

STEM



Mineral County STEM Network
mineralstem.com

Mineral County STEM Festival

March 28, 2020

Allegany Robotics Team

Presented by Dennis Dennison (Allegany Robotics) and Stacey Dennison (Allegany Robotics)
Interactive

Grade Levels: 3 - 12

Giving information about robotics, use of robotics, and what robotics teams do.

SNAKES!! There not slimy...they're COOL!!

Presented by Jim Fregonara (West Virginia Division of Natural Resources, Wildlife Diversity Program)
Interactive

Grade Levels: K - 12

Several live, native West Virginia snake species will be available for participants to view. Participants will also learn how to tell the difference between West Virginia's venomous and nonvenomous snakes.

The Science Behind the Sport

Presented by Andrew Hoover (WVU Science Behind the Sport)

Interactive

Grade Levels: 3 - 12

The WVU Science Behind the Sport encourages students to ask questions, think critically, and become problem solvers. Get hands-and feet-on as you learn how science relates to adventure sports like rock climbing and cycling.

Infinity Tiles

Presented by Richard Petersen (WVU-Potomac State College)

Interactive

Grade Levels: K - 12

This project shows how simple geometry can be combined to form extremely complex, never ending patterns.

FTC and 4-H Fun

Presented by Madeline Brown William Hao (Burgundy Bot Builders FTC Team #16020)

Display

Grade Levels: 9 - 12

A few kids on the team I coach would love the opportunity to present their FTC Robot and 4-H Robot built in 2019 and 2020. Our team will demonstrate the parts and steps it took as a team to plan, strategize and build their Robot.

Rubik's Cube Solving and Maze Solving Robots

Presented by Amy Bloch (IBM) and Chase Kirby (IBM)

Interactive

Grade Levels: K - 12

Come see our two fascinating robots. The first solves a Rubik's Cube while the other solves a maze!

West Virginia Soil Tunnel Trailer

Presented by Tanner McNeely (West Virginia Conservation Agency) and Cindy Shreves (West Virginia Conservation Agency)

Display

Grade Levels: K - 12

The soil trailer is a mobile learning unit for soil, water, agriculture, and non-point source pollution. Discussion usually focus on: what makes up soil and the layers of the soil profile, as well as organisms in the soil and their benefits.

BIONIC TROJANS ROBOTICS TEAM

Presented by Nancy Lease (BIONIC TROJANS)

Interactive

Grade Levels: 9 - 12

ROBOTICS TEAM TO DEMONSTRATE THE TEAMS ROBOT TO OTHER STEM PARTICIPANTS.

Rainbow in a Jar

Presented by Kathy Cheshire (Girl Scouts) and Ari Cheshire (Girl Scouts)

Interactive

Grade Levels: K - 12

They will learn about density and learn how rainbows are formed.

Stream Cleaner Pinball

Presented by Connor Roessler (Cacapon Institute)

Interactive

Grade Levels: K - 12

Experience a fun and interactive pinball game that teaches about the importance of clean rivers and watershed protection.

Binary Bracelets

Presented by Mary Moore (Potomac State College)

Interactive

Grade Levels: K - 12

Binary code is used to communicate information between computers, communication devices, and many more modern technologies. This activity will allow you to embed your own name or nickname in this secret code on a bracelet.

A View Into the Human Body

Presented by Vik Frazier (West Virginia University Potomac State College)

Interactive

Grade Levels: K - 12

Guest are welcome to come and engage in a hands-on environment to learn more about the structure of the human anatomy and why its function matches in form. You are able to handle and exam human models of bones, muscles, and dissect preserved organs.

The dangers of not staying alert & secure in Cyber.

Presented by Cecelia Schartiger (IBM)

Interactive

Grade Levels: K - 12

How to stay secure, set up a rogue access point to show how easy it is to obtain your information without you knowing. We also talk about passwords, and encryption. Individuals will have a chance to create a Caesar cipher and decrypt a message.

Additive and Subtractive Manufacturing Processes

Presented by Jim Spurling (Mineral County Technical Cente)

Presentation

Grade Levels: 6 - 12

I will be presenting demonstrations of both additive and subtractive manufacturing processes using 3D printing and CNC routing techniques.

Stomp Rockets

Presented by Shannon Adams (Northrop Grumman, ABL)

Interactive

Grade Levels: K - 12

Join real engineers from Northrop Grumman, ABL to learn how simple materials can be used to build and test an air powered stomp rocket. Come see how far yours can fly!

SUGO Robotics

Presented by Steven Kimble (4-H Rambunctious Robotics) and Julie Burns (4-H Rambunctious Robotics)

Interactive

Grade Levels: K - 12

Engineering meets sport in this one of a kind fusion of LEGO Robotics and sumo wrestling. Pick a robot and place it on the table to try and knock other robots out of the ring.

Operation Big Time

Presented by Dianne Smith (WVU Medicine Potomac Valley Hospital) and Brody Monahan (WVU Medicine Potomac Valley Hospital)

Interactive

Grade Levels: K - 5

Life size operation game.

DNA Extraction

Presented by Melissa Siever (WVU Medicine Potomac Valley Hospital) and Frances Rosedale (WVU Medicine Potomac Valley Hospital)

Interactive

Grade Levels: K - 8

Extracting DNA from a strawberry

Catch Your Breath

Presented by Krista Mangold (WVU Medicine Potomac Valley Hospital) and Abby Beal (WVU Medicine Potomac Valley Hospital)

Interactive

Grade Levels: K - 8

Kids will be able to see demonstration of pig lung inflation and also try on the CF vest.

Weighted Obstacle Course

Presented by Kaitlyn Taylor (WVU Medicine Potomac Valley Hospital) and Kellon Smith (WVU Medicine Potomac Valley Hospital)

Interactive

Grade Levels: K - 8

Kids can run through an inflatable bouncy house and then, with the addition of weights, see what it's like to run through being heavier.

Exercise is Medicine, Food is Medicine

Presented by Patricia Barbarito (WVU Medicine Potomac Valley Hospital)

Interactive

Grade Levels: K - 8

Kids will be able to participate in various exercises.

Animal Xrays

Presented by Stephanie Ervin (WVU Medicine Potomac Valley Hospital) and April Spotts (WVU Medicine Potomac Valley Hospital)

Interactive

Grade Levels: K - 8

Kids will be able to match animal skeletons to their xrays.

Help Save the Honey Bees!

Presented by Patty Leasure (Mineral County Master Gardeners) and Pam Rose ()

Interactive

Grade Levels: K - 8

Participants will learn about the importance of the Honey Bee to our world, as their numbers are shrinking. Through hands on activities, they will experience what can be done to help the bees to flourish by making minor changes to our environment..

WVU American Pharmacists Association Healthy Living Fair

Presented by Maxwell DeNora (West Virginia Universtiy American Pharmacists Association Academy of Student Pharmacists)

Interactive

Grade Levels: K - 12

The American Pharmacists Association Academy of Student Pharmacists at WVU educates the community about heart health, diabetes, and much more! Information, point-of-care tests, handouts, and games for all ages.

100 Years of Monongahela National Forest

Presented by Hannah Wroton (Monongahela National Forest) and Brandy Harvey (Monongahela National Forest)

Interactive

Grade Levels: K - 8

Explore the history, benefits, and management of our National Forest through interactive activities and crafts.

Bird Song Symphonies

Presented by Emily Huguenin (Ohio-West Virginia Youth Leadership Association: Horseshoe Leadership Center)

Interactive

Grade Levels: K - 12

We'll explore how and why a bird can sing a complex harmony with itself, and use common tools to practice various bird songs. See how many birds you can identify by their songs and calls, and learn simple ways to call birds on your next hike.

Take A Load Off

Presented by Valerie Starcher (WVU Medicine Potomac Valley Hospital)

Interactive

Grade Levels: K - 8

With a weight suit, kids can see how difficult every day activities are with extra weight

Slime

Presented by Stephanie Ervin (WVU Medicine Potomac Valley Hospital)

Interactive

Grade Levels: K - 8

Kids can make their own slime - may be magnetic

Medication Education

Presented by Brent Barrick (WVU Medicine Potomac Valley Hospital)

Interactive

Grade Levels: K - 8

Teaching information behind pharmacy and showing the difference between medications and candy.

Rethink Your Drink

Presented by Valerie Starcher (WVU Medicine Potomac Valley Hospital)

Interactive

Grade Levels: K - 8

Education on healthy drinks.

Pop-Up Fossil Museum: Under the Sea

Presented by Nicholas Gardner (Potomac State College Library) and Nathan Van Vranken (Potomac State College STEM Division)

Interactive

Grade Levels: K - 12

See real fossil of aquatic life from all over the southeastern United States! We will also have many casts of living and fossil animals, including a life-size 3D printed lower jaw of a Minke whale. Kids will be encouraged to touch and explore!

Electronics demonstration

Presented by bret ridgel (Northrup Grumman)

Interactive

Grade Levels: K - 12

Short introduction into the basics of electronic design followed by an interactive lab where they get to design a small circuit to take home.

Engineering Projects

Presented by Mohammad Saifi (professor)

Interactive

Grade Levels: K - 12

Go Karts Potato Guns (projectile motion) Robots electronic gadgets

Building Structures

Presented by John Cole (RK&K) and Brandon Felton (RK&K)

Interactive

Grade Levels: K - 12

The objective is to build the tallest free-standing structure, using 25 sticks dry spaghetti and 25 mini marshmallows, that will support one large marshmallow on top of the tower.

Brown Cow Chow Down!

Presented by David MILLER (WVU- Potomac State) and Stacey Huffman (WVU - Mineral County Extension Service)

Interactive

Grade Levels: K - 8

Strap on your boots and get ready to feed the cows! Watch and learn as Eugene the Mechanical Cow eats bucket after bucket of feed and turns it into energy so he can grow big and strong!

Marshmallow Catapult

Presented by Whitney Nester (WVU Mineral County Extension Service 4-H Teen Leaders)

Interactive

Grade Levels: 3 - 12

Build your own catapult to launch marshmallows into the sky!

Adaptive Technology for the Blind

Presented by Conrad Bennett (Mountain State Council of the Blind) and Glen Pinkard (Mountain State Council of the Blind)

Interactive

Grade Levels: K - 12

Demonstrating cutting edge technology that allows low vision and blind people to live independently.

Curious Critters in our Watershed

Presented by Rachel Geiger (USFS)

Interactive

Grade Levels: K - 12

Learn about the critters that call our watershed home! A wide variety of fish and macroinvertebrates rely on these complex ecosystems for food and shelter. Learn to identify some of the species and discover where they can be found!

4-H LEGO Challenge

Presented by Arlene Lantz (GEARS, Inc.) and Phil Malone (<http://gearsinc.org/>)

Interactive

Grade Levels: K - 12

Check out this year's 4-H LEGO Challenge. The NXT or EV3 robot is programmed to retrieve and deliver to complete the mission challenges.

FTC Robotics

Presented by Rich Bender (Extreme Steam) and Emily Jackson (Extreme Steam)

Interactive

Grade Levels: K - 12

The team will be talking about First robotics, this year's competition, and things they learned this year. They will have various obstacles for the robot to manipulate in order to challenge the participant's ability to control the robot.

We Do Legos

Presented by Heather Haynes (Mineral County Public Library)

Interactive

Grade Levels: K - 12

The Mineral County Library staff and volunteers welcome you to make active Lego creations that spin and kick!

4-H LEGO Challenge

Presented by Arlene Lantz (GEARS)

Interactive

Grade Levels: K - 12

Check out this year's 4-H LEGO Challenge. The NXT or EV3 robot is programmed to retrieve and deliver to complete the mission challenges.

SuGO

Presented by Arlene Lantz (GEARS)

Interactive

Grade Levels: K - 12

Step up choose your Sumo LEGO (SuGO) robot. Whose SuGO bot will be the last one on the ring? Best out of three - all ages love SuGO!

FTC Demobot

Presented by Arlene Lantz (GEARS)

Interactive

Grade Levels: K - 12

G-FORCE FTC team has built a demobot just for you to try out your robot driving skills. Collect the blocks and see how many points you can score!

LEGO RoboRace

Presented by Arlene Lantz (GEARS)

Interactive

Grade Levels: K - 12

Challenge your friend to race NXT LEGO robots to the center 4-H clover. Use your estimation skills to program the robot angle and distance to reach the target first.

Wind Power

Presented by Arlene Lantz (GEARS)

Interactive

Grade Levels: K - 12

Use your STEM knowledge to select the set of windmill blades that will win the power race! Select the blades based on different number, angle, or length of blades.

LEGO Geometry Race

Presented by Arlene Lantz (GEARS)

Interactive

Grade Levels: K - 12

Challenge your friend to race robots to the center. Use your estimation skills to program the robot angle and distance to reach the target.

Drone Race

Presented by Arlene Lantz (GEARS)

Interactive

Grade Levels: K - 12

Challenge a friend to a drone race as you fly the drone around the course to change the disks to your drone color. The one with the most colors wins the race! Fun for all ages!

Demonstration of Healthy Lungs and Simulated Smoker's Lungs

Presented by Gerald Wilcox (Potomac State College of West Virginia University) and Madison Sites ()
Interactive

Grade Levels: 6 - 12

Hands-on activity that demonstrates healthy pig lungs and simulated smoker's lungs. The simulated smoker's lungs represent the lungs of a person who smoked a pack of cigarettes per day for about 20 years.

Reduce, Reuse, Recycle Marble Run

Presented by Susan Parker (WV DEP-Youth Environmental Program)

Interactive

Grade Levels: K - 12

Booth with DEP program information and outreach activity.

Potomac State College Main Campus

