
SOUTH CAROLINA'S COALITION FOR MATHEMATICS & SCIENCE

SCCMS

Achievement by Design

South Carolina



Education Month

DUKE ENERGY SCIENCE NIGHT

Remind Us
To Record

2023-2024 Program
Welcome Webinar
January 25, 2024

AGENDA



- **Introductions**
- **SC STEM Education Month Overview**
- **DESN Program and Resources Overview**
- **2024 Activities**
- **2023-2024 Timeline**
- **Questions**

South Carolina



Education Month



INTRODUCTIONS



SCCMS Staff

Tracey Campbell

Director Special Projects

Elena Stout

**S²TEM Centers SC
Education Specialist**



South Carolina



Education Month

PARTNERSHIPS



Special Thanks to...

Tom Peters – SCCMS - Executive Director

Amanda Dow - Duke Energy Foundation –
Stakeholder Manager

Erik MacIntosh– NCSciFest – Director

Kim Moore – NCSciFest – K-12 Program Assistant

SC Science Night is sponsored by



CREATED BY



PROUDLY PRODUCED BY



ADAPTED IN PARTNERSHIP WITH

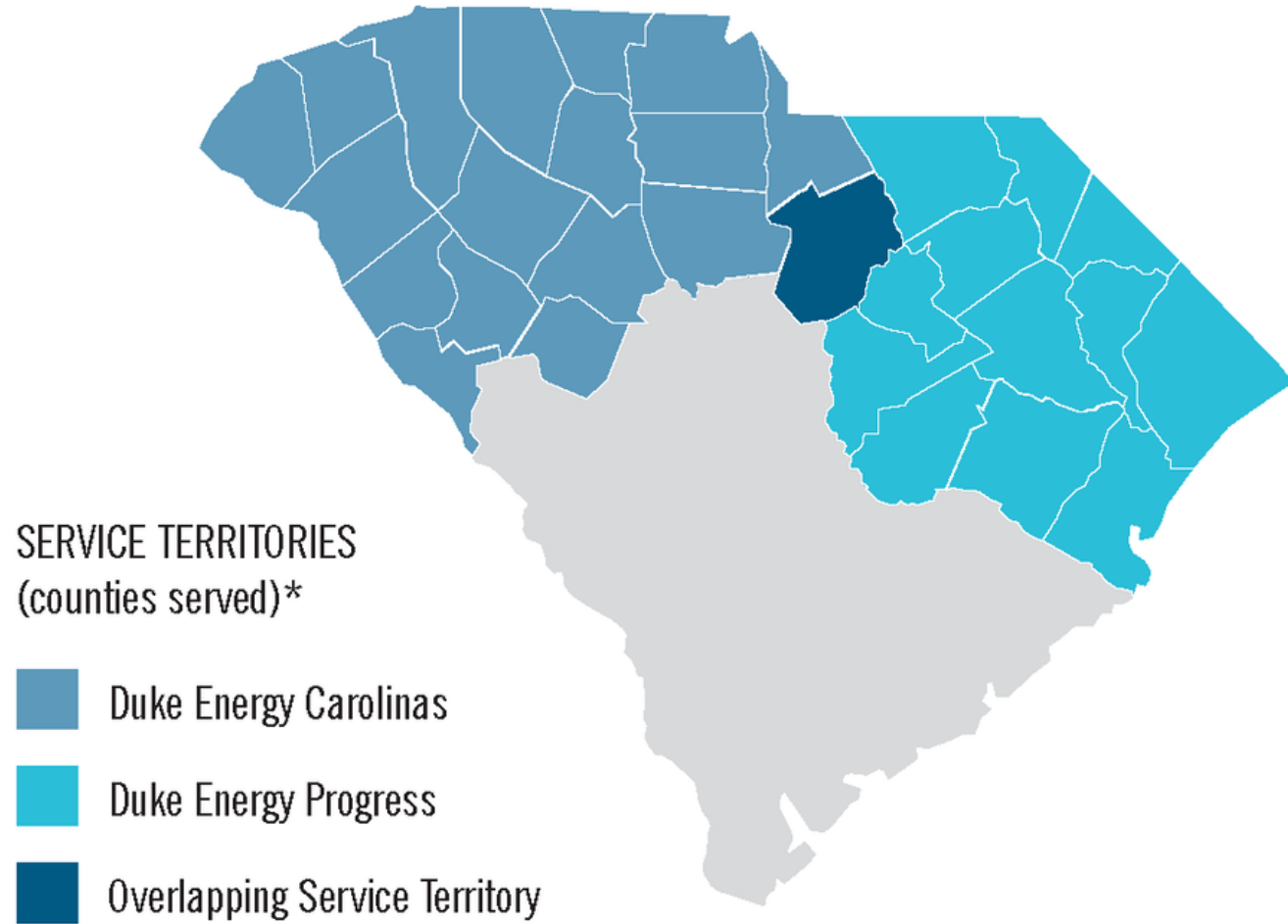


ABOUT SCCMS

- South Carolina's Coalition for Mathematics & Science
- Supporting STEM Education in South Carolina
- www.sccoalition.org

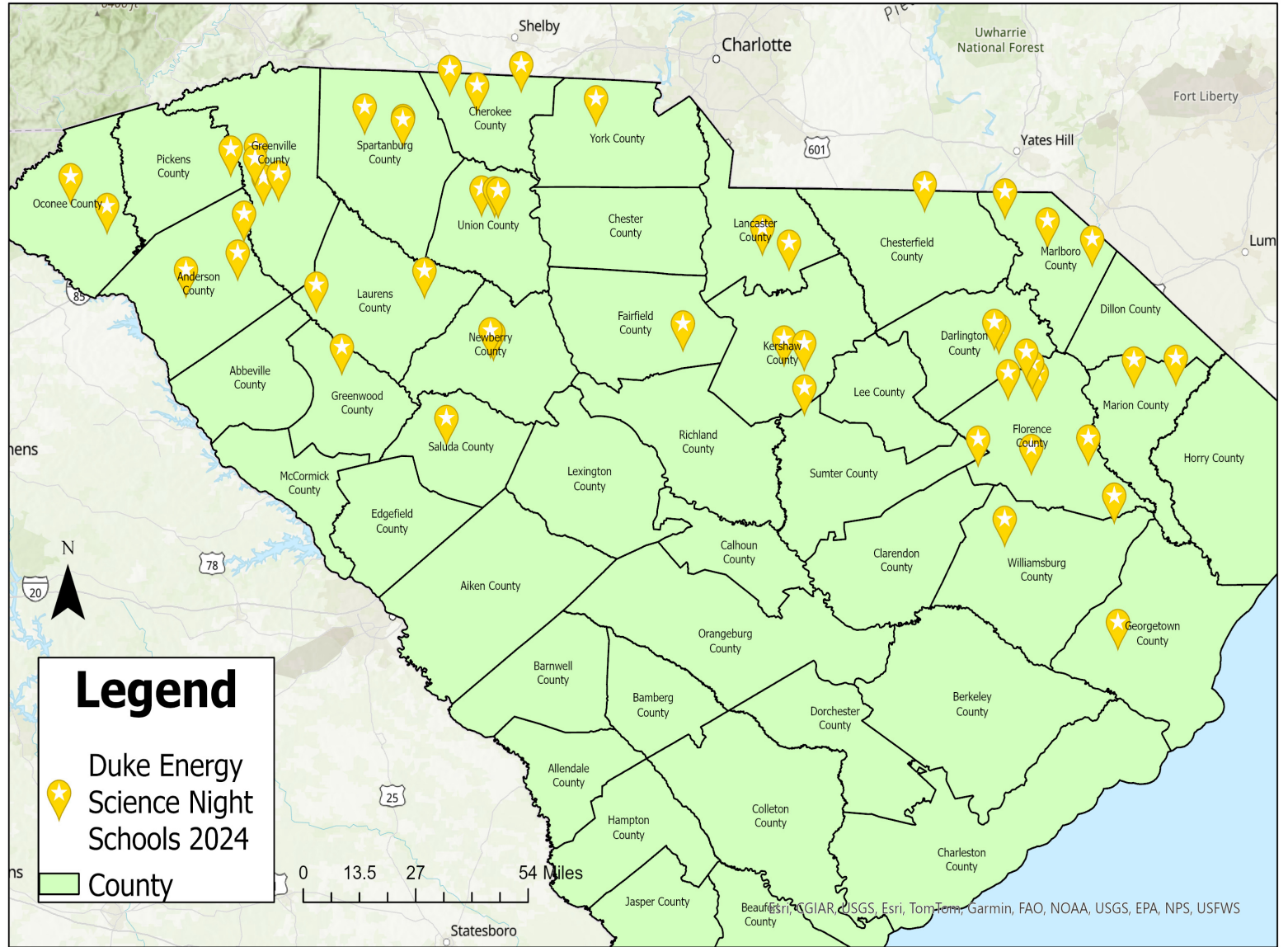
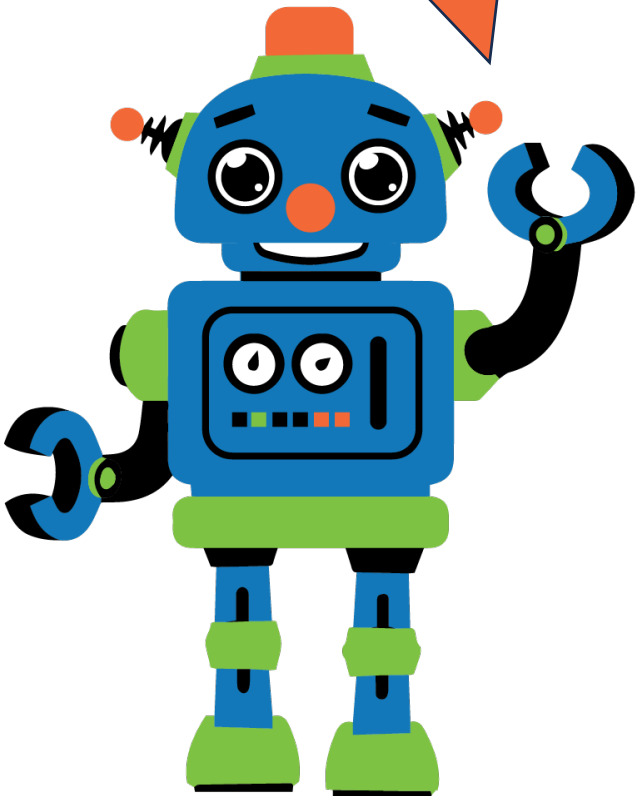


Duke Energy Service Area in South Carolina



**Portions may be served by other utilities.*

50 Schools !!!



Duke Energy Science Night Participating Schools 2024

SC STEM EDUCATION MONTH



- March 14 – April 14, 2024 (starts on Pi Day!)
- Theme – Opportunity in the EcosySTEM
- Inviting students, educators, business / industry and government to celebrate STEM education.
- STEM Day at the Capitol – April 10, 2024



www.scstemmonth.org

#SCSTEMMonth

#SCEcosySTEM

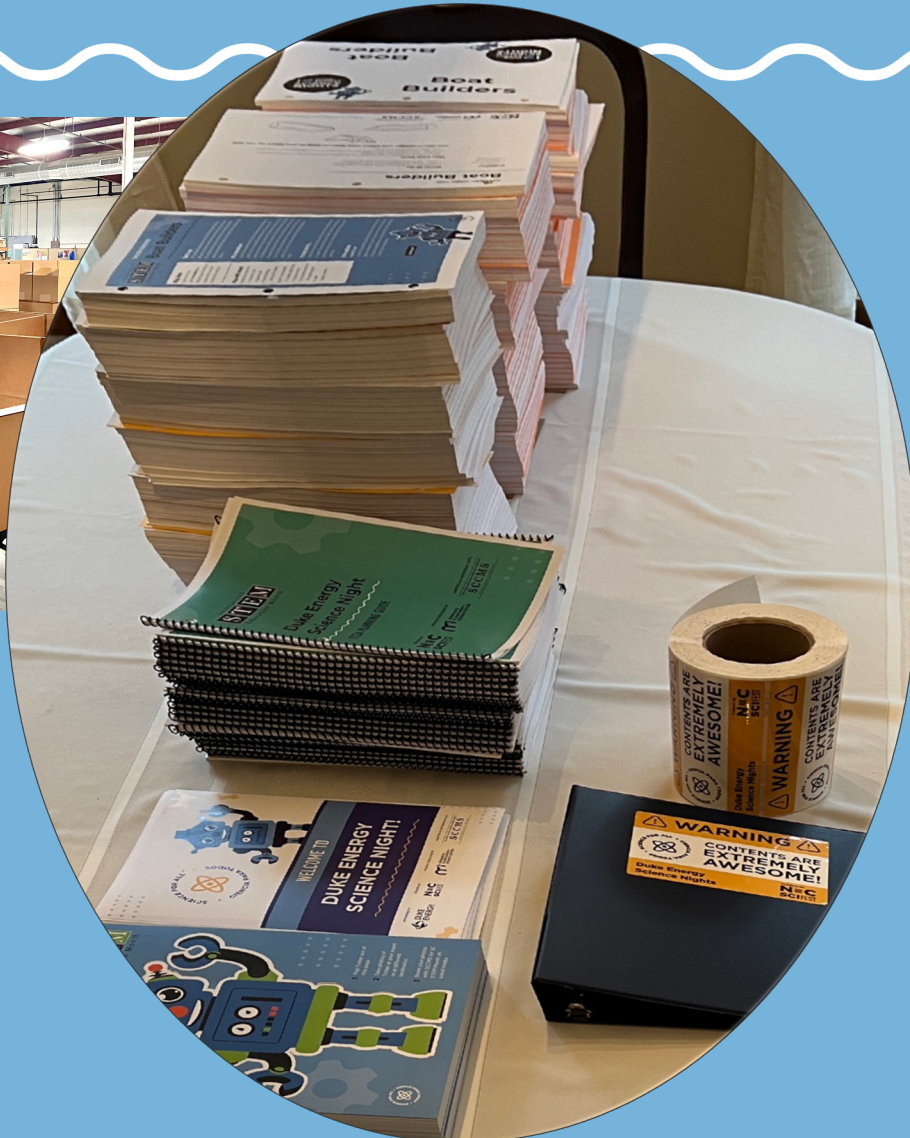




South Carolina
S T E M
Education Month



MATERIALS KIT



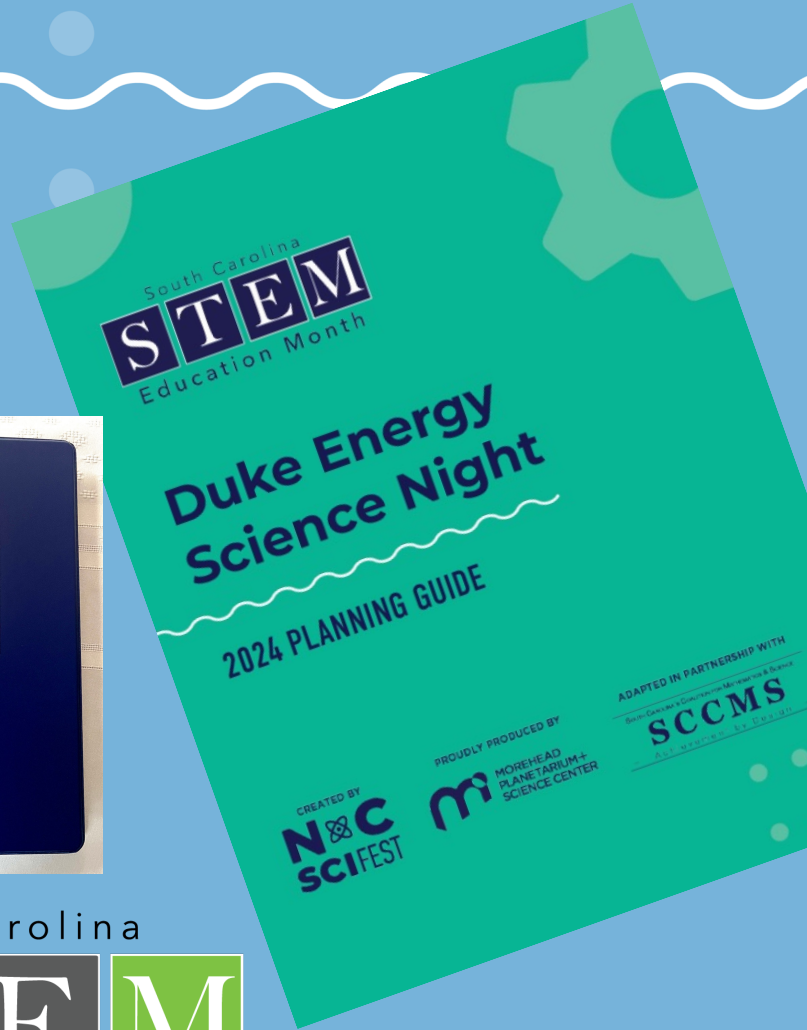
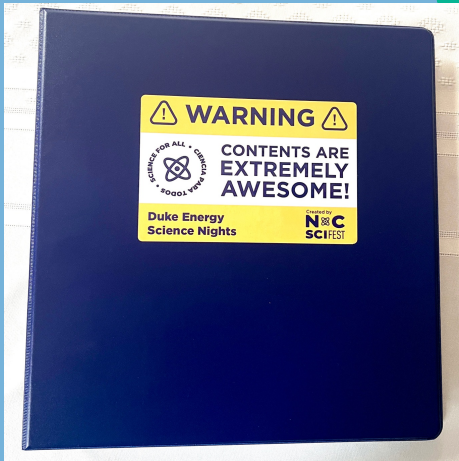
PROGRAM AND RESOURCES OVERVIEW

Events hosted and planned by schools with support from SCCMS and the Duke Energy Foundation

- Planning Guide
- Activity Guides, Instruction Sheets, and Table Cards
 - *English and Spanish - online*
 - *Printed on Cardstock (English) - in kits*
- Activities
 - *Aligned to SC Science Standards (K-5)*
- Materials Kit
 - *Supplies for 200 participants*
 - *Banner, flat robot, bookmarks*
- Guidance and Support
- Planning Webinars



PLANNING GUIDE



Contents

Section	Page
About	2
Welcome Letter	3
Contents	4
In The Box	5
Planning	6
Activity Needs	9
Materials	10
Timeline	11
Publicity	14
Volunteers	15
Additional Concerns	17
Activity Facilitation	18
Event Extensions	20
Evaluation	22
Contact Information	23
Be a Citizen Scientist	24
Acknowledgements	25
Sponsors	Back Cover

ACTIVITY GUIDES & INSTRUCTION SHEETS

South Carolina
STEM
Education Month

Duke Energy Science Night Boat Builders

Big idea
Explore a force called **buoyancy** by designing and building a boat with a simple household material.

You will need
WHAT WE GAVE YOU:
• aluminum foil
• glass stones
• Boat Builders instruction sheet

STUFF YOU PROVIDE:
• 1-2 large plastic tubs
• 1-2 containers to hold the glass stones
• water
• paper towels



Set it up
Fill the plastic tubs no more than 2/3 full of water. Place the towels on a stable surface that won't be easily jostled and put the containers of water on the towel. Place the Boat Builders instruction sheet on the table along with the foil sheets and glass stones.

It's showtime!
Explain to students they'll be using the design process (question, plan, build, test, improve) to experiment with buoyancy. The essential question to ask students is if different shapes of boats can hold different amounts of weight before sinking. Give each student one sheet of aluminum foil to shape and fold however they would like. Once they're ready, have them place their boat in the tub of water and count how many glass stones they can add before it sinks.

If they love it...
After their boat sinks, they can pull it out of the water and reshape it to see if they can build a better boat. Students can redesign and retest their boat as many times as they'd like as long as it doesn't rip the foil.

Fun options
AHEAD OF TIME
In one of the plastic tubs, create a saltwater solution inside. Stir in regular table salt ¼ cup at a time until no more salt will dissolve in the water. Ask students to compare how the same vessel behaves in both fresh and salt water.

Continued >



Duke Energy Science Night
Boat Builders

Why is this science?
Gravity is a force that pulls everything on Earth downward. **Buoyancy** is a force that pushes upward on objects that are in fluids (liquids and gases). Ships use the force of buoyancy to float even when the ship itself is made of a very dense material that would normally sink, like metal. The shape of a ship determines how much weight it can carry. Large ships such as cargo ships and aircraft carriers push a lot of water to the side; this is called displacement. The more water that a ship displaces, the more buoyancy will push up on it, and the more weight it can carry. If you look closely, you may even see the water level going up in the plastic tub as students add marbles to their boats causing their boats to displace more water.

South Carolina College- and Career-Ready Science Standards 2021
Explore a force called buoyancy by designing and building a boat with a simple household material.

Performance Expectation: K-PS2-2. Analyze data to determine if a design solution works as intended to change the speed or direction of an object with push or pull. 5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down.

Science & Engineering Practice: Analyzing and Interpreting Data; Engaging in Argument from Evidence

Disciplinary Core Idea: PS2.A: Forces and Motion – Pushes and pulls can have different strengths and directions. Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. PS2.B: Types of Interactions – The gravitational force of Earth acting on an object near Earth's surface pulls that object toward the planet's center.

Cross-Cutting Concept: Cause and Effect

CREATED BY
N&C SCIFEST

PROUDLY PRODUCED BY
M MOREHEAD PLANE TARRUM SCIENCE CENTER

ADAPTED IN PARTNERSHIP WITH
SCCMS
SOUTH CAROLINA COLLEGE- AND CAREER-READY SCIENCE CENTER

© 2012-2024, The University of North Carolina at Chapel Hill. All rights reserved.
Permission is granted to duplicate for educational purposes only.

DIGITAL RESOURCES NOW ONLINE!!!



HOME ABOUT STEM EDUCATOR OF THE YEAR PARTNER ACTION TEAM STEM DAY AT THE CAPITOL GRANTS MORE...

Duke Energy Science Nights for Elementary Schools



DESN Resources

- [Program Welcome Letter](#)
- [Planning Guide](#)
- [Materials List - Items provided in kit](#)
- [Activity Guides - English](#)
- [Activity Guides - Spanish](#)
- [Instruction Sheets - English](#)
- [Instruction Sheets - Spanish](#)
- [Table Cards - English](#)
- [Table Cards - Spanish](#)
- VIDEOS for each Activity – Planning Support •Coming in early February

Announcement Templates

- [DESN Editable Flyer Template](#)
- [Welcome Sign \(8.5x11\)](#)
- [DESN Press Release Template - English & Spanish](#)
- [DESN Web or Newsletter Announcement Template - English & Spanish](#)
- [DESN Announcement to Parents and Volunteer Request Template - English & Spanish](#)
- [DESN Reminder to Parents Template - English Spanish](#)

Additional Resources

- [Citizen Science Handout](#)
- [Flat Tinker Robot](#)

Webinars

South Carolina



Education Month

2024 ACTIVITIES

Activity	Concept	Activity Details
Boat Builders	Buoyancy	Design and build a boat with simple materials.
Capillary Flowers	Botany	Explore capillary action while making a colorful paper flower.
Fingerprints	Life Science	Explore the 3 main fingerprint patterns.
Light It Up	Conductivity	Explore electrical circuits through transfer of energy.
Moon Craters	Earth, Moon, & Sun	Explore what causes craters in the moon.
Paper Flying Machines	Forces & Motion	Build different flying machines to explore forces of flight.
Solar Eclipse Art	Earth, Moon, & Sun	Learn about solar eclipses while making a work of art.
Sound Sandwich	Sound	Discover why we can hear and sometimes feel sound.
Stomp Rockets	Forces & Motion	Build a rocket and blast it into the air.
UV Bracelets	Earth, Moon, & Sun	Make a bracelets using special beads to learn about UV light.



TIMELINE



- Jan 2024: Online resources available
- Jan 2024: Welcome Webinar
- Feb 5, 2024: Kits scheduled to ship
- **Feb 8, 2024**: Webinar – Event Planning
- **Feb 27, 2024**: Webinar – Exploring Activities
- March 14- April 14, 2024: DESN Events! Yay!
- April 25, 2024: Evaluation and feedback due to SCCMS
- **May 2, 2024**: Webinar - Program debrief and feedback

South Carolina



Education Month

Questions?

desn@scstemmonth.org

