8th

Eighth Grade

South Carolina Programs

MONTHLY PROGRAM PAIRINGS

AUGUST, SEPTEMBER & OCTOBER	DECEMBER & JANUARY
*Engineering the International Space Station	* Engineering the International Space Station
Animal Adaptation	Kinesthetic Astronomy
Force and Motion	Lunar Design Challenge
Lunar Design Challenge	Rover Rescue

PLANETARIUM PROGRAMS

ENGINEERING THE INTERNATIONAL SPACE STATION Months offered: AUG., SEPT., OCT., DEC. & JAN.

This interactive show describes how 15 nations worked together to create the International Space Station (ISS), a unique scientific laboratory and home in space. A rap and animations explain how weight, mass, gravity and speed are related, and why astronauts are weightless on the ISS even though there IS gravity in space. Benefits to humanity of the ISS are also discussed. Standards: 8-ESS1-2, ESS1.A, ESS1.B, ETS2.A

DISCOVERY PROGRAMS

ANIMAL ADAPTATIONS Months offered: AUGUST, SEPTEMBER & OCTOBER

We will compare and contrast structures; processes and behavior responses that help endothermic and ectothermic animals survive. Students will observe and interact with live animals including salamanders, frogs/toads, turtles, snakes and alligator and an owl. Standards: 8-LS4-6, LS4.C, 8-LS3-1, LS3.A, LS3.B

FORCE & MOTION Months offered: AUGUST, SEPTEMBER & OCTOBER

Students will conduct investigations to distinguish between force and work, and mass and weight. They will demonstrate how weight changes on different planets, what increases the strength of an electromagnet, and how mass effects motion. Made possible with support from Generac. Standards: 8-PS2-1, PS2.A, 8-PS2-2, 8-PS2-3, 8-PS2.B, 8-PS2-4, 8-PS2-5

KINESTHETIC ASTRONOMY Months offered: DECEMBER & JANUARY

Students get a feel for the scale of the universe as they sort celestial objects; then they model the Earth, Moon and Sun. They will discover why stars appear to move across the sky each day/night, why we see different stars during the year and how Earth's tilt causes seasons. Standards: 8-ESS1-1, 8-ESS1.A, 8-ESS1.B, 8-ESS1-3

LUNAR DESIGN CHALLENGE Months offered: AUG., SEPT., OCT., DEC. & JAN.

Students will design, build, and test a Lunar Buggy to transport astronauts and cargo on the Moon. They will collect and analyze data, take measurements, and refine their models using the Engineering Design Process. Made possible with support from Generac. Standards: 8-PS2-2, PS2.A, ETS1.B

ROVER RESCUE Months offered: DECEMBER & JANUARY

A new planet has been discovered! Sadly, the rover sent was attacked by an alien creature. You are the best hope the crew has for keeping the mission going! As the coder tasked with the rover's survival, you must code the rover to explore the planet and collect mineral samples until the rest of the crew can return with the equipment needed to neutralize the hostile environment. Standards: 8.AP.1.1, 8.AP.1.2, 8.AP.3.2, 8.AP.4.1

Educator Resources

Traveling Science and Mathematics Demonstrations Program

FREE Teacher Resources and Visiting Scientists Available

The Traveling Science and Mathematics Demonstrations Program has over 300 science and math kits available for use in the classroom. Supplement your curriculum with nationally recognized and state adopted exemplary materials. Kits have been correlated to SC state standards. Many kits contain children's literature so that you can integrate your science and language arts lessons.

In addition to these resources, you can request a visiting Scientist with a Traveling Resources and Neat Demonstrations (STRAND) volunteer for classroom presentations.

For more information please visit: usca.edu/rpsec/travelingscience or call us at 803-641-3683.

Physical science series made possible with support from

GENERAC

SEED STEM Festival

Mark your calendars for the CSRA's premier STEM festival. Join us for the CSRA's premier STEM festival and celebrate innovations in science, technology, engineering, and mathematics (STEM). Visit the Ruth Patrick Science Center and other sites on the USC Aiken campus as student groups, regional corporations, museums, educators, and national labs join forces to present hundreds of activities for people of all ages.

Organizers hope to increase awareness of the critical role science and other STEM fields play in our everyday existence.

Ruth Patrick Science Education Center
University of South Carolina Aiken
SEED STEM Festival

Visit usca.edu/rpsec/seed

Mathematics series made possible with support from

GENERAC

RPSEC Professional Learning

Providing professional learning activities for teachers is a primary method for reaching our goal of "Infusing a Love for Science, Technology, Engineering and Mathematics." Highly qualified teachers are the primary way to impact our students. Professional Learning at the RPSEC offers a variety of activities during the summer and the academic year.

Professional Learning opportunities focus on a content area but include all STEM areas.

Visit usca.edu/rpsec/departments/professional-learning for more information.

Traveling Interdisciplinary Literacy Trunks (TILTS)

Traveling Interdisciplinary Literacy Trunks (TILTs) are teacher-designed, interdisciplinary units of study that are aligned with academic standards from multiple content areas with an emphasis on writing across the curriculum.

TILT unit plans are now available, FREE of charge, to ALL teachers.

Each completed TILT includes the following: a unit plan, children's literature, class sets of novels, science equipment, math manipulatives and a teacher resource list. Reserve yours today by e-mailing the RPSEC at travelingscience@usca.edu or calling 803-641-3638.

For more information please visit: usca.edu/rpsec/travelingscience
or call us at 803-641-3683.

Funding for our TILTs has been provided by the Center of Excellence in Middle-level, Interdisciplinary Strategies for Teaching (CE-MIST), the Aiken Writing Project (AWP) and the Sunrise Rotary Club of Aiken.
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CE-MIST
Center of Excellence in Middle-level, Interdisciplinary Strategies for Teaching

The Aiken Writing Project

Ruth Patrick Science Education Center
University of South Carolina Aiken