



Summary Report for Science Squad Sunday Playday – Jun 10, 2012

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[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. Thank you for getting involved with the foundation by making your child part of the [Science Squad](#). The second last session of the season was held at [StudentRND](#) center. On June 2 and June 3 we were at [Seattle Science Festival EXPO day](#) and [Seattle Mini Maker Faire](#), hope some of you were able to attend. You can find the photos of this session at the [Facebook page](#). While you are there, don't forget to [like Cascades Science Center Foundation](#) to support our cause. We will be collecting feedback for the program on Jun 24, so please take some time to fill the attached feedback form so we can improve in future. You can email the form back to me before the session or fill a copy in person on Sunday.

Hands-on Experience

Physical Science – Chemistry of Toys Lead: John Hormaechea



We use everyday toys to help explain several principles. First, we used a submarine to demonstrate buoyancy by placing baking soda in our sub and watch it float to the top.

Next, we demonstrated phosphorescence vs. fluorescence. Phosphorescence is found in various items, such as toy stars and glow sticks. Electrons that get energized by a light source will glow in the dark as electrons travel from one electron level to another, release energy in the form of light. Fluorescence will only glow in the dark when a specific light source (a black light) is shined on the item, release energy real time. Once the black light is removed, the items stop emitting light. In this case, we used fluorescent paint to show this on the kids hands.

Finally, we demonstrated some physics by launching a water rocket using air pressure to demonstrate opposing forces. By pumping air into a bottle via a hose, it would pressurize the water, eventually popping off the hose and allowing the water to act as a propellant. After some trial and air (and a poor seal), we were able to do several launches 70-80 feet into the air.

Learn



Bring on the heat – Learn to Solder Presenter: Dan Tebbs

Did you ever wonder how the connections are joined together in plumbing, electronics and jewelry? It is done through Soldering. Soldering is a process in which two or more metal items are joined together by melting and flowing a filler metal (solder) into the joint. Electronic soldering connects electrical wiring and electrical components to [printed circuit boards](#) (PCBs). Dan Tebbs walked the kids through the basics of soldering including safety precautions. Some kids in the class gravitated towards it, while others were cautious and wanted to nothing to do with the soldering iron. Soldering is a must have skill for all sorts of electrical and electronics work. While soldering is easy to learn, it can be a difficult skill to master. It must be developed with practice. Soldering equipment includes: soldering iron/gun and solder.

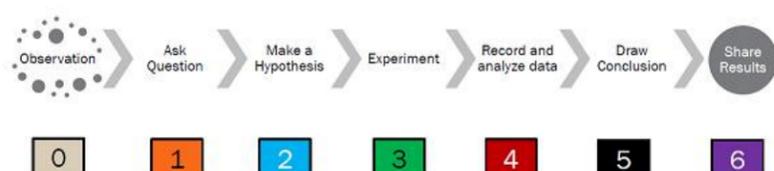
- [This is a video](#) that guides kids through the basics of soldering.
- [This link](#) contains the step by step tutorial on how prepare for soldering and soldering a PCB.

Self-Apply

Imaginative Playground

Helpers: n/a

SCIENTIFIC METHOD REVIEW



Please work with your child on creating fun science oriented projects at home and walk them through the process of Scientific Method when they are doing the projects. We have already completed the steps 0, 1, 2 and 3. The only aspects remaining are to record and analyze data, change hypothesis, conduct a new experiment and draw conclusions. We will allocate time in the last session for kids to work on their team projects and do a review of the scientific method.

We spent some time watching some fun "How it's made" mini episodes, such as [Hot Dogs](#) and [Crash Test Dummies](#). There are other great videos on the site that you can encourage your kids to watch.

