



SMSC January 2021 Newsletter

Greetings

Happy New Year from the Smoky Mountain STEM Collaborative (SMSC)!

We are delighted to have another five years of funding to work with local school districts, public libraries, clubs and organizations as well as higher education programs. To kick things off and better improve communications, we will be sending out this monthly newsletter. We also have a slack channel - if you would like to be added to the channel for more detailed information, please send an email to r_neff@southwesterncc.edu

Our goals for the next phase of our program include:

- Improve science identity and self-efficacy of participants
- Develop guided pathways as an advising model for post-secondary students
- Establish a workforce connection academy for students in grades 6 - 12.
- Support regional projects to improve the environmental quality of community
- Improve the science identity of all members in the community

NASA EVENTS

Skywatching highlights in January 2021 - <https://www.jpl.nasa.gov/video/details.php?id=1645>

Mission to Mars Student Challenge - Kickoff Jan. 8th

<https://www.jpl.nasa.gov/edu/events/2020/12/10/pre-register-to-join-the-mission-to-mars-student-challenge-launching-january-2021/#resources>

K-12 Curriculum Materials

PRINT MATERIALS AVAILABLE FOR CLASSROOMS (send an email to r_neff@southwesterncc.edu to claim these for your classroom)

- The GLOBE Program information guide & activity connections to NGSS
- Astrobiology Curriculum guide and graphic story books
- Far Out Math Activities for grades 9-12
- Far Out Math Activities for grades 5-12
- Class set of TI-84 graphing calculators

ONLINE

Studying Climate Change - Live Stream for K-8 students (Jan. 13th)

<https://www.jpl.nasa.gov/edu/learning-space/>

NC Museum of Natural History Astronomy Days (Jan. 25 - Jan. 31)

From virtual crafts and activities to moon zooms, lectures to LEGOs, space enthusiasts of all ages will find something to do at Astronomy Days.

<https://naturalsciences.org/calendar/astronomy-days/programs/>

Appalachian State Astronomy Virtual Presentation (Jan. 21) - details TBD

REPOSITORY ALIGNED TO NC STATE STANDARDS

<https://www.southwesterncc.edu/stem-repository>

COMING SOON - support materials for new computer science standards

Professional Development

Jan. 13th (recorded) - Monitoring Earth from Space & Exploring Earth's Oceans

<https://www.jpl.nasa.gov/edu/teaching-space>

Jan. 21st (1-2:30) - Teaching Math in a Pandemic

<https://www.edweek.org/events/online-summit/teaching-math-in-a-pandemic>

Opportunities

NC GreenPower Grant

15 North Carolina schools will each be awarded with a grant for the installation of an educational solar photovoltaic (PV) array. Each school will also receive approximately \$14,000 in related benefits that include donated SunPower solar modules, a STEM curriculum and

teacher training. **The 2021 application information and preview question documents are available here: <https://www.ncgreenpower.org/solar-schools/#2020-schools>** Funding from SMSC may be used to supplement the additional funds needed for this project.

SciMatch for Middle Schools

The SciMatch program accepts applications from middle school teachers in North Carolina who would like to have a scientist visit with their class. NCSciFest staff then works to find STEM professionals who are passionate about outreach to pair up with teachers. These scientists receive specialized communication training prior to the visit.

<https://www.ncsciencefestival.org/scimatch>

Other Dates to Consider

2/11/21 - National Inventors Day

2/12/21 - Scientist for a Day (essay deadline)

2/18/21 - Mars 2020 touches down on the Red Planet - <https://mars.nasa.gov/mars2020/>

2/21/21-2/27/21 - Engineering Week

Final Thoughts





We are here to help you be successful!

If you would like help with anything that can even remotely be called STEM, please ask. Our cooperative agreement with NASA is intended to facilitate a strong regional STEM Ecosystem. In particular we are interested in helping NASA understand barriers (especially in rural areas) to STEM education and careers which feed their workforce. Future newsletters will expand on this idea with some profile of NASA jobs which may surprise you. Below is a summary of our approach.

Smoky Mountains STEM Collaborative (SMSC)

Strengthening the STEM Ecosystem in North Carolina's Rural Appalachia Region



NRC STEM Ecosystem Components ¹	 Designed Settings <i>schools, clubs, libraries, museums, youth programs</i>	 Naturalistic Settings <i>parks, waterways, and forests</i>	 Networks of People <i>STEM professionals, educators, enthusiasts, hobbyists, and business leaders who can serve as inspiration and role models</i>	 Everyday Encounters <i>internet, television, playground, conversations with friends and family members</i>
SMSC STEM Ecosystem Approaches	<ul style="list-style-type: none"> • Library programming (K-12 Students) • Supporting STEM Clubs (K-12 and Postsecondary Students) • Sharing NASA STEM instructional activities (K-12 Students) • Astronomy Course Offering (Postsecondary Students) • Undergraduate Research Experiences (Postsecondary Students) 	<ul style="list-style-type: none"> • Celestial viewing events in parks (General Public) • Promoting citizen science in community (K-12 & Postsecondary Students, and General Public) 	<ul style="list-style-type: none"> • Lunch and Learns with STEM professionals (Postsecondary Students) • Robotics competitions involving industry partners and local hobbyists (K-12 & Postsecondary Students, and General Public) • Annual Science Symposium (Postsecondary Students and General Public) 	<ul style="list-style-type: none"> • Engaging public on social media and at hosted events (General Public) • Providing enriching experiences to students and their families, such as trips to Pisgah Astronomical Research Institute (K-12 & Postsecondary Students) • Online learning community (K-12 & Postsecondary Students, and General Public)
Learning Environment	<ul style="list-style-type: none"> • Formal Education / In School • Informal Education / Out of School 	<ul style="list-style-type: none"> • Informal Education / Out of School • Citizen Science 	<ul style="list-style-type: none"> • Formal Education / In School • Informal Education / Out of School 	<ul style="list-style-type: none"> • Neighborhood / Community • Home / Family • Digital Learning Experiences

¹ National Research Council 2015. *Identifying and Supporting Productive STEM Programs in Out-of-School Settings*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/21740>.