**Winter Snow – Creative Ways to Teach STEM**

**EECO Winter CONFERENCE January 29th and 30th, 2021**

**Schedule and Session Descriptions**

**Friday- January 29, 2021 Zoom Link:**

6:30 – 7:00pm Welcome and EECO Update

7:00pm Nature Nerd Quiz Night

**EECO Update:**

Current events and programs going on with EECO and partnering organizations.

**Nature Nerd Quiz Night:**

Join Team CKarrie (Carrie Elvey and Karrie McAllister) from The Wilderness Center and test your naturalist knowledge with a Nature Nerd Quiz Night. Grab a beverage of your choice and prepare to win fame (but probably not fortune)!

**Saturday – January 30, 2021**

9am Welcome and “Brag Session”

9:30-10:30am Session I

10:40am-11:40pm Session II

11:40 Return to main zoom

11:45-12:40 Lunch Break and Hands on Activity (on your own)

12:40- 1pm Return to main room, debrief activity

1-2pm Session III

2:10-3:10pm Session IV

3:10-3:30 Final Questions, AHA Moments, Feedback and Evaluations

**Brag Session:** This is your (optional) chance to introduce yourself and spread the word about something awesome you are doing. If you are interested, email your brag to akriner@richlandcoutyoh.gov, including 1-2 photos or slides about your brag program/activity/cool thing that we can put up for you while you talk.

**Hands on Activity:** this activity will be a short example of a distance learning activity that can be used with your students as an ice breaker or lesson introduction. Each individual will complete it on their own in a couple free minutes during their lunch break.

**Session I Presentations:**

**Snow Flow: From Above to Below and Back Again:** *Ryan Bourgart, and Dennis Clement Ohio -EPA*

Come learn about EE resources about water. Specifically, we will explore how climate influences snow and vice versa. We will discuss a standard-aligned elementary school Project WET activity called Molecules in Motion. The activity simulates molecular movement in each physical state of water and discusses how heat transforms snow. We will also create a blizzard in a glass to visualize the molecular changes that take place in the water cycle. Lastly we will provide an update about Project WET during COVID-19 and discuss virtual Project WET resources that are useful for inside and outside the classroom, including the dynamic [discoverwater.org](http://discoverwater.org/) and Climate, Water and Resilience, the new climate change curriculum.

**Lessons for Inquiry:** *John Hoffman and Colleagues, Inquiry Based Learning Educational Consultants*

During this session, presenters will walk through two free inquiry based science lesson plans. Lessons are most appropriate for MS and HS classrooms.

**Session II Presentations:**

**STEM-ulating Activities on Human Ecology:** *Lindsey Bailey, Population Connection*

Discover innovative ways to teach middle school students about human-environmental interactions, while also building STEM skills through problem solving, mathematical modeling, interactive technology and more. Interdisciplinary topics include human population growth, land and ocean use, climate change and biodiversity. Receive electronic lesson plans for use in classrooms and nature centers.

**Identifying Ohio Mammal Tracks:** *Joe Brehm, Rural Action*

Rural Action's Environmental Education Director, Joe Brehm, will lead participants through a slide show of mammal tracks commonly found in Ohio. Participants will learn how to identify tracks based on size, shape, number of toes, gait patterns, and other characteristics. We will also talk about a few connections to the classroom.

**Session III Presentations:**

**The Environmental Heroes: Field Work and Advocacy in a Pandemic Environment:** *Kathryn Kwiatkowski and students, Case Western Reserve University*

Middle and high school students in the Environmental Heroes authentic field research program monitor habitats in the Doan Brook Watershed from the Case Western Reserve University campus and engage in environmental advocacy. With the onset of the COVID19 pandemic, field research from the CWRU campus was suspended. To compensate for the temporary loss of this base field site, the Heroes took to planning for the introduction of a frog species to the watershed in 2021, to collecting data in water bodies near their homes, and to developing and executing a statewide youth focused Climate Action Summit to convince the state legislature to develop a Climate Action Plan for Ohio.

In this virtual conference setting, Heroes will demonstrate their data collection techniques, share the results of their research, and share the results of the efforts for an Ohio Climate Action Plan.

**Session IV Presentations:**

**Secrets of the Standfasts: Fat is Cooool! (Brrrr):** *Barbara Ray, City of Dublin*

A winter survival strategy STEAM experiment about the “Science of Fat”. Discover the hows and whys of fat stores in winter-active animals we call the Standfasts as well as the critical role of Brown Fat in hibernators and migrators. Fat is all that to raccoons, skunks, birds, deer, bears and woodchucks to name a few! Who is the fattest Standfast of all? We will look at one of the most efficient fat-builders in all of North America, who lives right here in our Ohio backyards!

**Ohio Woody Plants and How to Identify Them**: *Jenny Adkins, MAD Scientist Associates*

Join Jenny Adkins, Professional Wetland Scientist and Botanist at MAD Scientist Associates, in learning about Ohio's native woody plant species and how to identify them. This presentation is perfect for those just getting started in plant identification or those that could use a refresher on terminology and plant characteristics.