

**Fall 2020 VIRTUAL STEM-E Conference Workshops**

***Elementary and Middle School-Wednesday, October 21***

 ***1st Session-9:45-11:00 Lunch 11:00-11:35 2nd Session-11:45-1:10 Depart***

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| **SESSIONS** | **PRESENTER** |
| **Mix and Match-MORNING SESSION**Participate in an interactive session where you will distinguish between a business idea and an opportunity, learn to how practice recognizing business opportunities, and generate ideas for new businesses in your community. Mix and Match will look at how entrepreneurs can utilize their skills sets combined with the resources available to them and the opportunities their community holds.  | **Hope Huskey,** Associate Director, Sequoyah Fund**MORNING** |
| **“Space Apps Challenge: “Promoting Creativity & Collaboration** **MORNING SESSION*** Description: This workshop will introduce people to the annual Space Apps Challenge which occurs in October each year. This is a series of challenges which require groups to have a combination of skills in addressing specific real world problems, many of them right here on Earth despite the name. The theme for the 2020 challenges is: "Take Action," a reminder that you can be a part of the solution to our world's challenges. This workshop will introduce people to team approaches and online collaboration. Students will pick a challenge from natural disasters to social and economic inequality and investigate how technology can serve as a tool for change.

**\*\*Materials will be provided include**: Raspberry Pi (ES/MS) Note: participants may keep the technology from this workshop with the understanding that participants will continue to work with the Smoky Mountain STEM Collaborative for the remainder of the school year by responding to surveys and providing feedback by email. Randi Neff will deliver the Rasberry Pi to your school* Enrollment is limited to 50 ES/MS students & 50 HS students
 | **Randi Neff, Project Coordinator, SCC**[*Smoky Mountain STEM Collaborative*](https://www.southwesterncc.edu/STEM)phone: 828.339.4357**MORNING****Carnes-Swain East** |
| **Science Around the House". –MORNING SESSION****“**Participants *will conduct some fun and interesting science investigations with materials you can find at home. We will emphasize prediction, observation and applications to the real world".* | **Mark Ethridge, Haywood County Schools****MORNING** |
| "**Physics is Phun"-MORNING SESSION**Want to rekindle the joy and wonder of learning about science and the laws of nature? This session will allow students to engage in hands-on activities – including designing and conducting their own physical experiments – to experience first-hand the “magic” behind the foundational field of science: physics. Students will leave the session with a renewed appreciation of how physics and physical science are beautifully connected in the world around them and are so much more than boring worksheets, cookbook labs, and arcane formulas! | **Benjamin C. Owens,** *Education Innovator & Author****MORNING***[***Co-Founder - Open Way Learning***](http://www.openwaylearning.org/)| [*National Faculty - PBLWorks*](https://www.pblworks.org/author/ben-owens)| [*Open Organization Ambassador*](https://opensource.com/users/engineerteacher)Mobile: +1(706)878-8946 | Office: +1(828)389-0929 **MVVI-Recording****Nantahala-McMahan** |
| **LEGO SERIOUS PLAY –“House of Dreams”MORNING SESSION**In this hands-on workshop, students will create a model of their *House of Dreams* using images of Austrian/New Zealand artist and architect, Friedensreich Hundertwasser as inspiration for their design. Students will be encouraged to create their *House of Dreams* as colorful as they wish. Students are encouraged to bring materials from their own home which they can construct with and that inspire them. Examples of materials include: cardboard, tin foil, scissors, markers, construction paper, pipe cleaners, popsicle sticks, tape, glue. A package of modeling clay will be provided for each student by their advisor/coachA close up of a tower  Description automatically generatedhttps://ssl.gstatic.com/ui/v1/icons/mail/images/cleardot.gif |  **Megan Oteri,** Let’s Brick Ambassador United States for the Agency for Cultural Diplomacy.Certified LEGO® Serious Play® Workshop Facilitator**MORNING**Coaches will need to purchase modeling clay , cardboard, tin foil, scissors, markers, construction paper, pipe cleaners, popsicle sticks, tape, glue for their participants**AES-Deidre****Cook-Martins Creek** |
| **National Inventors-AFTERNOON SESSION****National Inventors Hall of Fame® Take Apart Activity*****National Inventors Hall of Fame® (NIHF) team will guide students through a reverse engineering STEM activity, Take Apart. Explore the inner workings of everyday items around the home in order to better understand how they function!*** And here is a link to the blog post about this activity: <https://www.invent.org/blog/stem-activity/take-apart>  | **Mike Sandridge/Shawn Boger,** ***National Inventors Hall of Fame® (NIHF)******AFTERNOON******AES-Davis*** |
| **ZANIAC-AFTERNOON SESSION****Shake, Rattle and Roll** - Exploring Earthquakes and House Design Middle School/Elementary School In this virtual lesson, students explore the causes of earthquakes and their impact on the geology of an area and on human societies. They begin by looking at the role tectonic plates play in creating the forces that cause earthquakes, to help them understand why earthquakes occur when and where they do. Hands-on activities illustrate how rocks can withstand a certain amount of stress, but that every material has its breaking point. They will use the engineering design process to design and build a minimum of a four-floor structure that is self-supporting, freestanding, sits within a standard lot, and can withstand a moderate earthquake. This activity may be completed individually or as a small group. I would recommend no more than 3 per group. Materials Required: ● Computer with Zoom app (one for each student or group) ● Graham crackers (6 squares for each student or group) ● Cool Whip (enough to cover a paper plate per group) ● Paper plates (one per student or group) ● White paper and pencils to plan house design (one or 2 per students or group) ● Toothpicks or spaghetti (at least 25 pieces per student or group) ● Gum drops or marshmallows (at least 20 per student or group) ● Tray filled with marbles or a tray of prepared jello, preferred (1 needed for entire class but must measure at least 8”X8”) | **Judi Dunfrio,Outreach Specialist/Instructor****judi.donofrio@zaniaclearning.com****630-335-0001 *mobile******AFTERNOON*****Coaches will need to purchase: Graham Crackers;****Cool Whip/;Paper Plates;White Paper;penicls; toothpicks or spaghetti; gum drops or marshmellows; marbles for participants** |
| **STEM and Snakes--AFTERNOON SESSION**Understanding SnakesStudents will be introduced to the basic biology of regional snakes as we discuss reptile characteristics and life histories, learn to identify venomous species, and dispel some common myths.  Students will have the opportunity to see a live snake. | **Patrick Brannon**Patrick BrannonHighlands Biological Station828-526-4123**AFTERNOON****Carnes-SWAIN East****Gibbs MVI Recorded** |
| **3D-Tinkercad:AFTERNOON SESSION****“Build your own game piece and vase.”**  Follow along using Tinkercad to build the hotel from the game Monopoly and build a small vase on an internet based 3D program. You will be able to follow along with the steps to do these two builds and be able to rewind the instruction if needed. | **Scott Freeman, MATH,CCS****AFTERNOON****McMahan** |
| **Owl Pellet Dissection-AFTERNOON SESSION***Most birds, like owls, cannot chew their food. Instead, owls swallow their food whole. Some materials that owls eat are not able to be digested, and owl pellets result in undigested materials from animals that the owls ate. The bones from the undigested animals can be found in the owl pellets. This activity allows for the dissection of owl pellets in order to determine what animals the owls ate. This activity is fun, informative, and safe for all ages to complete!***Materials Needed:***Owl Pellet Kits will be needed for this session. Please register early so we can order for your students!*  | **Traci Balance, Surry Community College****Science Instructor****Afternoon Session****Cook-Martins Creek** |

**School name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Coach\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Group Coach Name & School** | **Grade(s)** | **# of Students & Adults****Expected** | **First Choice****Group****Morning** | **2nd Choice** | **First****Choice****Afternoon** | **2nd Choice****Afternoon** |
| ***EXAMPLE***Jane Smith,CCS | 9-12 | Students -10Adults-22 Coaches | *Mix and Match* | *Lego* | *Snakes* | *Tinkercad* |
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**If you do not have all of your participants names, yet, please send approximate number expected to participate**

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| **Names of Participants** | **Student Email (If permitted to share)** | **Notes** |
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