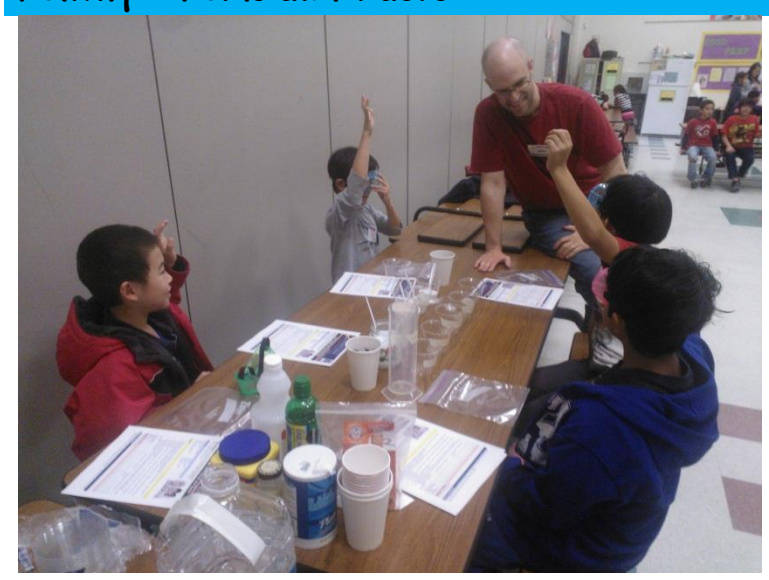
Summary Report for Cascades Science Squad Science Day – Nov 26, 2012 – Redmond Elementary School

Cascades Science Center Foundation is a non-profit organization with a mission to inspire enthusiasm for science, technology, engineering and mathematics through hands-on science education. Thanks to the parents for getting involved with the foundation by making their child part of the Science Squad , volunteers (activity leads and activity assistants) for donating their time to engage kids in science and Redmond Elementary School science club for inviting us. The photos from the event can be found on our Facebook page here.

Here is what the program director had to say about us after the event:

> I wanted to thank you and all the wonderful volunteers from Microsoft that came out and works on experiments with the Neighborhood Schoolhouse Science Club. We had 12 children very engaged in learning, having fun and interacting with positive role models. A parent shared with me that his son went home and could not stop talking about the experiments he had worked on. That is a defined success. Thank you once again and I look forward to working with you again at a late point in time.
>
> **Angie Ramirez** | Program Director

Activity – Acids and Bases



Activity Leads: John Hormaechea

Color Changes with Acids and Bases

Many common foods like vinegar and lemon have a sour taste and are called acids. Other foods like milk and baking soda are called bases. These foods and many other substances have different chemical makeups that make them either an acid or a base. Red Cabbage Juice is an acid/base indicator (also called pH indicator) that can determine acid/base level of a substance by changing color. Here is an experiment you can try at home called 'Invisible Paint'. Create paint using 4 TBS of baking soda in 4 TBS of water in a cup. Dip a cotton swab or paint brush in paint mixture and draw on a white paper. Let the paper dry. Then brush the Red Cabbage Juice over the paper to reveal the painting. What color do you think the painting will appear in? (Well you need to read the lesson plan to find out).

Activity – Saltwater Circuit

Activity Leads: Nikita Bandyopadhyay, Aaron Mumm

Saltwater Circuit

Do you think you can make electricity with salt water? Yes, it is possible. It works because water pulls sodium and chlorine ions of salt apart, allowing you to harness their electrical charges. Saltwater is like an invisible wire that finishes up the circuit.

What else besides saltwater can conduct electricity? Try plain water (no), sugar water (no), chocolate milk (yes – it has salt), vinegar (yes – it has salt), and Cherry Pepsi (yes). What about orange juice? Why don't you try and find out?

Activity – Lemon Battery

Activity Leads: Vinay Nalam, Arushi Agrawal, Shriram Natarajan

Lemon Battery and Penny Battery

What if you were stranded in an island and there are no more batteries? Did you know you can use some lemons, wires, pennies and paper clips to create your own battery? This one is a classic activity that every child should experiment with at least once in their life. It is lot of fun to see how lemons, potatoes, apples and other vegetables/fruits can be used to generate electrical energy (from chemical energy).

There are many extensions to this activity including creating a battery from pennies.