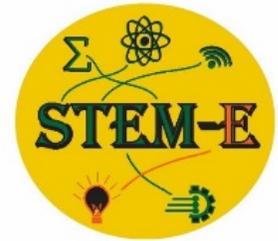


# ES/MS FALL 2022 STEM-E Student Conference Workshops

Cherokee Central Schools Campus

Thursday, September 29-9:30-1:00pm



*Choose one morning and one afternoon session-Please note whether the session indicates Middle or Elementary*

## WELCOME & REGISTRATION

### MORNING REGISTRATION

Location: Middle School Lobby

Time: 8:45 – 9:30AM

### WELCOME SESSION

Location: Middle School Lobby

Time: 9:30 – 9:45AM

Caroline Williamson, *Student Engagement Coordinator*

## MORNING SESSIONS

**9:45 – 11:00AM**

### Design Thinking Process

Explore the process of the National Inventors Hall of Fame Design Thinking Process where students will work in teams to solve a challenge. Each student will take on a specific role within their group to work through identifying a problem they want to solve, agreeing on a solution, and creating a prototype. They will take the process two steps further: understanding intellectual property concepts and how they apply to their innovation; and creating a piece of marketing collateral to present to the class as a culminating activity.

**Presented By:** Shawn Boger, *Regional Representative National Inventors Hall of Fame, Pre K-12*

<https://www.invent.org/>

**Middle School Only**

**Foam Rockets** This engineering design challenge will help students discover what it means for rockets to be stable and how rocket stability will affect its planned trajectory.

**Presented By: Randi Neff, Smoky Mountain STEM Collaborative Project Coordinator. SCC. NASA Partner**

**All Grade Levels**

### **Atsila Anotasgi (Fire Builders), Museum of the Cherokee Indians, Cultural Specialists**

*Rotate through 3 stations to learn more about Cherokee Culture*

**Chunkey** (also known as chunky, chenco, chung-kee or the hoop and stick game) is a game of Native American origin. It was played by rolling disc-shaped stones across the ground and throwing spears at them in an attempt to land the spear as close to the stopped stone as possible.

**Cherokee Marbles**-Also known as five hole is a traditional game among the Cherokee people of the United States, in which players roll small stone balls between five shallow pits dug into a playing field. Today, the game is commonly played with billiard balls

**Learn and Observe traditional Eastern Band Cherokee Dances**

Dances like (Running Dance, Groundhog Dance, and Beaver Dance

**Location: Outdoor Session – School Track-ALL GRADE Levels**

## Slowest Parachute

Learning about how Mars rovers land on the red planet as you use the engineering design process to design a parachute that falls the slowly to the ground.

**Presented By:** Carla Billups, *Buncombe County Schools STEM Coach*  
**Elementary School**

## What's that Wiggly Thing?

Students will explore the exciting world of insects that are found in the Smokies and in your own back yard.

**Presented By:** Rhonda Wise, *Lead Park Ranger, Great Smoky Mountain Parks*  
**Elementary School Morning Only**

## Aquatic - Explore Stream Habitat

Biologists with the Eastern Band of Cherokee Indians will share how natural resource management and entrepreneurship can go hand-in-hand in today's cultural and economic environment. Participants will have the opportunity to explore stream and terrestrial habitat and the critters that live here with us.

**Presented By:** Mike LaVoie, *Natural Resources Manager, EBCI Natural Resources Conservation, Eastern Band of Cherokee Indians*

**Middle School 5<sup>th</sup>-8<sup>th</sup> Grades Morning Only**

**Please Bring Extra Clothes or Water Shoes/Old Tennis Shoes**

## Magnetism – A Crucial Phenomenon

Description: Magnetism is an exciting phenomenon in Nature and plays an important role for life on Earth. Students will explore basic magnetic phenomena hands-on to gain an intuitive understanding and will also explore the deep connection between magnetism and electricity as the basis for electromagnets, electromotors, and other technology. Finally, students will learn about how the magnetic field of earth protects us from harmful radiation and how migratory birds use that same field to orient themselves during their yearly migrations.

**Presented By:** *Christian Kerpel, UNCA Lecturer (Physics and Astronomy department).*

**Middle School-5<sup>th</sup>-8<sup>th</sup>**

## Hands On Virtual Reality

*HTC VIVE PRO*- Students will get to experience one of the best virtual reality headsets/controllers on the market with the HTC Vive Pro. Students will gain a basic understanding of VR and its capabilities by taking turns experiencing it firsthand. Students will get to select from a variety of different programs to have a unique VR experience. Companies are using VR as a means for employee training, medical schools using it for surgical training, law enforcement using it for situational preparedness and crisis aversion. After completing the VR workshop the students will have gained an awareness of some of the newest technology available and how it is going to impact society.

**Presented By:** Eli Mauck, *Nantahala School*

**ALL Grades**

## LUNCH

**11:00 – 11:35AM Students will bring Bag Lunches**

## AFTERNOON SESSIONS

11:45 – 1:00PM

### Investigating Invertebrates

All plants and animals are important to the ecosystem, including often overlooked terrestrial invertebrates. Students learn about some of the great research that happens in the park as they help the Smokies rangers identify terrestrial macro-invertebrates to the taxonomic Order level.

**Presented By:** Rhonda Wise, *Lead Park Ranger, Great Smoky Mountain Parks*

**Location:** Outdoor Activity

**Middle School Only Afternoon-5<sup>th</sup>-8<sup>th</sup> Grades**

**Atsila Anotasgi (Fire Builders), *Museum of the Cherokee Indians, Cultural Specialists***

*Rotate through 3 stations to learn more about Cherokee Culture*

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### Learn and Observe Traditional Eastern Band Cherokee Dances

Dances like (Running Dance, Groundhog Dance, and Beaver Dance)

**Presented By:** Atsila Anotasgi (Fire Builders), *Museum of the Cherokee Indians, Cultural Specialists*

**Location:** Outdoor Session – School Track

**ALL Grades**

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**Presented By:** Mike LaVoie, *Natural Resources Manager, EBCI Natural Resources Conservation,*

**Elementary Afternoon Only**

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**ALL Grades**

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**Middle School Only**

***STEM-E gratefully acknowledges our coaches, presenters, district leaders,  
And dedicated volunteers who provide an  
Engaging learning experience for our students, and especially to:***

***Cherokee Preservation Foundation for their vision and belief in the power of student engagement***

