



KBS K-12 Partnership Spring Workshop

Biodiversity: Organisms as Tools for Discovery

1. [Plenary with Dr. Alisha Shah](#), hosted via Zoom, April 11, 4:30-6 pm
2. [Field Day, IN-PERSON at Kellogg Bird Sanctuary](#) on Saturday, April 23 from 10 am – 3pm

[Link to Google Folder with Participant Resources/Lesson Plans](#)

[Link to pdf of slides](#)

April 11, 2022 from 4:30-6 pm

Plenary with Dr. Alisha Shah, April 11, 4:30-6 pm

Can insects take the heat? Using thermal tolerance to understand biodiversity and vulnerability

[Link to Recording](#)

Dr. Shah will talk about how she experimentally measures thermal tolerance in insects and draws conclusions about why they live where they live and how vulnerable they are to climate change.

Dr. Shah is an eco-physiologist at Kellogg Biological Station, and she is interested in better understanding why some places are more biodiverse than others by using temperature tolerance of the animals as a clue. Alisha mostly uses insects in her research. She is a conservationist at heart and uses her data to predict how vulnerable insects and other animals are to climate change.

To learn more about Dr. Alisha Shah, [visit her website](#).

Saturday, April 23, 2022 from 10-3:30pm

Field Day - In-person at Kellogg Bird Sanctuary, 12685 East C Ave. Augusta, MI 49012

9:45-10am **Arrival** at Kellogg Bird Sanctuary

10:00am Opening Session (Auditorium)

- **Setting Group Norms and Expectations**
- **Intro to Biodiversity**

10:15-11:15 **Bird Adaptation Walk, aka Kellogg Bird Sanctuary Intro Hike (outdoors/trail)**

Look closely at the birds' feet, beaks and what they eat! Observing an organism's characteristics helps us understand how it lives and are used by scientists for categorization. We'll observe waterfowl, birds of prey and upland gamebirds on the Sanctuary's trail.

11:15-11:30 **BREAK**

11:30- Noon **Implications for Teaching (Auditorium)**



In small grade-level groups, we'll discuss and debrief the implications of field ecology for learners and three-dimensional, Next Generation Science Standards aligned learning.

Noon-12:30 **Lunch (Auditorium or outdoor picnic area)**

12:30-2 **Measuring Biodiversity Rotations**

In small groups we'll spend 30 minutes participating in collecting data with the techniques and tools listed:

- A. **Plants with Robin Waterman:** measuring floral diversity with two types of sampling: Quadrat and Transects - [link to lesson plan](#)
- B. **Insects with Kyle Jaynes:** measuring insect diversity with sweep nets and pitfall traps - [link to lesson plan](#)
- C. **Birds with Elizeth Cinto Mejia:** measuring bird diversity via point counts - [link to lesson plan](#)

2:00-2:30 **Research Spotlights**

Elizeth Cinto Mejia, Robin Waterman and Kyle Jaynes will share with us how biodiversity intersects with their research.

2:45-3:30 **Networking and Evaluation:**

Whole group and small group networking activities to support thinking about applying what has been experienced in classrooms

3:00pm **Adjourn**