

Nuclear Science Week Programs for Grades 7-12 October 16-20, 2017



We invite Middle and High School Science Teachers to consider bringing your students to a hands-on physical science class entitled Center of an Atom - An Investigation of Protons, Neutrons, Electrons, Elements, and Isotopes that will be offered at the Ruth Patrick Science Education Center during Nuclear Science Week in the fall (October 16-20, 2017). In this program, students explore atomic structure using a series of hands-on activities, concluding with the discovery of the uses of an atom they create using the Interactive Nucleus display and the Living Periodic Table. The American Nuclear Society- Savannah River Section sponsors this program.

Other RPSEC programs offered that week that may be of interest to middle and high school students include Center of the Atom, Probing the Periodic Table, Chemicals Matter, Meet the Elements and Engineering the ISS (planetarium). Program descriptions are listed below. Note: We can accommodate up to 90 students per visit if they rotate through three, one-hour programs.

Beginning in April, the Ruth Patrick Science Education Center will be accepting reservation requests for field trip programs for the 2017-2018 school year. Reservation request forms are available at <http://rpsec.usca.edu/student/>. The deadline for teachers to submit their requests is Friday, June 2, 2017 at 5:00 PM. Our programs fill up quickly, so please do not delay!

Nuclear Science Week Program Descriptions

Radioecology: (Grades 7,8 & High School • 60 minutes) Learn what happens when radionuclides and ecosystems meet with the Savannah River Ecology Laboratory scientists. The SREL has the only radio ecology undergraduate education program in the world. Challenge the myths and learn the facts about radio ecology from research conducted at the SRS in Aiken, South Carolina, the Chernobyl Exclusion Zone in Russia, and the Fukushima Daiichi accident in Japan. *Taught at RPSEC by the SREL scientists

Center of the Atom

(Grades 9-12 • 60 minutes) An Investigation of Protons, Neutrons, Electrons, Elements, and Isotopes. Students explore atomic structure using a series of hands-on activities, concluding with the discovery of the uses of an atom they create using the Interactive Nucleus display and the Living Periodic Table.

Probing the Periodic Table

(Grades 9-12 • 60 minutes) This program demystifies the periodic table and makes learning about atoms fun! Students grasp the organization of the periodic table as they construct a Periodic Table of Foods. Then, they build atom models using magnets and white boards and use the models to find patterns in the structure and behavior of elements.

Changes Matter

(Grades 7-8 • 60 minutes) Students explore physical and chemical properties of matter. They compare physical and chemical changes and experience reactivity through several hands-on activities and explosive demonstrations!

Meet the Elements

(Grades 7-8 • 60 minutes) Students "meet the elements" in a fun music video; then work together to classify materials as elements, compounds, and mixtures. They will build atomic models, and discover why compounds are either ionic or covalent.

Engineering the ISS

(Grades 8-12 • Planetarium • 60 minutes) How do you build a million-pound object that will stay in orbit and sustain human life? Learn how 15 nations worked together to engineer 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.