

**AMERICAN CHEMICAL SOCIETY
SOUTH CAROLINA SECTION**



National Chemistry Week Mini-Grant Application Cover Sheet

PROJECT TITLE	Enjoying the Sweet Rewards of Chemistry at Coastal		
ORGANIZATION NAME	Biochemistry and Chemistry Club/ACS student chapter at CCU		
CONTACT NAME	Rachel Whitaker		
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NAME FOR USE ON GRANT DISBURSEMENT CHECK IF DIFFERENT FROM ORGANIZATION NAME	Biochemistry and Chemistry Club		
TOTAL BUDGET FOR PROJECT	\$300.00		
DOLLAR AMOUNT REQUESTED FROM SC-ACS	\$300.00		
DATE SUBMITTED	08/26/2014		
SIGNATURE (if submitted electronically you may simply type your name)	Rachel Whitaker		

Please send cover sheet and proposal by September 1 by either email to deavorj@cofc.edu or send to
Dr. James Deavor
Department of Chemistry & Biochemistry
College of Charleston
Charleston, SC 29424-0001

Project Title: Enjoying the Sweet Rewards of Chemistry at Coastal

Project Rationale: National Chemistry Week (NCW) will be celebrated by chemists and non-chemists alike at Coastal Carolina University (CCU). We plan to set-up a chemical demonstration table on Mole Day, October 23, 2014. The demonstration table will be positioned on Prince lawn, which is the main thoroughfare for student foot traffic. We plan to have interactive candy-based chemical demonstrations and games for CCU students to participate in.

The NCW theme of: The Sweet Side of Chemistry, Candy will be addressed through our candy-based chemical demonstrations and educational posters. We plan to develop educational posters that discuss ester chemistry and how these ester-containing compounds contribute to the smell and taste of candy. We also would like to generate a poster that discusses the various food dyes that are used to generate the vibrant colors that are found within candy. We will also have a poster related to the history and significance of NCW as well as introducing the theme for next year's NCW activities on campus.

Target Audience: The target audience for our chemical demonstrations/NCW celebration will be CCU students, faculty and staff. As a liberal arts university, CCU requires all students to take a laboratory science course; this exposure may spark interest in students to take a chemistry course to fill this requirement. Furthermore, we will partner with the College of Education to encourage their majors to attend in hopes that these demonstrations and activities can be taken into local classrooms

Project Description: We plan to host a NCW celebration on Prince lawn at Coastal Carolina University, October 23, 2014. The celebration will take place from 12PM-5PM. We plan to set-up a booth that will house a demonstration table and a table for educational posters and games. This project will be facilitated by Drs. Rachel Whitaker and Bryan Wakefield as well as by students from the Biochemistry and Chemistry Club. The participants will pre-run the demonstrations, set-up the NCW celebration booth on Prince lawn and generate the educational posters that will be displayed. The planning of this event will take place at our weekly club meetings and the chemical demonstration preparations will take place a week prior to the NCW celebration.

The topics that we plan to address at the NCW celebration booth are: 1) how ester-containing compounds contribute to the taste and smell of candy, 2) how food dyes work and 3) the energy-dense nature of candy. As such, we plan to order various ester-containing compounds to serve as samples for smelling. We plan to get candies that utilize these esters to serve as examples for our audience. Also, we plan to run the "Gobstopper demonstration" that extracts out the various food dyes from the Gobstoppers and shows their different chemical properties. We also plan to perform the "Dancing gummy bear" demonstration, which illustrates that gummy bears are incredibly energy dense. This experiment will accompany the "Burnt sugar" experiment. Lastly, we plan to demonstrate the "Mentos Geyser" experiment by mounting Diet Coke bottles to the end of a skateboard and then propelling that skateboard via Mentos geysers.

Safety Considerations: All participants will wear the proper personal protective equipment (PPE). This includes lab coats, goggles, pants and closed-toe shoes. Any experiments involving a Bunsen burner will be shielded. All chemical waste will be disposed of properly in the appropriate waste containers.

Narrative budget: The following items will need to be purchased: candy/soda, ~\$50; t-shirt prizes, ~\$45; chemicals, ~\$180; poster supplies, ~\$25.

If we received less funding, we could still have a NCW celebration. However, we would just perform fewer demonstrations.