STEM Center of Excellence Field Trip Guide

girl scouts of north east ohio

Explore STEM and nature at the Vivian von Grueningen, MD, STEM Center of Excellence, located on the Daley Family Campus for STEM Innovation at Camp Ledgewood in Cuyahoga Valley National Park.

With a theme of "Making the world a better place through nature inspired design" visitors to the STEM Center will be immersed in exciting learning spaces inside and out. Nestled in the scenic Cuyahoga Valley National Park, the 8,000-square-foot STEM Center of Excellence boasts a wet lab, woodshop, tech lab, greenroom, observatory, multipurpose room and various outdoor learning spaces.

Ready to book your field trip?
Scan the QR code.
Or Click Here!

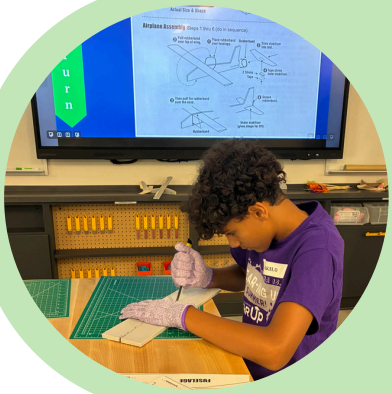
Students who visit the STEM Center will engage with nature, core content, and technology as they explore a theme through different projects and activities. They'll challenge themselves to work together, think creatively, build new skills, and create something meaningful!

Discover more at gsneo.org/stemcenter or contact Customer Care at customercare@gsneo.org or 800-852-4474.

Field Trips Programs at the STEM Center

No two field trips are the same! The GSNEO STEM team will partner with each school to create one--kind experience tailored to your students' needs and learning goals.

Let us design an unforgettable STEM adventure for you and your students! We will start with a base program from the list on the following pages. Then we will customize it by tailoring each activity to your students' grade level and abilities, the content you're covering in your classes, and your personal interests and preferences. All of these program themes can be customized for grades K-12.



BIOMIMICRY

From robots that move like spiders to camoflauge inspired by owls, these hands-on STEM programs are rooted in nature inspired design. Each activity discusses how NASA has learned from the living world to be more successful in space travel.

Projects include creating foam gliders, experimenting with wind turbines, building robotic alien terrains, constructing towers and bridges, building race cars, exploring camouflage, and more!

CODING and ROBOTICS

Explore technology and coding with robots! Students as young as kindergarten can solve puzzles with minibots and older kids can create programs for microcontrollers!

Projects include solving puzzles with indibots, navigating 3d printed mazes with ozobots, painting with sphero bolts, programming robotic arms, fying drones, programming microbits and more!

ENGINEERING

Students will engage with the engineering-design process as they solve problems and build solutions.

Projects include building towers and bridges, creating floatation devices for pets, constructing structures to survive natural disasters, basic wood working as they build a bird feeder or wooden robot, intro to 3D printing, and circuitry challenges with electric components.

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ASTRONOMY

Explore the universe through the lens of an ancient star gazer, a modern astronaut, and an explorer of tomorrow.

Projects include StarLab program (inflatable planetarium), rocket building and launching, mission patch design, constructing lunar robots, and creating constellation art.

LIFE SCIENCES

Take a closer look at the world around us. Students will use the scientific method as they explore biology.

Projects include water sampling and testing, DNA lab, Gross Anatomy Lab (dissection), bacteria lab, animal environment and adaptations, and more.

NATURE and ECOLOGY

Engage with the Cuyahoga Valley National Park as students explore nature and the science within it.

Projects and topics include nature hike, bug exploration, pollination, water testing, flower dissections, nature detectives, geology exploration, and more!

PHYSICAL SCIENCES

From chemistry to physics students will use a variety of scientific methods to cause reactions, measure results, and discover new meaning.

Projects include: Rainbow Lab, Chemical Detectives, projectiles, forces and motion, simple machines, simple circuits, and more!

SPECIAL THEMED PROJECTS

These Project-Based Learning activities focus on one topic throughout the day as students do a variety of tasks. Students will engage with the design process, creativity, creative thinking, collaboration, and communication as they solve problems, innovate, and discover new knowledge about the world and themselves.

3D PRINTING 101
3-8

Jump into the world of 3D printing! Learn the basics, design your own mini project, experiment with a 3D doodle pen, and bring your creations to life in this hands-on maker adventure.

BREAKERSPACE
3-12

Take apart gadgets like phones and controllers to uncover their inner workings! Analyze the parts, repurpose them into new creations, and explore big ideas like tech waste, planned obsolescence, and sustainability!

ALEBRIJE ADVENTURE
K-8

Dive into the vibrant world of Alebrijes—fantastical Mexican folk art creatures! Design and craft their your own unique Alebrije, give it a name, and classify it by imagining its habitat and traits!

DISASTER DEFENDERS
K-12

Investigate natural disasters by engineering earthquake-resistant towers, designing storm barriers, and creating evacuation plans while exploring science, teamwork, and real-world problem-solving skills.

GAME DESIGN
3-8

Play and deconstruct simple games then, brainstorm improvements to existing games before diving into the design process to create and prototype your very own original game!

MAP MAKING
3-8

Students explore the park while learning map-making skills, using symbols, compasses, and observation to navigate trails, identify landmarks, and understand outdoor environments.

MAZE NAVIGATORS
3-8

Use your brain and robots to solve tricky mazes, then design and build your own for your classmates to conquer.

NATIVE AMERICAN ART AND ARCHITECTURE
3-8

Discover Native American creativity by exploring totem poles, pottery, and traditional designs. Learn about indigenous engineering through wigwams, tipis, and pueblos—then design and build your own structures inspired by these ancient techniques!

PUZZLE PIECES OF ME
3-8

Design and laser-cut wooden or acrylic puzzle pieces, each symbolizing your values, dreams, or strengths. When assembled, the pieces make a whole you!

SYMBOLS OF SELF
3-12

Explore the power of symbology and language as you discover the meanings behind Adinkra symbols. Next you will use the design process to create and fabricate your own item with a personalized symbol!

WOODWORKING 101
6-12

Dive into the art and science of woodworking! Learn about shop safety as you use hand and power tools to craft a bird house, phone stand, or bobble head.

Note: These projects can take more time. In some cases, it is best to choose 2 of these projects an have students choose which one they would like to do on their field trip. This will allow for student choice and more time.

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CAREER-TECHNICAL EDUCATION

DESIGNED FOR VOCATIONAL MIDDLE (VM)

From using the engineering-design process to protoype gliders to exploring robotic automation with coding, learning activities at the STEM Center of Excellence are rooted in the ODEW CTE VM Standards and align with course blueprints.

ALIGNED TO CAREER CLUSTERS

At the STEM Center of Excellence we have dozens of learning experiences aligned to the following career clusters that can utilize Perkins funding:

AGRICULTURE
CONSTRUCTION
ENGINEERING
HEALTH SCIENCES
IT
MANUFACTURING

COSTS AND FUNDING

STEM Center Field Trips

Located in Peninsula
K-12 Learning Experiences
Up to 4 classes
Up to 32 students per class, 128 total
4-5 hours of programming
$1000 per class

Home School Groups

Home school programs includes 4 hours of STEM activities and a take-home project.

$20-40 per student

*$200 minimum for all programming

FUNDING FOR FIELD TRIPS MAY BE AVAILABLE

GSNEO currently has grant funding to provide discounted or even zero-cost field trips to schools in certain counties and school districts.

Districts where more than 75%* of students qualify for free or reduced lunch are considered high need and may qualify for a zero-cost field trip experience including transportation. Districts in which 25% to 74% of students qualify for free or reduced lunch are eligible for partial funding depending on county. For a full list of funding opportunities please go to gsneo.org/fieldtrips

*Based on most current data available from ODEW

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IMPORTANT INFORMATION

CANCELLATION
To avoid a cancellation fee, all cancellations must be made at least two full calendar weeks prior to the scheduled program. A cancellation fee will not be charged if the class is canceled due to weather.

We also offer Professional Development! Reach out to STEM@gsneo.org for details

WHAT TO WEAR
All visitors should dress for their day. Some visits include a nature hike or power tools, while others do not. All students should wear closed-toed shoes, no loose clothing, and all long hair should be tied back.

CHAPERONE RESPONSIBILITY
The STEM Center of Excellence requires 1 adult chaperone for every 15 students. Teachers / chaperones should be preparred to be involved throughout the day assisting with activites and managing lunch time.

LUNCH/FOOD
There are no kitchen or food options available at the STEM Center. All participants must bring their own lunches, snacks, and beverages unless other arrangements have been made. There is a water fountain available. Groups will eat outside if the weather allows, if not, eating spaces will be assigned. No eating is allowed in the STEM Center unless scheduled as part of a trip/experience.

PERMISSION SLIPS / WAIVERS
If the field trip experience includes something outside of normal school activities (ie certain chemicals, or tools) or high-risk outdoor activities (i.e. zip lining or high ropes) GSNEO will provide the school with a permission slip that must be signed for all participating students. Adults participating in high-risk activities will be required to complete a waiver.

PHOTO RELEASE
All visitors will be asked to complete a photo release. If a student does not have a photo release it will be the teacher's responsibility to give that student a paper bracelet.

Location:

Vivian von Gruenigen STEM Center of Excellence
6751 Akron Peninsula Rd, Peninsula, OH 44264

note please look this address up using GOOGLE MAPS! other map services have the address in the wrong location.

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