenter: Bridget Lester

Time: 2:00-2:45
Title: Integrating phenomena and formative assessment to drive student inquiry and support science learning in the elementary science classroom
Description: This session will introduce elementary school science teachers to the process of using phenomena to anchor students' introduction to different science concepts and furthermore, support student sense making. Participants will be shown how to leverage their current curriculum by using science phenomena and formative assessment to inform instruction. Participants will engage in a series of classroom-tested formative assessments that connect with key scientific phenomenon for the elementary classroom. Participants will walk away with a series of standards-based, classroom-tested formative assessment teaching tools and action strategies for reinforcing student sensemaking of key science concepts. (Sorry!!! That was more than 25 words!!)
Grade Level: Elementary (K-5)
Presenter: Elizabeth Thiel

Time: 3:00-3:45

Title: Design a Superhero
Description: Design a Superhero using the Indiana Science and Engineering Process Standards
Grade Level: Middle Level (6-8)
Presenter: Kris Everett

Time: 3:00-3:45
Title: Introducing Geospatial Technology in the Curriculum to Enhance Spatial Thinking
Description: This presentation includes the use of ArcGIS Online to demonstrate how spatial thinking can be developed in the curriculum.
Grade Level: General
Presenter: Josephine Desouza

Time: 3:00-3:45
Title: Activities to demonstrate Solubility
Description: This session will have multiple activities all aimed at helping students understand how substances dissolve and the properties of solutions.
Grade Level: High School (9-12)
Presenter: John Calhoun

Time: 3:00-3:45
Title: Bringing Nature to the Classroom - Reverse Field Trips
Description: Reverse Field Trips are a standards-based hands-on inter-disciplinary nature curriculum for grades 3-5 that incorporates STEAM and 5E Model.
Grade Level: Elementary (K-5)
Presenter: Kirsten Carlson

Time: 3:00-3:45
Title: Using an Environmental Issues Project to Evaluate Student Understanding of the IDOE/NGS Ecology Standards
Description: We will give a presentation on a project (including rubric and student examples) that we use in our classrooms to grade our students' understanding of the ecology standards.
Grade Level: High School (9-12)
Presenter: Brooke Stewart

Time: 4:00-4:45
Title: Bringing Science Down to Earth - The United Nations Sustainable Development Goals (SDGs)
Description: Introducing the United Nations Sustainable Development Goals (SDGs) as a framework for teaching science standards, academic English, problem-solving and student agency through lessons and resources.
Grade Level: Elementary (K-5)
Presenter: Carol Pierobon-Hofer

Time: 4:00-4:45
Title: Experiencing Chemistry with Life Science Phenomena
Description: Students connect with biology yet struggle to see how chemistry relates to life or career goals. This session will cover examples, concepts, and cognitive science.
Grade Level: High School (9-12),College,General
Presenter: Bryn Lutes

Time: 4:00-4:45
Title: Amazing Race Escape
Description: Escape monotony using our Amazing Race/Escape Room fusion game created BY students FOR students and run WITH students in charge.
Grade Level: Middle Level (6-8),High School (9-12)
Presenter: Holly Kimball

Time: 4:00-4:45
Title: Training Future Scientist in an Elementary Science Methods Course: “Create Your Own Practicum,” for Underserved Students
Description: “Create-Your-Own-Practicum” Teaching authentic inquiry elementary science during the COVID-19 pandemic.
Grade Level: Elementary (K-5),College,Supervisory,General
Presenter: Rachel Macek

Monday – February 14, 2022

Time: 8:30 – 9:15
Title: Rose-Hulman PRISM's K-12 Educational Liaison will have science teachers present about their highly effective online teaching strategies.
Description: Rose-Hulman PRISM hosts the Moodle LMS for K-12 teachers throughout the state of Indiana. Many PRISM teachers have been facilitating their courses on PRISM for many years well before the pandemic. Some PRISM teachers that have become masters at providing highly effective online learning experiences for their students and have had great success with student

learning in this environment. The PRISM team has invited some of these teachers to present at our HASTI session. We have asked them to present on their most highly effective online teaching experiences. Most of these strategies can be used on any LMS. The Moodle LMS does provide some high level applications not found on other LMS's and these applications may be highlighted.
Grade Level: K-12 – General
Presenter: Robert (Bob) Jackson

Time: 8:30-9:15
Title: Using standards based grading in a college, introductory physics course
Description: Tools, success and challenges in using standards based grading in a college, introductory physics course.
Grade Level: High School (9-12),College
Presenter: Timothy Duman

Time: 8:30-9:15
Title: The Sun, the Moon, and the Classroom: Activities in Preparation for Indiana's 2024 Total Solar Eclipse
Description: This interactive session will provide information about the eclipse and opportunities to try out eclipse-related activities for grades K-8.
Grade Level: Elementary (K-5),Middle Level (6-8)
Presenter: Sarah Reynolds

Time: 8:30-9:15
Title: Not Newton: True Founders of Introductory Physics
Description: A presentaion of contributions from scientists not aligning with our traditional list of founders in physics, including ibn Sina, al-Biruni, Emilie du Chatulet, et al.
Grade Level: High School (9-12)
Presenter: Stephen Schuh

Time: 8:30-9:15
Title: Report how High School Chemistry teachers and students accommodated Covid related changes of teaching and long-term effects of chemistry instruction.
Description: Before 2020, traditional high school chemistry instruction was within traditional classroom walls, lab spaces, with in-person face-to-face interactions. After the COVID-19 pandemic emerged in spring 2020, schools shifted their teaching models quite rapidly. There were three major ways instruction took place during the Spring 2020 and during the 2020- 2021 school year: 1) online learning; 2) hybrid or 3) face-to-face with social distancing. This study of

Indiana and Kentucky High School Chemistry teachers and students report on how secondary chemistry instruction accommodated the Covid related changes of teaching and long-term effects of chemistry instruction.
Grade Level: Grounding Practice in Research: What does research tell us about our current practices?
Presenter: James Hollenbeck

Time: 8:30-9:15
Title: The Water Rocket Challenge is a great project that ties Forces, Motion, Energy, and Kinematics together in a fun competition with a creative flare.
Description: In this project students are divided into teams of four to five students. There needs to be this many students in each group in order to fill all the different jobs with different responsibilities. The challenge is to design, build, and launch a rocket to reach a specified altitude, stay in the air for longer than a specified amount of time, all the parts of the rocket must return back to Earth connected all while safely carrying an egg from launch to landing without any cracks.
Grade Level:
Presenter: JOSEPH CARDOZA

Time: 8:30-9:15
Title: Outdoor education does not need to be large nature areas it can be done with very limit outside space. The session will focus on techniques and ideas to adapt lessons to outdoor settings regardless of the type of space at your school.
Description: Increase your student interest and educational effectiveness by getting students out of the classroom. The focus of this session is using nontraditional outside spaces. Outdoor education does not require large nature areas. It can be done with very limit outside space. The session will cover ideas to adapt lessons to your outdoor settings regardless of the type of space at your school. Bring your lessons and we can brainstorm ideas to adapt them to your outside spaces.
Grade Level: Connected to the “core” learning experiences: Connecting learning experiences to the NGSS Core Ideas
Presenter: Jack Shoaf

Time: 8:30-9:15
Title: This session will show examples of integrating scientific argumentation into an AP Biology curriculum by using the CER strategy. Scaffolding techniques will also be demonstrated.
Description: Teaching AP Biology students the skill of argumentation can be a year-long process. Students often have difficulty providing quality scientific explanations and arguments. A critical practice to improving students’ argumentation skills include copious amounts of practice, as well as strategies that initially break argumentation into a series of smaller steps. This session will build teacher knowledge about scientific argumentation and the strategy of Claim-Evidence-Reasoning (CER) which provides students with a structured way to build an

argument in AP Biology. Teachers will practice the CER strategy themselves. Additionally, strategies for improving the quality of student writing, particularly in the Reason section of a CER, will be discussed. The session will also provide teachers ideas for scaffolding the practice of argumentation. Finally, we will link scientific argumentation and the CER strategy to free-response questions (FRQ) on the AP Biology Exam.
Grade Level:
Presenter: Kristi Phillippe

Time: 8:30-9:15
Title: Engage your students through intensive study in a favorite field—Marine Science! Indiana teachers are escorting students to Hawai'i for this authentic two-week program.
Description: As the focus of education continues to shift toward classroom-centered, high-stakes testing curriculum, high-achieving students wishing to pursue fields outside of the regular curriculum are at a loss. For the past 41 years, teachers from across the country have escorted their students to Hawai'i for two weeks of coursework in Marine Science. While boarding at Hawai'i Preparatory Academy in Kamuela, Hawai'i, students are engaged in Marine Science by the program's highly qualified instructors. Course objectives and curriculum are presented through classroom instruction, and are extended through field studies and labs which are authentically derived from the island's pristine ecology. Students gain a lifelong appreciation for understanding culture and the conservation of an area's natural resources as they explore such studies as Hawaii's tide pool ecology, coral reef zonation, and waves and beaches. The geographic and cultural diversity of the island combined with the flexibility of the program allows for students to experience countless other opportunities, such as field trips to Hawai'i Volcanoes National Park, Mauna Kea Observatory, and numerous historical sites. During our power point driven presentation, teachers will be presented with pictures documenting past trips, as they realize possibilities for their own students, as well as how they can become a part of the prestigious network of educators who have helped contribute to the development of this authentic program.
Grade Level:
Presenter: Dennis O'Rourke

Time: 9:30-10:15
Title: Learning Science, Learning About Science, Learning through Science
Description: It's time to move students beyond just doing science, to being scientists that learn science, learn about science, and learn through science.
Grade Level: Pre-Elementary (PreK - 2),Elementary (K-5),Middle Level (6-8),High School (9-12)
Presenter: Chad Hyatt

Time: 9:30-10:15
Title: How Can We Protect Animals When Their Habitat Changes?
Description: Join us to learn about the new Smithsonian Science for the Classroom kits for Elementary classes. We will be highlighting the 3rd grade kit "How Can We Protect Animals When Their Habitat Changes?" Students explore the topic of what animals need to survive and

how animals are affected when their habitat changes. In the end-of-module assessment, students are then challenged to apply what they have learned about science and engineering to build and test a tunnel that can stop salamanders from being killed when crossing roads.
Grade Level: Elementary (K-5)
Presenter: Dawn Bick

Time: 9:30-10:15
Title: Indiana's Updated Priorities for STEM education
Description: As a result of the academic impact of COVID-19, IDOE has updated the State's STEM priorities to better reflect Indiana student needs.
Grade Level: General
Presenter: Eimear Towler

Time: 9:30-10:15
Title: Workshop will provide participants with a demonstration of how PIVOT style videos and Google Slides can be used to collect and present data.
Description: During the academic year 2020-21, COVID significantly impacted in-person student attendance, making the process of conducting guided inquiry activities to collect, analyze, and present data as part of the the modeling approach cycle extremely difficult in many classrooms. As an alternative, online video analysis tools of experiments either pre-made or created by a teacher became a primary tool. In order to allow students to still follow the modeling approach, I created nearly 240 separate videos for experimental procedures including constant velocity, conservation of linear momentum during interactions between objects, rotational acceleration and single and double slit interference among many others. Students presented their results using whiteboards formatted for Google Slides, allowing them to engage with each other similarly to if we had been in the classroom. As we continue to deal with an uncertain future in how students will learn Physics, these resources and this approach may be helpful to other teachers facing similar challenges.
Grade Level: Culturally responsive teaching: Being responsive to the needs of all learners,Connected to the “core” learning experiences: Connecting learning experiences to the NGSS Core Ideas,Grounding Practice in Research: What does research tell us about our current practices?
Presenter: Benjamin Grimes

Time: 9:30-10:15
Title: Students LOVE Envirothon. Learn to prepare a team for this natural resources competition and to connect classroom learning goals. Standards based curriculum and resources shared.
Description: NOTE: The Indiana Envirothon is NOT really a non-profit or governmental agency. However, it is hosted and facilitated by people representing non-profits and governmental agencies as well as active educators. I wasn't sure which area to put it under since the people who will be joining me in the presentation have different backgrounds.

The Indiana Envirothon is a learning competition for high school aged students. The event tests their knowledge of environmental resources including soil, water, forestry, wildlife and various current environmental issues. In-class curriculum is combined with hands-on field experiences to offer support prior to the regional competitions. The top performers are invited to the Indiana State Envirothon Competition where one team (and an alternate) are chosen to go to the NCF- Envirothon Competition, an international event.

After a brief overview of the program by Indiana Envirothon Board members, Bill Smith will share classroom curriculum and lessons that he developed to prepare his students for the Indiana Envirothon as well as other related competitions and learning opportunities. (hands-on will include a quick sampling of soil texturing, twig / fruit ID, creating a watershed.) A group conversation will follow in which participants can ask questions and share experiences and resources. We will close by giving the URL for the Indiana Envirothon and showing where more resources are located as well as more information about how to bring a team to Envirothon. (Resources on the website are open to all. Teachers do not have to bring a team to participate in the competition.)
Grade Level: Culturally responsive teaching: Being responsive to the needs of all learners,Applying knowledge in context: Taking what we know and applying it other places
Presenter: Teddie Phillipson-Mower

Time: 9:30-10:15
Title: Have your students ever asked you how electronic recycling works? Learn the ins and outs of electronic recycling. Session kits limited to 25 participants.
Description: During this hands-on session participants learn about Indiana's statewide E-waste program and make a kit that they can take and use in their classroom. The session will cover hazardous materials found in electronics, valuable resources that can be found inside electronics, and how electronics are recycled. Kits will contain a lesson plan, an assessment of the electronics used in homes and schools, and examples of the natural resources that electronics contain.
Grade Level: Connected to the "core" learning experiences: Connecting learning experiences to the NGSS Core Ideas
Presenter: Jennifer Helrigel

Time: 9:30-10:15
Title: An opportunity for Biology teachers to talk with other biology teachers about "whatever ails ya". Don't be an island. We're all in this together.
Description: The moderator will throw out ideas and questions to generate discussion and then the concerns and problems that biology teachers face in their classroom daily will drive the conversation. This is an excellent opportunity for new teachers to get advice and assistance from experienced teachers.
Grade Level:
Presenter: Greg McCurdy

Time: 9:30-10:15

Title: Gamification of classroom instruction, activities, and processes. This is a presentation on how to motivate students in a classroom using the -well established research-based gamification processes.
Description: Gamification is the processes of adding games to motivate and drive students to learn. This presentation is used to help teachers learn about how they can implement gaming in their classrooms. Tips & Tricks will cover the "noobs" to the "experts". Come join in on the fun of making class fun again.
Grade Level: Grounding Practice in Research: What does research tell us about our current practices?,Applying knowledge in context: Taking what we know and applying it other places
Presenter: Robin Coffman
Time: 2:45-3:30
Title: What Works for Middle Schoolers?
Description: When people find out you teach middle school, do they call you a saint? What is it about middle schoolers that puts so many people off? Why do middle schoolers learn differently than students just a bit older or younger? Why do some of our own practices actually seem to make things worse? Explore what research says about young adolescent development and the implications for education in this highly practical session based on AMLE's book, The Successful Middle School.
Grade Level: Middle Level (6-8)
Presenter: Katie Powell

Time: 2:45-3:30
Title: Newton's Cart - The Third Law
Description: Newton's Cart is a simple apparatus to teach concepts of velocity and momentum, acceleration and energy, in the context of the Third Law.
Grade Level: Middle Level (6-8)
Presenter: David Sederberg

Time: 2:45-3:30
Title: Equitable Learning within the Science Classroom
Description: Embrace Diversity, inclusion and equity in your classroom. This session will feature ideas, resources, and activities that address the need to support engaging science education.
Grade Level: Supervisory,High School (9-12),College,Elementary (K-5),Middle Level (6-8),Pre-Elementary (PreK - 2)
Presenter: Karen Henman

Time: 2:45-3:30
Title: A discussion of how we converted from an in-person teaching university into a full-time emergency online teaching that continued into the next academic year.
Description: As with most educators, our unplanned foray into full-time emergency online teaching began in March 2020 and continued into the next academic year. Seemingly overnight, our campus was forced to convert to an emergency remote teaching and learning (ERTL)

institution (Hodges et al., 2020) alongside many other classrooms within schools, colleges, and universities.
Before 2020, most traditional instruction (K-12) was within traditional classroom walls, lab spaces, with in-person face-to-face interactions (Hollenbeck, 2021). After the COVID-19 pandemic emerged in spring 2020, schools shifted their teaching models quite rapidly. There were three major ways instruction took place during the Spring 2020 and the 2020- 2021 school year: 1) online learning; 2) hybrid, or 3) face-to-face with social distancing. This rapid change is a catalyst for paradigm shifts in science education. Our presentation will highlight important concepts learned to help facilitate teaching in different modalities.
Grade Level: Grounding Practice in Research: What does research tell us about our current practices?
Presenter: James Hollenbeck

Time: 2:45-3:30
Title: Two science education professors will explain how they utilized NSTA/HASTI resources and their students/student teachers will share their success using NSTA/HASTI resources in their teaching.
Description: Are you looking for a professional learning community specifically for K-16 science teachers? Ditch your science education textbook and save your students money. The NSTA Learning Center is stocked with numerous resources, customized lesson plans, online modules, community forums, etc. Research suggests that professional learning for science educators should be an ongoing, continuous endeavor taking anywhere from 50-80 hours per year. The Learning Center will change the way you access and leverage professional learning in science education, and inspire a mindset toward continual learning in your students. The NSTA Learning Center allows you to control the place, the pace, and the time as you work to transform instruction in your classroom.

This session will provide two different approaches that can easily be directly used and/or modified for use in both elementary and secondary science methods courses. Presenters will share their approaches and assignments that use NSTA/HASTI resources so that attendees can quickly and easily replicate them in their own science methods course. Student feedback and presentations will also be provided by those preservice teachers who completed these courses by using these resources.
Grade Level: Applying knowledge in context: Taking what we know and applying it other places
Presenter: Stacy Hootman

Time: 2:45-3:30
Title: Indiana Earth Science Teachers(IESTA) Group of Environmental Educators of Indiana (EEAI) is hosting the new expanded Rock Raffle. The raffle will include rock species that have been donated for the cause of earth and environmental education. This year we have expanded out offerings to in include many cool items.
Description: Indiana Earth Science Teachers(IESTA) Group of Environmental Educators of Indiana (EEAI) is hosting the new expanded Rock Raffle. The raffle will include rock samples that

have been donated for the cause of earth and environmental education. This year we have expanded our offerings to in include many cool items. Items will be on display starting on Monday morning. Tickets can be purchased 5 for $1 or 30 for $5. Items can be view all day on Monday with the drawing in the last session of the day.
Grade Level:
Presenter: Jack Shoaf

Tuesday – February 15, 2022

Time: 8:30 – 9:15
Title: AP Chemistry, Inquiry Labs, and Canvas
Description: AP Chemistry Labs
Grade Level: High School
Presenter: Chris Norton

Time: 8:30-9:15
Title: Explore and Create Video Case Studies with Free HHMI BioInteractive Resources
Description: Learn to use and create a video case study to engage your students using free HHMI BioInteractive Resources. Participants are encouraged to bring laptops.
Grade Level: Middle Level (6-8),High School (9-12)
Presenter: Sherry Annee

Time: 8:30-9:15
Title: How Can We Provide Energy to People's Homes?
Description: Join us to learn about the new Smithsonian Science for the Classroom kits for Elementary classes. We will be highlighting the 4th Grade kit "How Can We Provide Energy to People's Homes?" Students explore how energy moves and changes, and how people obtain sources of energy and convert them for practical purposes. In the end-of-module assessment, students are challenged to apply what they have learned about electrical systems to solve an engineering problem: to design, build, test, and optimize a solar-powered doorbell system for a model house. A gift will be raffled off at the end of the session.
Grade Level: Elementary (K-5)
Presenter: Dawn Bick

Time: 8:30-9:15
Title: STEM Workshops for the Classroom
Description: Working with premade Lego Mindstorms sets for K-12 students
Grade Level: Elementary (K-5),Middle Level (6-8),High School (9-12)
Presenter: Brian Freeman

Time: 8:30-9:15
Title: What's New With...NSTA?!?
Description: Discover the NEW resources NSTA is offering members and non-members alike. So many great opportunities to embed "sensemaking" into your classroom each day!
Grade Level: Pre-Elementary (PreK - 2),Elementary (K-5),Middle Level (6-8),High School (9-12),College,General
Presenter: Angela McMurry

Time: 8:30-9:15
Title: Staff from The Children's Museum of Indianapolis will share strategies used to create learning accommodations for museum visitors. The primary focus of the presentation will be on the delivery of science concepts to audiences of different abilities.
Description: Science Programs Staff will explain how we make hands-on programs more accessible by incorporating principles of Universal Design into our presentations. Example models and materials will be available for the session audience to examine. We will also share free resources on Universal Design from the site NISEnet.org.

Museum Operations Staff will share general information about how we are approaching accessibility at the museum (including topics like sensory resources, staff working groups, and advisor families) and how we work with the Exhibit Designers and Developers to think about accessible elements from the beginning phases of our exhibits.
Grade Level: Culturally responsive teaching: Being responsive to the needs of all learners
Presenter: John McCollum

Time: 8:30-9:15
Title: Robotics in the Classroom
Description: Robotics in the classroom provides students with the opportunities to learn how to apply mathematical and computer science concepts to real world applications.
Grade Level: Middle Level (6-8),High School (9-12)
Presenter: Jayme Reed

Time: 9:30-10:15
Title: Applying a Loose Parts Learning Approach to NGSS Core Ideas
Description: Connect and explore how a loose parts mindset can be applied to the NGSS Core Ideas with examples from PreK-5th grade classrooms.
Grade Level: Pre-Elementary (PreK - 2),Elementary (K-5)
Presenter: Carla Gull

Time: 9:30-10:15
Title: Butterfly Bonanza: Using the Royal Butterfly Family Card Matching Game to Teach Life Cycles.
Description: Play the Royal Butterfly Family card game! This game lets students match phases of the life cycle of three butterfly species: Monarch, Viceroy, and Queen.
Grade Level: Elementary (K-5),Middle Level (6-8)
Presenter: Tom McConnell

Time: 9:30-10:15
Title: Connecting the Science and Engineering practices and informational text

Description: Trying to incorporate text literacy with your lab investigations? This strategy does the trick. Practice here and add it to your literacy strategy library today!
Grade Level: Middle Level (6-8)
Presenter: Susan Gran

Time: 9:30-10:15
Title: Opportunities in Aquatic Sciences, Forestry, and Wildlife from the Department of Forestry and Natural Resources at Purdue University
Description: Learn about the field ecology majors, and outreach presentations that can be offered in your classroom, from the Purdue Department of Forestry & Natural Resources.
Grade Level: Middle Level (6-8),High School (9-12)
Presenter: Megan Gunn

Time: 9:30-10:15
Title: Accelerated Learning in the STEM Classroom
Description: This presentation will provide an overview of research-based best practices to accelerate learning in the STEM classroom.
Grade Level: General
Presenter: Eimear Towler

Time: 9:30-10:15
Title: PrimaryAI Integrating Artificial Intelligence into Elementary Science
Description: Learn about the PrimaryAI project and how it integrates artificial intelligence and computer science education into elementary life science.
Grade Level: Elementary (K-5)
Presenter: Adam Scribner

Time: 9:30-10:15
Title: The Pauli Board: 3D Printing as an Aid for STEM Learning
Description: In this presentation, I will demonstrate how 3D printing can be used to help students understand complex STEM concepts. In particular, I will show how I developed a 3D-printed tool that teaches students how the electron configuration in an atom works.
Grade Level: Middle Level (6-8),High School (9-12)
Presenter: Jake Roark

Time: 9:30-11:15
Title: Understanding life science core ideas by engaging in engineering design
Description: Participants design a wildlife bridge to help animals while applying concepts about ecosystems and biodiversity. Assessment tools will be provided.
Grade Level: Elementary (K-5)
Presenter: Jenna Gist

Time: Lunch
Title: Place marker for Conference Lunch Break Outs on Writing for the Hoosier Science Teacher
Description: Write for The Hoosier Science Teacher! This will be an informal opportunity to meet the editor and staff of THST and ask questions about how you can submit an article and be published.
Grade Level: General
Presenter: Teddie Phillipson-Mower

Time: 2:00-2:45
Title: The presentation will about the Summer Sustainable Energy Boot Camps facilitated by Rose-Hulman PRISM on the Rose-Hulman campus.
Description: The Sustainable Energy Boot Camp takes place on the Rose-Hulman Institute of Technology campus each summer. STEM teachers, grades 4 -12, teaching units in their curriculum on sustainable and alternative energies are invited to apply. The purpose of this program is to provide the teachers a true "boot camp experience" in sustainable alternative energies combining academic professional development with vocational site visits to some alternative energy providers in Indiana. Some site visits may be in the form of virtual visits relative to Covid-19 protocol.

Grade Level:
Presenter: Robert (Bob) Jackson

Time: 2:00-2:45
Title: Session will look at the research on making with the science classroom from an integrated STEM perspective
Description: This session will help teachers understand the value of Making within the science classroom by presenting the current research associated with making and associated STEM educational objectives. Teachers will be introduced to an instructional framework that can be applied to their current classroom resources and teaching methods with minimal modification.
Grade Level:
Presenter: Stuart White

Time: 2:00-2:45
Title: A (free) competitive board game that simulates hominid skull reconstruction, analysis, and comparisons of fossil skulls. Students then cooperatively hypothesize and construct evolutionary trees.
Description: Workshop participants will receive instructions and materials to construct The Hominid Evolution Game Board components and materials for use in their own biology classes.

Grade Level: High School
Presenter: Joe Ruhl

Time: 2:00-2:45
Title: Acceleration (Pull-Back) Car Investigations
Description: An acceleration car provides an expensive and highly effective way to obtain experience in scientific inquiry through real-world experimental design, data collection, and data analysis.
Grade Level: General
Presenter: Joel Bryan

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