

# Duke Energy Science Night

## **2025 PLANNING GUIDE**

**CREATED BY** 



PROUDLY PRODUCED BY



ADAPTED IN PARTNERSHIP WITH



## Duke Energy Science Night

Funding for the South Carolina STEM Education Month's Duke Energy Science Night initiative for elementary schools is provided by the Duke Energy Foundation, which seeks to power vibrant communities in their service region through the support of education programs and initiatives that emphasize science, technology, engineering and math (STEM). The Duke Energy Foundation invests in high-performing, sustainable programs and initiatives that help build a diverse workforce of the future, including those that create greater access to and participation in STEM-related informal and out-of-school educational opportunities.

### **South Carolina STEM Education Month**

South Carolina STEM Education Month began in 2018 with a celebration to honor and recognize the importance of STEM Education. STEM Education Day at the State Capitol as it was known then, was inspired by an idea brought to South Carolina's Coalition for Mathematics & Science (SCCMS) by State Representative Sylleste Davis. At that first STEM Education Day, legislators, media, and other STEM-interested citizens interacted with the Cane Bay H.S. Robotics Team and the state champion Rohming Robots 4-H Project Club. In addition to "shout outs" to SC businesses/industries that support STEM Education, attendees heard from speakers including State Superintendent of Education, Dr. Molly Spearman, and Governor Henry McMaster who officially declared March 7, 2018 as STEM Education Day.

STEM Education Day is now one of many highlights in our annual, month long celebration of STEM Education that launches each year on Pi Day (March 14) and continues through World Quantum Day (April 14). During STEM Education Month we honor South Carolina's STEM Educator of the Year and highlight STEM anywhere it is happening across our state...including in schools like yours that make Duke Energy Science Nights home-town celebrations of STEM Education!

Learn more about the annual celebration at www.scstemmonth.org

### **Partnership with North Carolina Science Festival**

Funding from the Duke Energy Foundation allows South Carolina's Coalition for Mathematics & Science (SCCMS) to partner with North Carolina Science Festival (NCSciFest) staff to produce the South Carolina Duke Energy Science Night program. The Science Night program is an initiative of NCSciFest, based at UNC-Chapel Hill's Morehead Planetarium and Science Center, and has been adapted in partnership with SCCMS to serve elementary schools located in Duke Energy service areas in South Carolina.

### **Greetings from South Carolina's Coalition for Mathematics and Science!**

We are thrilled to welcome you to the fourth year of the Duke Energy Science Night program in South Carolina! By receiving a Duke Energy Science Night kit, you are joining the celebration of South Carolina's STEM Education Month and advocating for STEM education within your school community. With increased support from our partners and your help, we aim to reach over 10,000 students and their families this year. We are excited to have so many dedicated educators committed to excellence in STEM engagement!

Our goal is to spark enthusiasm for science, technology, engineering, and math among students and families through engaging school community events. Hosting a successful science night requires planning and effort. Through our partnership with the North Carolina Science Festival team, we share their valuable experiences and successes with you in this planning guide.

There are many options to consider when planning your event. The activities and materials can be adapted for various settings, and you can expand the event to include additional components. We encourage you to be creative and utilize all your school and community resources to create a unique and engaging STEM learning opportunity. The resources in this guide and the upcoming free support webinars will help you connect with other program participants to share and discuss ideas. Feel free to contact us anytime for assistance. We are here to support you!

Thank you for joining the annual SC STEM Education Month celebration by hosting a Duke Energy Science Night. Your efforts will inspire learning and leadership in STEM education throughout South Carolina.

Sincerely,

Katherine Mulholland **Executive Director** 

Kelhun Ihebrallarl

SCCMS

Tracey Campbell Director of Special Projects SCCMS

Juany Campbell

Elena Stout **Education Specialist** S<sup>2</sup>TFM Centers SC

## **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

### In the Box

### Here's what your kit contains. Go ahead, dig in!

- + Planning Guide the one that you're currently reading. This guide has all the information you need to plan a successful and fun Duke Energy Science Night.
- + Activity Instructions and Materials each exciting activity has:
  - A 2-page Activity Guide with everything you need to know. (English & Spanish)
  - A 1-page Instruction Sheet with step-by-step instructions. (English & Spanish)
  - A Table Card with the name of the activity. (English & Spanish)
  - · A bag (or bags) of the materials needed to perform each activity.
- + Duke Energy Science Night Promotional Banner We request that you hang your official banner prominently at your school at least two weeks prior in order to help promote your event.
- + Flat Tinker Tinker is the official mascot of the iMAGINE STEAM Festivals. In the weeks leading up to your event, have Flat Tinker travel to classrooms and spaces throughout the whole school to generate excitement. Take photos of Tinker and share them with us on social media! @SCCMS\_STEM, #SCSTEMMonth, #MathForwardSC
- + Welcome Sign and Holder We are providing these to display on a welcome table near the entrance to your event.
- + South Carolina STEM Education Month Promotional Materials We are providing these as a token of our appreciation and for you to hand out to event volunteers and participants!

### **Notes:**

- Please inventory your materials as soon as you receive your kit and let us know immediately if anything is missing or damaged. Contact information is listed on page 23.
- + If you lose any of the documents, don't worry! You can download and print out replacements from our website. www.scstemmonth.org/scdesn

## **Planning**

## As you begin planning your Science Night, here's a list of general things to consider.

A detailed planning timeline can also be found on pages 11-13.

### **Date**

- + The SC STEM Education Month celebration is scheduled for March 14 - April 14, 2025. We ask you to host your DESN event on a date in that time period.
- + The date and time are up to you but we ask that you provide them to us so that we can provide timely tips and reminders throughout your planning.
- + If the date or time of your event changes, please notify us of that change as soon as possible. Contact information is listed on page 23.

### Time, Length and Size

- + 90 minutes to 2 hours is the optimal length of time for a Science Night. For larger crowds, plan for a 2 hour event.
- Most schools have their Science
   Night sometime between 5 and
   8pm on a weeknight. Consult with
   administration and pick a time that
   works best for your school community.
- + We have provided materials for up to 200 people. Parents are encouraged to participate with their children! If you plan for more than 200 attendees, you will need to supply the additional materials.

### **Location and Layout**

- + Lots of different models have been used, such as: scheduled rotations (a bell rings every 15 minutes and groups travel to a new activity); one big room (the cafeteria or gym is turned into a big science party); classrooms (each activity gets its own room); or the great outdoors (tables setup outside on the blacktop). Most Science Nights are some combination of locations that work best for your school.
- + You will want to include a welcome table to orient families to the event.
- + Put one or more volunteers at this table in charge of keeping an estimate of attendance we will ask you for it.

### **Library Involvement**

- Consider getting your school's Media Specialist/Librarian involved!
  - Can they offer a science themed read aloud as an activity station?
  - Could the librarian or media and technology team host a How-To workshop on technology or a "tech playground"?
  - Science apps or fun science websites could be available for families to explore.

### Volunteers

- + You will need volunteers to help lead the activities. Volunteers can be teachers, staff, parents or quardians. Consider recruiting middle or high school students to help with the Science Night, and give them an appropriate level of responsibility.
- + Volunteers can work the entire event or in shifts, depending on your needs. Try to schedule enough overlap so that no activity will be left without a facilitator during a transition.
- + Seek enthusiasm over expertise! All activity guides are written to help anyone effectively lead the activity. Assure parents that they do not need to be rocket scientists or teachers in order to help!
- + Be sure to reach out to volunteers early in your planning process. More details on recruiting volunteers can be found on page 15. A template letter asking parents to volunteer is available at www.scstemmonth.org/scdesn
- + Consider recruiting professionals involved in STEM from your school or local community so your students can "Meet A Scientist" during your event. This and other Event Extension ideas can be found on page 20.

### **Publicity**

- + As soon as you set the date, post it on both your internal staff and external public calendars, and on your school website!
- + We have created flyers to download and print. You will find them at www. scstemmonth.org/scdesn
- + Communicate clearly with students and parents about the Science Night and when it's happening.
- + Often local newspapers will send a reporter to cover your great event! Contact your local media using the press release template available at www.scstemmonth.org/scdesn

### **Additional Materials**

- + We have provided most of the materials needed in your kit (in quantities sufficient for 200 attendees.)
- + Some activities require additional materials as noted in the "stuff you provide" section of the activity cards. We try to keep this to a minimum.
- + A complete list of "stuff you provide" materials is available on page 10. Be sure to consult this list well in advance of your Science Night. You can collect these materials yourself or send home requests to your students' families.
- + It's helpful to label things (like scissors or markers) that get borrowed from a classroom with a small strip of masking tape and the room number/teacher's name. Put a volunteer in charge of returning these borrowed items.

### **Set-up and Clean-up**

- + Be sure you have the help you need to set up and clean up the event.
- + You will want to have some volunteers arrive early to help with set-up and stay late to help clean up afterwards.
- + Set-up will include arranging tables and chairs, providing trash cans for some activities, distributing activity materials to each station and hanging any necessary signs. Prioritize your volunteers as they arrive among these different tasks.
- + Your school's custodial staff may be able to help, but check with them early in the planning process, especially if you need tables brought from storage.

### Food

- Providing dinner for families before the event begins can increase parent participation. This can be as simple as a table full of cheese pizzas or a pot-luck dinner. Inviting food trucks and informing families to plan for that in advance is another great option. Local businesses may be willing to donate or discount food for the event in return for positive press, so ask around!
- + Selling snacks to fundraise for science materials, equipment or field trips is another fun idea. Check with your school's Parent-Teacher Organization to ask if they'd like to organize this addition.

## **Activity Needs**

### Here's what each activity must have in order to be successful.

The number of facilitators listed below is a minimum. If you have more volunteers, great!

Activity	Space	<b>Facilitators</b>	Other
Build a Bubble	1-2 tables*	1-2	A large open area (best outside). Pre-event preparation.
Build a Cell	1-2 tables	1-2	
Cosmic Coding	1-2 tables	1-2	
Create a Coaster	Floor space near a wall	1-2	Chairs
Easy as Pi	1-2 tables	2-4	
Galilean Cannon	1 table + open area	2-4	A tall open area (best outside) to serve as the launch zone.
Garden in a Glove	1-2 tables*	1-2	Water
Magnetic Painting	2-4 tables*	2-4	Metallic objects. Space for paintings to dry.
Ring Gliders	1-2 tables + open area	1-2	An area large enough to test the gliders.
Straw Flutes	1-2 tables	1-2	
Welcome table	1 table near event entrance	1-2	Place welcome sign (in holder) and giveaway items on table. Be sure to count the number of attendees!
Total	11-20 tables	14-28 volunteers	Lean towards more than less.

<sup>\*</sup>Area may get wet and/or messy, so have paper towels and/or towels located at this activity.

### **Materials**

### \* = optional material

### Here's the list of materials not provided in the kit.

#### **Build a Bubble**

- + water
- paper towels
- large mixing container for bubble solution
- + towels\*
- + straws\*
- + string\*
- + scissors\*

#### **Build a Cell**

- permanent markers
- + pencils
- + scissors if 12" pipe cleaners\*

### **Cosmic Coding**

+ pencils

#### **Create a Coaster**

- + scissors
- + chairs
- + additional containers to catch balls\*

### Easy as Pi

- + scissors
- different sized circular templates\*
- + additional ribbon\*

### Galilean Cannon

+ basketballs and tennis balls\*

#### Garden in a Glove

- + water
- + paper towels

### **Magnetic Painting**

- + assorted small metal objects
- + paper towels or wipes
- + pens or markers
- + additional paint colors\*

### **Ring Gliders**

+ hula hoops\*

#### **Straw Flutes**

+ adult scissors

### **Furniture**

- + Tables: for activities and welcome table
- Chairs: for activities as well as for facilitators and welcome table staffers
- + Trash and recycling bins

### Please note

Some of the "Fun Options" provided for each activity require additional supplies that are not listed here. Take the time to read through these and decide which, if any, you want to include in your Science Night. Be sure to add these additional items to your shopping/donations list.

### **10** DUKE ENERGY SCIENCE NIGHT

South Carolina STEM Education Month led by SCCMS

### **Timeline**

### Here's our suggested timeline for making sure your Science Night is a success!

### Six weeks

- + Read through the Planning Guide and all the Activity Guides so you know what to expect.
- + Put the Science Night on your school's calendar & website.
- + Communicate with your library or media center about the event.
- + Recruit your volunteers! See pages 7 and 15-16 for more guidance.
- + Submit information to the school newsletter. A template is available at www.scstemmonth.org/scdesn
- + You will start receiving regular emails from us with tips and advice on how to make your night a success.

### Four weeks

- + Engage your PTA organization and ask them to advertise the event in their newsletter or at meetings.
- + Send a letter home with students announcing the event and asking for volunteers. A template is available at www.scstemmonth.org/scdesn
- + Check the materials list on page 10. See what you have and what you need. Also, check the "Fun Options" section of each activity guide. You may want to obtain the additional supplies to implement these options.

- + Go shopping for or request donations of any additional materials you need. Consider checking with local business who may be willing to donate bags for participants to carry activity items at the event.
- + Extend an invitation to your school district officials.
- + Notify your local newspaper. A template is available at www. scstemmonth.org/scdesn

### Two weeks

- Communicate with volunteers the specifics of how they will be helping. For volunteers assigned to an activity, provide a copy of their activity instructions so they can review them.
- + Add information about the Science Night to your school website. A template is available at www. scstemmonth.org/scdesn
- Make a map of your set-up and plan where everything will go.
- Speak to your custodial staff about helping with set-up and break-down.
- + Hang your Duke Energy Science Night banner.
- Use Flat Tinker to generate excitement at your school and on social media.

### One week

- Send a letter home with students reminding them about the event.
   Ask them to bring bags (if none are donated) to carry their take-away items. A template is available at www.scstemmonth.org/scdesn
- + Gather all the supplies for the activities. (Refer to page 10.)
- Have students make Duke Energy Science Night posters in class. Hang them up to advertise.
- Make any copies needed for the event (e.g., Citizen Science Handouts, Flat Tinker)

### **Morning of event**

- + Make an announcement about the event.
- Remind students that the Science
   Night is tonight and to bring a bag to carry their take-aways!
- + Hang up any directional signs that visitors might need.

### Two hours before

- Set up tables and chairs.
- + Distribute to each activity station:
  - · Activity guide
  - Instruction sheet
  - Table card
  - Bag(s) of materials
  - · Additional supplies needed
  - Optional supplies provided

- + Place at welcome table:
  - Welcome Sign in plastic holder
  - Handouts
  - SC STEM Education Month promotional materials

### As volunteers arrive

- + Direct them to their station.
- Have them read the instructional materials and set up their activity.
- + See if they have any questions and if they feel confident facilitating the activity.
- + Ask them to keep the Instruction Sheet and the back side of the Activity Guide on display throughout the event.

### As people arrive

- Welcome them to the Science Night and encourage them to jump in and get started on the activities!
- + Keep a count of how many people attend. We'll ask you to report this after your event.

### **During Science Night**

- Keep volunteers supplied with what they need.
- Do crowd control: if you see a large crowd at one activity and no one at another, encourage people to check out the other activity.
- + Take photographs... We can't wait to see them on social media!
- + Take a moment to take in all the happy, engaged students around you.

### **12** DUKE ENERGY SCIENCE NIGHT

### At end of event

- + Thank everyone for coming to the Science Night.
- + Announce that Duke Energy Science Nights are part of the South Carolina STEM Education Month celebration and encourage people to visit our website to find more opportunities to celebrate STEM month:

### www.scstemmonth.org

- + Encourage everyone to "be a citizen scientist!" More information on pg 24.
- + Encourage everyone to pick up any handouts you've made available.
- + Do a victory lap around your school and pat yourself on the back! You've just completed a massive undertaking that's ensured your families had an authentic, meaningful hands-on science experience!
- + Share photos of your event on social media with #SCSTEMMonth and #MathForwardSC

### To clean up

- + Return classroom supplies to their usual locations.
- + Save any leftover materials for future use - everything is yours to keep!

### One week after event

- + Your feedback is invaluable to us for future Science Night planning!
  - Complete the post-event survey that will be emailed to you as soon as possible and preferrably within the week after your science nightwhile everything is fresh in your mind.
  - We expect 100% participation and will contact you until we get it :-)
- + If you do not receive the survey, please get in touch with us: see contact information on page 23.

## **Publicity**

## You'll want to let everyone know about your event. Here's how to publicize it.

### Here are some things to keep in mind as you publicize your event:

- + Help us maintain consistent messaging by using the correct and complete names for your Duke Energy Science Night and the South Carolina STEM Education Month.
- + You can use our Tinker and logos to publicize your Science Night, but please don't modify them in any way.
- + Make your description of the event concrete by listing some of the specific activities that families will have the chance to do, or by describing how this event will benefit your school community.
- + Emphasize that this event is for students <u>and</u> their families! Parents/guardians should plan to attend and engage with the activities.
- + Let your excitement for the event be contagious! Talk with your students about the activities you're most excited about.
- + Contact us for more details using the contact information on page 23.

## The following resources are available to help you with publicity and can be found at www.scstemmonth.org/scdesn

- + A Duke Energy Science Night template document
- + Example wording\*: Press Release for newspapers
- + Example wording\*: Notice for school website, newsletter, etc.
- + Example wording\*: Announcement letter to parents and call for volunteers
- + Example wording\*: Reminder letter to parents
  - \* In English and Spanish

### Volunteers

### Your Science Night depends on volunteers. Here's how to find, recruit and manage them.

### Who to Recruit

School administrators, teachers, and staff: recruit your school colleagues eight weeks in advance. Could you have five minutes at a staff meeting to hype the event?

Upper grade students: contact your local middle school, high school, community college, university, etc six-eight weeks in advance

Local professionals or organizations involved in STEM: reach out six-eight weeks in advance

Parents/guardians: send a letter at least four weeks in advance

### **How to Recruit**

A template for a letter to parents is included online at www.scstemmonth.org/scdesn

Assure volunteers that they do not need to be teachers or science experts to help facilitate a Science Night activity! All the activity guides have been written for a facilitator without a science background.

Be prepared with general information about the Science Night and to tell them exactly what you are asking them to do.

When someone expresses interest in being a volunteer, get his or her contact information and a firm time commitment.

### **How to Manage**

Keep an organized list of your volunteers' names, contact information and any specific interests or concerns.

At least two weeks in advance, assign your volunteers to specific duties, and communicate those assignments.

Provide copies of the activity instructions to each of your activity facilitators in advance of the event. Don't worry about facilitators who don't read ahead: activity guides and instruction sheets are designed to be understandable in about 30 minutes.

Remind your volunteers about the Science Night a week ahead of time and again one to two days in advance.

### Get the whole school involved

- + Encourage students to see that science is everywhere by getting the whole school involved.
- + Some activities may lend themselves to particular staff members.
- + Reach out to the staff at large to see who can run an extension activity. Would your art teacher organize a large science mural students could work on during your Science Night (more information about this idea on page 20)? Encourage as much unique involvement as possible!
- + Ask people to take photographs. We look forward to seeing them on social media and you will love to see them!

### Help them succeed

- + Your level of stress will transfer to the volunteers around you. It's always stressful to organize an event for your community, but even if you're nervous and worried about turnout or messy activities, show volunteers how excited you are about what the students and their families will get from the event. Your enthusiasm will get them started on the right foot!
- + It's a good idea to be available throughout the event rather than assigning yourself a specific duty.
- + When volunteers arrive at the Science Night, welcome them! Escort them to their station and give them time to familiarize themselves with their activity. Help them out if they have questions and make sure they are comfortable before the event begins.
- + During the event, circulate among the activity tables. Ensure that the volunteers have the materials they need and that everything is going well at their station.
- + As the event winds down, let your volunteers know your clean-up procedures. If you need help, be specific about asking for it.
- + Thank your volunteers for their help in making your Science Night a success! We have included some buttons that can be distributed as a small token of appreciation and to designate them as an event volunteer.

## **Additional Concerns**

### Those extra things to think (but not stress) about.

- + Some activities get wet and/or messy! Encourage your volunteers to come dressed in expectation of that. Suggest teachers and staff bring a change of clothes and shoes so they can relax and enjoy themselves without worrying about stains on nice work attire.
- + Where are the closest broom and mop? Just in case.
- + Consider having a first aid kit available at the welcome table or a plan in place for accessing the nurse's office.
- + Will any areas of the school be off limits? If so, are they clearly marked/blocked off?
- + Is there more than one entrance to your school campus? Inform parents ahead of time about which entrance to use or mark it clearly.

## **Activity Facilitation**

Here's how you and your volunteers can make these activities a huge success.

### **Activity Guides (available in English and Spanish)**

Each activity guide is divided into sections to make it easy to read and understand:

#### **ACTIVITY NAME**

- + Appears on top of front side
- Name matches labels on the bag(s) of materials in the kit

#### **BIG IDEA**

Sums up what the activity is all about

#### YOU WILL NEED

+ Lists the materials we supplied and the ones you provide

### **SET IT UP**

Tells you how to set up the activity station

### **IT'S SHOWTIME**

 Explains how to easily guide families through the activity

### **FUN OPTIONS**

- Ahead of Time: provides options for you to consider
- + During the Science Night: options for the facilitator to consider

#### WHY IS THIS SCIENCE?\*

- Explains how the activity relates to science, technology, engineering or mathematics
- Gives a basic explanation of the science going on in the activity

### SOUTH CAROLINA STANDARDS AND MATH CONNECTIONS\*

- Notes how the activity is related to South Carolina academic standards
- Provides suggestions to integrate mathematics concepts into the activity

### Instruction Sheets (available in English and Spanish)

Each instruction sheet lists the materials and steps that each participant will use. They should be displayed during the Science Night so that attendees can refer to them during the activity.

<sup>\*</sup> The back side of the Activity Guides should be displayed during the Science Night so that attendees can read the "Why is this Science" and "South Carolina Standards."

### **Suggestions for facilitators**

Carefully read the entire activity guide, front and back, in advance of the event.

Set up the activity and do a practice run. Make an example!

Read the "Why is this Science?" section. Even if students aren't interested in hearing this information, it gives you valuable background knowledge.

When students and their parents approach the activity, be excited to help them try something new!

Try to let the families set the style of your interaction: some families will be forthcoming and will direct the encounter, while others will need coaxing and encouragement. Be sensitive to different communication styles.

Ask lots of questions! You want to have a conversation, not deliver a lecture.

If you have multiple visitors at your station, direct your conversation to include all of them. Be sure each child gets a chance to answer questions and participate.

If one student seems particularly engaged in the activity while others are struggling, suggest that they work together.

Keep mental notes on what works well and what doesn't. This feedback guides the way we improve activities from year to year!

### How you can help your facilitators

Provide copies of the activities and instructions in both English and Spanish at each station. This way, all families can take part in the activity, even if your facilitator is not bilingual.

Circulate during the event. Check that your facilitators have everything they need.

Do crowd control: if you see a large crowd at one activity and no one at another, encourage people to check out the other activity.

### **Event Extensions**

## Here are suggestions for extensions during the event, in your classroom and at home.

We encourage you to make the night unique to your school community!
You don't have to be bound to just the activities in the kit; here are some suggestions for how to expand your event!

### **During Science Night**

### **Community-Created Mural**

Hang a large piece of bulletin board paper near the welcome table and set out markers. Encourage students and their families to contribute drawings by seeding the paper with prompts such as:

- + Draw yourself doing science!
- + How do science and technology make your life better?
- + What's your favorite invention?

Or use your mural to focus on one theme of science. Ask students to draw animals and plants in an ecosystem, or planets and stars in outer space.

#### **Meet A Scientist**

We encourage you to consider adding a 'Meet A Scientist' table. Are any of the parents/guardians at your school scientists or involved in STEM related fields? Is there a local college, organization, or business that would be willing to visit your school for STEM outreach? Research shows that this enhances a STEM event and is a very impactful experience for your students.

#### **Additional Activities**

Feel free to add additional activities to your Science Night if you like!

Consider having each grade level present what they're currently learning in science to connect parents to the classroom.

Consider having science fair projects on display.

Consider creating additional activities.
There are hundreds of wonderful ideas available online. As you look for additional activities, use these guidelines to choose good ones:

- + Will the activity appeal to all genders and ages, including adults?
- Is the activity a good springboard for families to do further exploration at home?
- + Will the activity be able to accommodate teams of two or three family members?
- + Is the activity quick and hands-on?
- Does the activity use a short list of readily available materials?

### In the Classroom

Consider taking on a Citizen Science project as a classroom (see page 24.) These don't need to take up a lot of time and online projects could be done as a brain-break between subjects.

Explore the resources offered and challenges suggested by various competitions: SC Science Olympiad, FIRST SC Robotics, and Odyssey of the Mind.

### At Home

Encourage families to try any experiments they enjoyed again at home! You can follow up after Science Night with a list of links to hands-on activity resources to keep families engaged and learning together.

Citizen Science projects rely on ordinary citizens to help scientists collect data. You can contribute to real scientific studies and there are lots of fun, easy-to-join options. See page 24 for some Citizen Science options that will work well for families in South Carolina. You can make copies to distribute at your event.

Encourage families to visit www.scstemmonth.org and check out the calendar to see what other SC STEM Month events are happening in your area. Most of these are free!

### Additional Resources

### The following websites offer a sampling of great resources to explore:

- + Children's Museum of the Lowcountry: www.explorecml.org/
- + EdVenture Children's Museum: www.edventure.org
- iMAGINE STEM Festivals & iMAGINE on the Move: www.imaginesteamsc.org/
- + Riverbanks Zoo & Garden: www.riverbanks.org/education/
- + Roper Mountain Science Center: www.ropermountain.org/
- + Ruth Patrick Science Education Center: www.usca.edu/rpsec/
- + SC Afterschool Alliance: www.scafterschool.com/
- + SC Aquarium: www.scaquarium.org/
- + SC's Coalition for Mathematics & Science: www.sccoalition.org/
- + S<sup>2</sup>TEM Centers SC: www.s2temsc.org/
- + The Children's Museum of the Upstate: www.tcmupstate.org/
- The Citadel's STEM Center of Excellence: www.citadelstemcenter.org

### **Evaluation**

### We need your feedback. Here's what we're asking you to do.

### Why

The South Carolina STEM Education Month is committed to growing and improving each year. To that end, we will collect evaluation data from each school following their Science Night and use the information to help guide our future planning.

### What

After your Science Night, we will email you with a survey link and ask you to report back your event statistics (including number of participants) as well as provide feedback on the activities and experience. In addition to completing the survey, you are most welcome to provide additional information and comments to us. See page 23 for contact information.

### When

Please complete your response as soon as possible, preferrably one week after your Duke Energy Science Night and no later than mid April. We are striving for 100% participation and we'll be following up with gentle reminders to encourage you to complete the survey.

### **Contact Information**

### Questions? Concerns? Suggestions? Visit the website or call us! We want to help.

### Website

The South Carolina STEM Education Month website has everything you need.

Visit www.scstemmonth.org/scdesn to find all of the following:

- + Downloadable PDFs of the planning guide, activity guides, instruction sheets and table cards in both English and Spanish
- + Downloadable templates for the newspaper press release, school website blurb and letters to parents
- + Downloadable flyer to promote and advertise your Science Night
- + Links to other handy resources

### Contact

If you can't find what you're looking for on the website, please contact us by email or phone:

Email: desn@scstemmonth.org

**Tracey Campbell South Carolina's Coalition for Mathematics & Science Director of Special Projects** 843-274-4087

**Elena Stout** S<sup>2</sup>TEM Centers SC **Education Specialist** 

## Be a Citizen Scientist!

## Citizen Science is a partnership between the public (that's you!) and scientists.

You don't have to be a scientist to work on a real scientific study! Citizen Science enables people from all walks of life to advance scientific research.

### **SC Adopt-a-Stream**

You can become a part of an active network of watershed stewardship, engagement, and education through hands-on involvement and a certified training process. Through their data collection, SC AAS volunteers play a needed role in monitoring and tracking water quality in areas not frequently monitored. As volunteers provide more baseline information about stream conditions, natural resource managers can make more informed decisions and use resources more wisely to solve water pollution and ecological stress in their communities.

Get going at https://www.clemson.edu/public/water/watershed/scaas/

### **Tracking Insect Species in SC**

Are you looking for an opportunity to volunteer your time helping wildlife? Are you willing to help collect data on species and their habitats? SC Department of Natural Resources has opportunities for the public to help gather information that biologists and researchers can use in assessing species and their habitats.

Get going at https://www.dnr.sc.gov/volunteering/insects.html

### **SC Aquarium Citizen Science App**

Make a difference by contributing to the study of local environmental issues like plastic pollution, sea level rise or invasive species. The app features a collection of environmental research projects led by professional scientists at the South Carolina Aquarium who need your help collecting data. Contribute to projects of your choice quickly and easily from your mobile device.

Get going at https://scaquarium.org/conservation/citizenscience/

### Want other options?

Visit **www.scistarter.org** to find a project that interests you! There are HUNDREDS of projects that you can choose from!

## Acknowledgements

We gratefully acknowledge the contributions of the following people for their invaluable assistance in developing the Duke Energy Science Night program:

- Beverly Vance, Former Section Chief, K-12 Math and Science, NC Dept of Public Instruction
- Chancellor Emeritus James Moeser and the NC Science Festival Board of Advisors
- Todd Boyette, Co-Founder, North Carolina Science Festival and Director of Morehead Planetarium and Science Center
- Denise Young, Co-Founder, North Carolina Science Festival and Director of Bell Museum
- Crystal Harden, Director of Programs at Morehead Planetarium and Science Center
- Jonathan Frederick, Former Director of NC Science Festival and Curriculum Contributor
- Erik MacIntosh, NC Science Festival Community Engagement Manager and Curriculum Contributor
- Past NC Science Festival Program Coordinators and Curriculum Contributors:
  - Denise Woodward
  - Kara O'Dor
  - Kathryn Fromson
  - Lizza Igoe
  - Marissa Hartzler
- CIBL Center for Inquiry-Based Learning
- CHICLE Language Institute
- Staff and student workers of Morehead Planetarium and Science Center
- Staff, students, and families of the Morehead Afterschool Program and Summer Camp

#### Review of materials for South Carolina alignment supported by:

- Tracey Campbell, Director of Special Projects South Carolina's Coalition for Mathematics & Science
- Elena Stout, Education Specialist S<sup>2</sup>TEM Centers SC



### March 14 - April 14

STEM Education Month is a celebration of STEM teaching and learning in schools and communities all across South Carolina made possible by STEM-minded individuals... LIKE YOU!

www.scstemmonth.org

**SC Science Night is sponsored by** 



