

# Science in your swimsuit: A Cape Cod Science Café for grades K-8

By Jennifer Maclachlan, Photos by Jennifer Maclachlan

On a sweltering summer Wednesday morning in late June where I was enjoying the soft banter of mom talk while we sipped our Diet Cokes and our kids were at swim team practice, my friend Caitlin, who coordinates the swimming program at the Wequaquet Lake Yacht Club (WLYC), asked me if I'd be interested in helping to organize a "science activity afternoon" for the members' kids. "Yes! Of course, I'd love to."

We all pulled up our phone calendars and decided to pair it with an upcoming Sunday Family Potluck, where there was live music scheduled, as those with the live music tend to garner more attendance. I suggested we call it "Science Café Sunday" and the more excited we grew about sharing what activities we would provide, the more moms (who range from elementary to high school teachers) piped in to say they would participate as well. I'd committed to making "Cape Cod Science Café goody bags" for the kids and to provide four hands-on chemistry-related activities.

## Event marketing



By that evening we had an event signup posted on the wall and one created in the private "Wequaquet Lake Moms Facebook Page." By the following week the event had made its way onto the wipe board and had been included in the upcoming events club email and the all call script. We had six parents sign up as activity providers and by July 14, 2017 we had 48 kids signed up to attend the premier "Science Café Sunday" on July 16, 2017!

This was truly the extent of promotion that was required for this event since it was essentially a private event for members and guests of the WLYC. We had little promoting to do other than answering questions like “what’s a science cafe’?” and encouraging those who were inquisitive about it to attend. This included those with grown children so other members of WLYC could see the quality of programming that members provide to members.

At Comedy Night, while getting a drink at the bar, I had several adults ask me about the upcoming science café. One mother asked me if her college age son could come and help. I told her he could and I made certain to follow up with that family the following week.

Turns out their student attends Mass Maritime Academy, one of our STEM Journey partners, is studying marine engineering, and enjoys public outreach events. Although he couldn’t participate at Science Café Sunday, I have connected with him to have him, potentially, work at one of my tables at one of my three upcoming Cape Cod Science Café events: Pop-Up Science Museum at Cape Cod Beer Brewery, the Cape & Islands Council of the Boy Scouts of America Wicked Cool Autumn Welcome (which has won several ChemLuminary awards over the past several years in various categories) and STEM Journey V in 2018.

### **Engaging the Northeastern Local Section (NESACS)**

Now that it was an actual event with a date, venue, activity providers and an audience and I’d managed to brand it a “science café” I engaged my local ACS section to provide public relations funding (out of our annual budget) for some of the goody bag items, including the bottled water and cookies, which make it a science café and not just a science activity.

I ordered the “Science is Fun” buttons from Educational Innovations. These are always popular at the chemistry outreach activities that I organize annually.



*Science Cafe' Sunday goody bag assembly line*

I contacted ACS National to re-stock my supply of Chemistry Ambassador sashes, “You’re looking at a Chemistry Ambassador” buttons, Chemists Celebrate Earth Day stickers, current copies of Celebrating Chemistry (the National Chemistry Week 2016 edition and the Chemists Celebrate Earth Day 2017 edition).

I had “Save the Date for STEM Journey V” magnets made, Industrial Hygiene Pathways laminated booklets and postcards from the American Industrial Hygiene Association, Postcards from the American Association of Chemistry Teachers (AACT) and had “Cape Cod Science Café” branded nylon drawstring bags to hold the goodies.

Our Local Section Chair, Lee Johnson agreed to travel to the Cape and run an activity table at Science Café Sunday. I contacted our Younger Chemists Committee Social Chair since he has a house on Cape Cod to see if he could attend. He couldn’t, but put me in touch with one of the younger chemists who could. My father and NESACS Public Relations Chair, Jack Driscoll, also agreed to lead a table.

### **Setting the stage for a successful science outreach activity**

Seize any opportunity to pair science outreach with a public or in this case a private event that has a built-in audience populated with your ideal target audience. The 48 WLYC kids that signed up for Science Café Sunday range in age from 5-13. This is my ideal target audience!

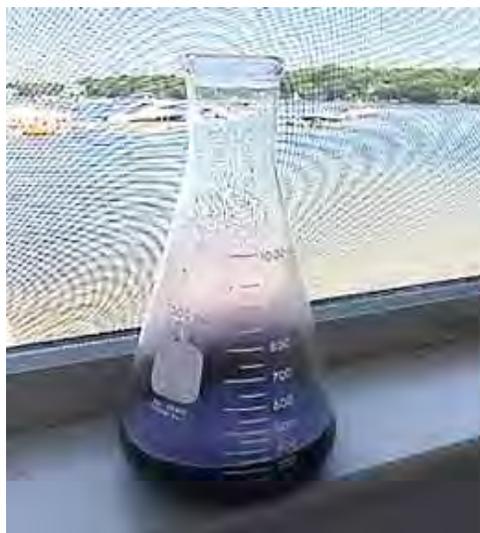
I’ve been organizing Cape Cod Science Café events for kids since 2011 and this is the first time it’s been this easy. Part of the reason this happened is because I have built a reputation as a science outreach provider in my local community largely due in part to using social media to promote and engage locals to attend these events.

I asked the WLYC Past Commodore how many kids attended the most popular event on opening weekend 2017: “The Sponge Bob Crabby Patty Party”. The answer was 60, so we each planned for 60 attendees. Caitlin told me that she was going on vacation to Maine and would return the night before the event but had ordered her pizza boxes, aluminum foil and other bits she needed from Amazon for her solar oven making kits.

I told her I could handle setup and I went to my office on Saturday afternoon July 15th to gather the goody bag supplies that had been accumulating over the past week and packed up a variety of chemistry-related activities that work well in a fast-paced public outreach environment. I had learned this from my past experiences at the American Association for the Advancement of Science (AAAS) Family Science Days in Boston, Cambridge

Science Festival Science Carnival and Robot Zoo, Wicked Cool Scouts Science Café and STEM Journey.

I arrived at WLYC at 9:30PM just as the Saturday evening Fiesta Night and Family Feud Tournament was winding down so I could help clean up and most importantly, leave the room setup for Science Café Sunday.



*We like to demonstrate the Briggs-Rauscher Oscillating Reaction at our outreach events since it is a captivating experiment.*

### **Engaging young volunteers**

Science Café Sunday activity providers were asked to arrive at 12:30 PM to select locations and set up their own materials. Since we are all parents, naturally we had our kids with us. I set up an assembly line for the kids and had them “make” the goody bags for me. Then I sent them outside to swim in the lake and we closed the room so we could really get setup. This is an important example for how to engage ACS volunteers (or any volunteers) for that matter: Give them a meaningful task and then dismiss them when they complete it. No one enjoys not being useful or showing up at the appointed time to find that your assigned task has been completed by someone prior to your arrival.

### **Facilitating Science Café Sunday**

We called in all the kids from the beach and had them sit on the steps the same way they are accustomed to doing for pre-swim meets and I provided a brief overview of what Science Café Sunday was all about and introduced the activity providers. I then asked them to describe their activity. Since we anticipated that all the kids would want to go to the “slime station” first, we had them count off in seven groups of 7 (we ended up with 49 kids participating: 48 signed up, several families didn’t show and several showed up on boats that neglected to pre-register and dropped their kids off with us to spend the afternoon doing water sports sans kids).

We assigned each group of 7 kids to a specific activity table leaving one activity table open so when a group finished they moved together to the open table. This plan provided pacing at an “organic flow” and was dubbed “one of the best models for hands-on learning” by Michael, WLYC Rear Commodore, who, as an Administrator at the local middle school, has “observed tons of classroom activities in the Barnstable school system.”



*Although kids and adults alike were in their swim wear and some were even barefoot, we emphasized the importance of everyone wearing personal protective equipment such as goggles when working with liquids and even had the kids clean and help setup the station for the next group coming through.*



*What's cooler than engineering a solaroven?  
Testing it out with a 'smore, of course!*

### **Activities at Science Café Sunday**

My go-to activities from my chemistry outreach arsenal included: The simple Steve Spangler Science Chromatography experiments with Skittles™ (Candy Chromatography) and color marker and coffee filter chromatography; pH testing of common household

liquids using pH indicator strips (each child got to “test” all of the liquids); UV-sensitive beads that they strung onto pipe cleaner “bracelets.”



*Rocket Reactions delights led by NESACS Chair, Lee Johnson*



*Even though school is out, these high school and middle school teachers and WLYC members enjoy constructing solar ovens at Science Café Sunday*

We also included the Happy Atoms magnet set and Rocket Reactions, which are a prototype experiment I am alpha testing for ChemAttitudes, a National Science Foundation grant program on which I am currently serving as an advisor.

Parent-led activities included: properties of liquids, make your own lava lamp, a state-of-the-art slime station complete with the desirable foam balls for those who prefer a textured slime (note that we used the covered condiment containers for their take-home slime), oobleck for the kids who don't mind getting messy, and solar oven making with the ultimate bonus of cooking a s'more in it when completed!

Once all the groups finished, we reassembled the kids at the steps and then had them line up to get a goody bag, a bottle of water and cookies. We sent the kids to the beach just as the band was starting to play on the deck and cleaned the room for the family potluck.

Some parents stuck around and observed from the row of chairs, some dropped off and some curious adults came through various stations and enjoyed the activities as much as the kids did. I had one adult tell me later in the week that he couldn't believe "what an incredible event science café Sunday was and how much he learned". It is important to note that he didn't have a participating child, he had come down to the club for the family potluck. It was an opportunity to tell him about STEM Journey V, an all-ages public outreach event that we organize annually with the support of NESACS, which includes a keynote lecture on the theme and incorporates hands-on components.

### **Science in your swimsuit**

During the break when I didn't have a group at my pH table, I went around and took photos and what struck me was that all the kids were in their swimsuits. They are Cape Cod kids and this is normal for them to be in swimsuits during the kids activities like the fishing tournament, bingo night, movie night, Christmas in July etc. and any time they happen to be at WLYC with their families. I told Caitlin that based on the feedback and utter success of the event that I'm going to make this an annual event and that we'll use the same model next year but we'll call it what it is: Science in your swimsuit.