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Smoky Mountains STEM Collaborative

Southwestern Community College
EXPLORE YOUR PATH TO SUCCESS

SMSC January 2022 Newsletter

Happy New Year!

We are in the process of evaluating our successes in 2021 and areas where we would like to grow in 2022. Your feedback is helpful - if you did not take our survey, there's still time. Find it HERE: https://forms.gle/mLcU5Ug7YJ3oviBNA We will also be available for in-person/in-class activities on Fridays. You can use this spreadsheet to check availability and make plans. Days other than Fridays may be available - just ask by emailing r_neff@southwesterncc.edu!

Local Events

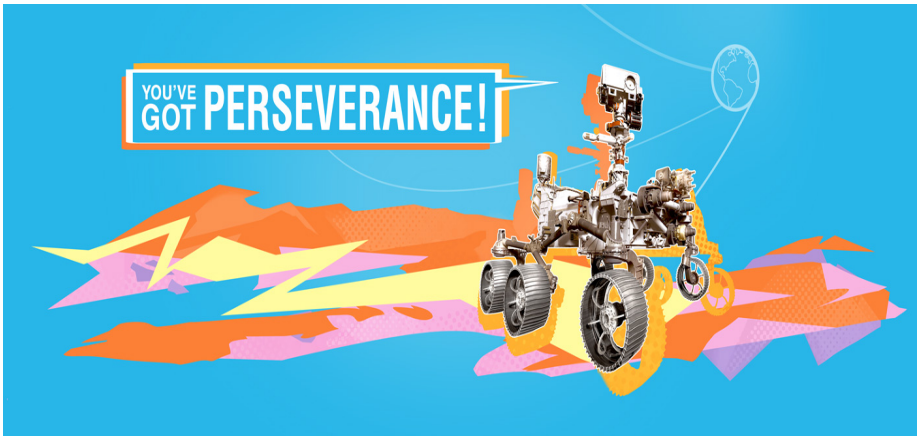
Feb. 14 & 15 - Regional Science Fair @ WCU
Mar. 31st - Artemis Watch party @ SCC (this will also be livestreamed)

Career Connections

Feb. 21st - applications are due for STEM Enhancement in Earth Science an internship program for High School Students. SEES will accept interns who are 16 or older by July 1, 2022 The only costs are for your transportation to/from Austin and any incidentals. SEES provides transportation to/from the airport and dorm, dorm costs, meals, and activities. We do have travel scholarships for students in need. **However, this year is a hybrid model with both on-site and virtual opportunities. Find more information here:**
http://www.tsgc.utexas.edu/sees-internship/

Ask SME: Close-up with a NASA Subject Matter Expert - Ask SME videos are professionally developed to capture a glimpse of NASA SME's personal interests and career journeys. Each can be used to spark student interest and broaden their ideas of the STEM workforce. Find them HERE: https://nasaeclips.arc.nasa.gov/careerconnection

K-12 Educators



Nominate a Student with Perseverance - Teachers, educators, and community leaders are encouraged to nominate middle school students who've shown that nothing will deter them from their educational journey. The next opportunity **opens Feb. 1st.**

More details HERE: https://mars.nasa.gov/mars2020/participate/got-perseverance/#Opportunity-2
Selected students will:

- Get a special message sent directly from the Perseverance rover on Mars!
- Chat with the rover team members from mission control at NASA's Jet Propulsion Laboratory
- Get a printed materials award pack loaded with mission essentials

CS4ALL NSF Supported Program at Appalachian State University
Summer 2022 Dates: (June 19 - July 15) The objective is to train high school teachers to teach AP CS Principles in their schools. During this four-week summer program, participants will gain skills that they can utilize to establish an AP CS Principle course and create instructional and support material for their course. In addition, participants will have hands-on experience with some CS modules that they can use in their courses. **Full-time high school or early college teachers are eligible.** We are seeking energetic and motivated participants who can entice students about computer science and its application in different fields.
More information here: https://cs.appstate.edu/cs4all/index.php

Water Writers: Water Education Pen Pal Program offered through the NC Division of Water Resources. **Register here by January 31, 2022** to sign your class up to exchange letters about your watershed! Open to all grade levels and all subjects areas that are interested in incorporating water resources into their content- and who doesn't love water?! Letter templates targeting 8th grade hydrosphere standards will be provided in case your students need some extra support organizing their thoughts, but can be customized by teacher for other grades.

REPOSITORY ALIGNED TO NC STATE STANDARDS *(currently under revision)*
https://www.southwesterncc.edu/stem/stem-repository

MATERIALS FREE to CLASSROOMS *(They're doing no good sitting in an office)*
(**send an email to r_neff@southwesterncc.edu to claim these for your classroom**)

- Mosquito mapper guide and materials
- The GLOBE Program information guide & activity connections to NGSS
- Astrobiology Curriculum guide and graphic story books
- Far Out Math Activities Guides

Books, Videos & Interactives

Think Scientifically - Elementary School Science Literacy Program - a three-book series for elementary school teachers that integrates math, science and reading instruction. It can be downloaded from HERE: https://sdo.gsfc.nasa.gov/epo/educators/thinkscientifically.php

Space Nutrition for Kids - https://www.nasa.gov/sites/default/files/space_nutrition_book.pdf

Astrobiology - a graphic novel series that explores the many facets of astrobiology: the study of the origin, evolution, and distribution of life in the Universe.
https://astrobiology.nasa.gov/resources/graphic-histories/

NOTE: ***If you would like us to supply hard copies of these downloadable books, just ask!***

Video [Time=5:14] **NASA Enters the Solar Atmosphere for the First Time, Bringing New Discoveries -** This video describes the structure of the Sun and explores solar flares and convection cells. . https://youtu.be/LkaLfbuB_6E

Video [Time=3:06] **Test, Fail, Test Again** CINESPACE 2021 FINALISTS Judges' Pick #2 - By copying the attitudes of astronauts before him a young man Questions what it means to be an explorer. See all the videos here: https://www.cinespace.org/2021

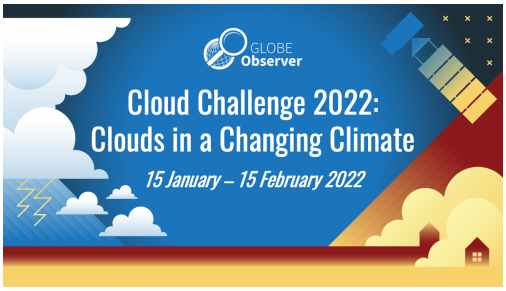
Interactive Webb 360 virtual tour of the science behind the James Webb Space Telescope Mission
https://p.tourit.etx.asu.edu/tl2jve4u/619dlwfm3kbmel9/index.html

Astromaterials 3D - A virtual library for exploration and research of NASA's space rock collections. You can watch a demo of how to use this resource with this video: https://youtu.be/k-aYsYq_vUk [start at 30 minutes to how to use this resource or watch the whole thing and explore a virtual tour of the meteorite lab]!

Challenges, Opportunities & Resources

NASA GLOBE Cloud Challenge 2022: Clouds in a Changing Climate [15 January to 15 February 2022]

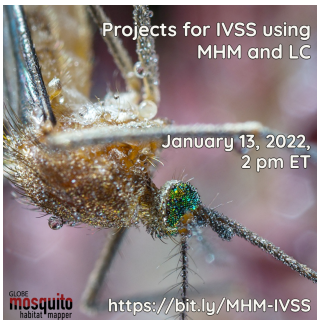
https://observer.globe.gov/cloud-challenge-2022 Did you know that clouds can both warm and cool our planet? Keeping an eye on clouds helps NASA study our climate. We need your help capturing data about clouds where you live! The Global Learning and Observations to Benefit the Environment (GLOBE) Program invites you to take part in our upcoming Cloud Challenge: "Clouds in a Changing Climate."



NASA Challenges Students to Design Moon-Digging Robots The Lunabotics Junior Contest is open to K-12 students in U.S. public and private schools, as well as home-schoolers. To enter the contest, students must submit entries, which must include an image of the robot design and a written summary explaining how the design is intended to operate on the Moon, **by Jan. 25, 2022**.
https://www.nasa.gov/press-release/nasa-challenges-students-to-design-moon-digging-robots

NASA SPOTLITE CHALLENGE: CLOUD DETECTIVES
NASA eClips and NESEC invite student teams to produce a short video (90 seconds to 2 minutes) confronting one of two misconceptions related to clouds by investigating and collecting evidence, including GLOBE Clouds and NASA data. **Register for the January 27 session** to learn more about the NASA Spotlite Video Design Challenge: Cloud Detectives. Use this link - https://tinyurl.com/2mbvctbd

Professional Development



Join the GLOBE Mission Mosquito team for a webinar, January 13, 2022, at 2 pm ET.

Emma Hagen, GLOBE Implementation Office, and Dorian Janney, NASA GSFC to learn how you can use Mosquito Habitat Mapper and Land Cover data to **create StoryMaps** for student **International Virtual Science Symposium projects** and more.

Register at https://bit.ly/MHM-IVSS

January 13 [4:00 PM] Using Tools to Explore the Changes of the Polar Regions - The polar regions are extremely dynamic with the ice always changing and flowing in response to forces, including climate change. This session focuses on empowering students with accessible and user-friendly remote sensing tools that allow them to explore, observe, and make hypotheses about our ever-changing world. https://www.earth.columbia.edu/videos/view/using-tools-to-explore-the-changes-of-the-polar-regions

Join the **NASA STEM Engagement & Educator Professional Development** Collaborative at Texas State University for FREE 60-minute webinars. **Earn 1-hour of professional development** credit by attending. See the titles, dates, and registration links for each event HERE: https://www.txstate-epdc.net/event-post/

Opportunities For All

Public Engagement with Science - This is a guide to creating conversations among the public and scientists for mutual learning and societal decision-making. This guide is designed to help staff at informal science education organizations and others who are interested to develop, implement, and evaluate activities and events that incorporate the multidirectional dialogue and mutual learning at the heart of public engagement with science. Read here:
https://www.mos.org/sites/dev-elvis.mos.org/files/docs/offerings/PES_guide_10_20r_HR.pdf

NASA's Eyes on the Earth Puts the World at Your Fingertips - NASA's real-time 3D visualization tool Eyes on the Earth got a recent upgrade to include more datasets, putting the world at your fingertips. Using the tool, you can track the planet's vital signs – everything from carbon dioxide and carbon monoxide to sea level and soil moisture levels – as well as follow the fleet of Earth satellites providing those measurements.
https://www.jpl.nasa.gov/news/nasas-eyes-on-the-earth-puts-the-world-at-your-fingertips

In addition, there are also Eyes on the Solar System, Asteroids, Exoplanets & Mars! Find them all here: https://eyes.nasa.gov/

January skies

At the end of the month, on January 29th, if you happen to be up early, you can catch sight of the Moon near the Red Planet. Joining the pair in the southeastern sky will be Venus. Having left the evening skies last month, Venus is now rising before the Sun as the "Morning Star." Now, Mars is slowly returning to view after passing behind the Sun over the past few months. In fact, NASA stops communicating with our spacecraft at Mars for about 2 weeks every two years, when the planet is directly opposite the Sun. That event, called solar conjunction, took place back in October.
Read more here:
https://www.jpl.nasa.gov/videos/whats-up-january-2022

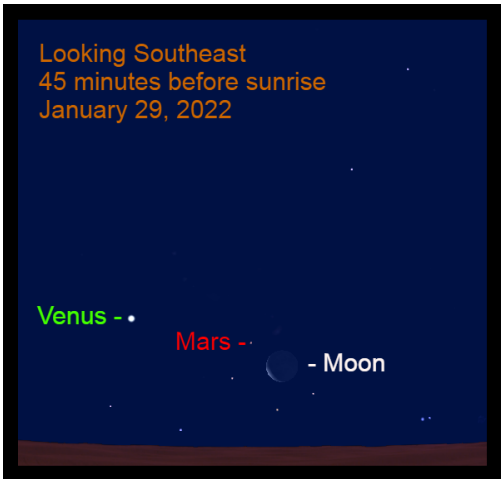


Photo credit: https://whenthecurveslineup.com/2021/12/22/2022-january-29-venus-mars-lunar-crescent/

NASA News This Month

James Webb Space Telescope Launch — Official NASA Broadcast
In case you missed the launch, you can watch it here: https://youtu.be/7nT7JGZMbtM. Use the hashtag #UnfoldTheUniverse to follow along as the JWST unfolds and broadcasts pictures!
Or you can follow along with each step HERE:
https://jwst.nasa.gov/content/webbLaunch/deploymentExplorer.html

Biggest Moments on Mars: NASA's Perseverance Rover 2021 Year in Review - A new video looks back on the six-wheeled scientist's first 10 months on the Red Planet and all that it's accomplished so far.
https://www.jpl.nasa.gov/news/biggest-moments-on-mars-nasas-perseverance-rover-2021-year-in-review

NASA-JPL's 'On a Mission' Podcast New Season Rolls Out With Mars Rovers
With the first episode available now, Season Four shares the personal stories of the people who've helped put NASA's six-wheeled explorers on the Red Planet. Told through personal stories of mission scientists and engineers, the podcast explains why NASA sends rovers to Mars and the challenges to making this kind of space exploration possible.
Find out how to listen here:
https://www.jpl.nasa.gov/news/nasa-jpls-on-a-mission-podcast-new-season-rolls-out-with-mars-rovers