



Science Teacher Academy Opening Session

August 14, 2023

9:45 - 10:00am Check in

10:00 - 10:30am Welcome from organizers and sponsors

10:30 - 10:50am Evaluation team and pre-assessment

10:50 - 11:50am Getting to know Alpha Class, setting norms

11:50am - 12:00pm Break

12:00 - 12:45pm Lunch

12:45 - 3:00pm Overview of the year, barriers, goal setting

3:00 - 3:15pm Questions and wrap up

The STA is made possible by US Department of Education Grant #S215K220059. Support is also provided by Versant Power.



Science Teacher Academy Second Session

October 13, 2023

9:30 - 10:00am Check in and networking time

10:00 - 10:30am Introductions for cohort members who had to miss the opening session, overview of how substitute stipends will work, housekeeping

10:30 - 12:00pm Be a Physicist Activities

- Accident Investigator
- Laser Scientist
- Materials Scientist
- Power Plant Engineer
- Sound Engineer

12:00 - 12:45pm Lunch

12:45 - 1:15pm Be a Physicist continued

1:15 - 1:45pm NGSS deep dive - Crosscutting Concepts and Science & Engineering Practices (may be helpful to have a laptop/tablet for this)

1:45 - 2:45pm Science through Play

2:45 - 3:15pm Wrap up and next session info



Science Teacher Academy Third Session

November 3, 2023

Location: Challenger Learning Center, 30 Venture Way, Bangor, ME

9:00 - 9:30am Check in and introduction activity

9:30 - 11:00am Challenger welcome and Exploration Lab

11:00 - 12:00pm NASA guest speaker resource guide and Liz D guest speaker

12:00 - 12:30pm Lunch

12:30 - 1:30pm Rover Drop activity

1:30 - 2:30pm Helicopter Circuit Build

2:30 - 3:15pm January session info, wrap up, and evaluation

Science Teacher Academy Fourth Session

January 9 and 11, 2024

Location: Virtual

Tuesday, January 9: Asynchronous pre-work

While we will not meet together on Tuesday, please take some time before Thursday's meeting to look through these resources, choose one or two that you are interested in and take a deeper dive into exploring them. Come prepared to talk about your thoughts on Thursday.

Climate Education Resources:

- [WeatherX: Understanding weather extremes with big data](#)
- [CoCoRaHS](#)
- [GLOBE Cloud Observer](#) (we previewed this one at our August session)
- [Community Snow Observations](#)

Thursday, January 11: Synchronous Zoom meeting, 3:30-5pm

- Debrief findings from asynchronous resource exploration
- Discussion of developmentally appropriate data collection
- Science, math, and art: The work of Jill Pelto
 - ****You will need your data art packets sent home with you in November, feel free to also use other materials at your disposal!****

Zoom link: <https://maine.zoom.us/j/4368328185>



**Science Teacher Academy Fifth Session
February 16, 2024**

9:00 - 9:30am Check in and breakfast

9:30 - 10:15am Debrief findings from asynchronous resource exploration in
January

10:15 - 11:30am Data Art (integrating science, math, and art)

11:30 - 12:00pm Lunch

12:00 - 1:30pm 4H and Maine CDC Tick Tracking Activities

1:30 - 2:30pm Owl Pellet Lab

2:30 - 3:15pm March session info, wrap up, and evaluation

Science Teacher Academy Sixth Session

March 22, 2024

Location: Cross Insurance Center, 515 Main Street, Bangor

9:00 - 9:30am Check in and breakfast (Meeting Room 6)

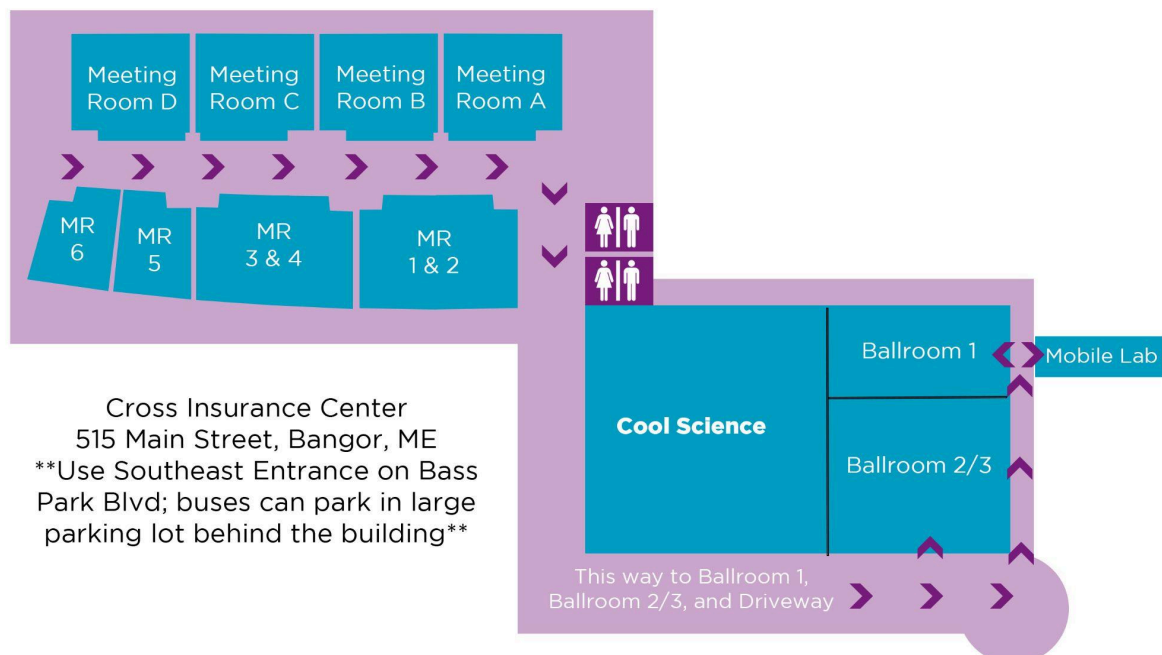
9:30 - 12:30pm Maine Science Festival Field Trip Day sessions! (see below)

12:30 - 1:00pm Lunch (Meeting Room 6)

1:00 - 2:15pm Debrief: What did you learn, what connections did you make that could apply to your classroom, what skills can we teach in elementary to prepare for middle school science

2:15 - 2:30pm April session info, wrap up, and evaluation

Cross Center map:



Session overviews:

Cool Science: Explore the hands-on activities in the Cool Science ballroom: Video Games Teach History: Playing Europa Universalis IV; Introduction to Textiles; Exploring Creative Technologies: Learning by Doing; UMaine Wildlife, Fisheries and Conservation Biology: Skins, skulls, and fishy fun; Bridge Building; E&I w/U and Me; Composting ; Maine Maritime Academy; Inspiring Tomorrow's Pioneers ; LEGO SPIKE Coding; Power Town Demonstrator; Veggie Power; The Importance of Water Quality: Citizen Science Project; UMaine Artificial Intelligence; UMaine Space; Explore UMaine's Innovative Media Research and Commercialization Center; Ticks of Maine

Building and Launching Rockets in Maine: Presented by bluShift Aerospace; Learn how bluShift rockets are built and launched using biofuel, why Maine is a great place to launch rockets, and what kinds of skills and talent we'll be looking for in the next few years as we ramp up hiring. Get ready for videos of launches and engine test firings, plus get your hands on some payload mockups and rocket parts.

DNA Detectives!: Presented by Maine EPSCoR; The Maine-eDNA team will share with students how DNA in the environment can now be used as a powerful tool to investigate many types of environmental questions. Students will then have a hands-on opportunity to extract DNA from strawberries! University of Maine graduate students and staff will guide students in this hands-on activity and discuss their career paths in science.

Electricians Will Save the World!: Presented by ReVision Energy; In this workshop will explore the efforts to decarbonize our electrical generation sources and “electrify everything” to build a just and equitable electric future. Test your trivia knowledge on how the climate crisis currently impacts Maine and review the differences between renewable and non-renewable energy before experimenting with electrical circuits and solar cars!

Exercise Science: Presented by Husson University; Learn about the qualities of skeletal muscle and how these qualities contribute to movement and athletic performance! How do muscles produce force? We'll perform vertical jump tests and work together to figure out the amount of power produced!

How to Explore Ancient Oceans: Presented by School of Earth and Climate Sciences, University of Maine This session gives middle-school aged students the chance to learn about the science of paleoceanography: how scientists use tiny fossils called *foraminifera* to learn about the ocean conditions of the past. Students will participate in three activities: first, an introduction to paleoceanography and foraminifera with a short video and the chance to ask questions. Then, students will get a chance to use a microscope and observe real foraminifera hands-on, making scientific observations and illustrations. Lastly, students will practice foraminifera categorization by playing a game using 3D-printed, enlarged microfossils that involves being able to differentiate two major categories of foraminifera. Students should come away with an understanding of what a microfossil is, how they can tell us about changes in the ocean, and why those changes should matter to us.

Maine Mobile BIOLAB: Presented by Educate Maine; Hop on board Educate Maine's new mobile biology lab and complete the Rainbow Micropipette Challenge! Learn a new lab skill and have fun creating the visible spectrum of light out of dyed liquids.

Using Micro:Bit Sensors to Create a Cookie Jar Alarm: Presented by Maine Math and Science Alliance; Program your own Micro:Bit hardware to create a cookie-jar alarm system and brainstorm how you could use Micro:Bits to solve problems you encounter in your personal life!

**Science Teacher Academy Seventh Session
April 23rd and 25th, 2024**

Location: Virtual sessions Tuesday and Thursday 3:30-5pm

Tuesday, April 23:

- Introductions
 - Welcome
 - Maine Invention Convention
 - Invention Convention Worldwide
- How it works
 - Educators and students
 - Invention Convention team members
 - inHub
- Getting creative
 - Creativity
 - Transferable skills
 - Engaging in the work

Thursday, April 25:

- Free brainstorming vs SCAMPER activity
- Jungle survival activity and discussion
- Time to explore inHub
- Wrap up and evaluation



**Science Teacher Academy Closing Session
May 31, 2024**

Location: Bangor Waterfront

9:15 - 9:30am Arrive at the Waterfront (map below for parking)

9:30 - 11:30am Hands-on activities

- What is a Watershed?
- Be a Fish Biologist!
- Nature Walk Scavenger Hunt and Observations

11:30 - 1:30pm Lunch and graduation @ [Sea Dog Brewing Co.](#)

- Reflection on what you took away from the STA
- Closing surveys