



## Summary Report for Cascades Science Squad Spring Program – April 20, 2013

April 20

May 4

May 18

June 1

[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 Rainier Vista Boys and Girls Club for providing a venue. The next session is on **Saturday, May 4, 2013**.

This kick-off event for the Spring Program went very well and we're looking forward to working with the same group of smart, inquisitive kids for the next three events.

### Physical Science



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#### Household Chemistry

Lead: Sonu Arora, Monica Ibarreta, Rejean Idzerda

In this session, the kids learned about chemical reactions using the household products such as baking soda, baking powder and lemon juice.

- In [It's a Gas Lemon Fizz](#) activity, the students learned that when the sodium bicarbonate of baking soda reacts with the citric acid in lemon juice, the chemical reaction produces carbon dioxide gas.
- In [It's a Gas Fizz Inflatoyr](#) activity, the students inflated a balloon using the carbon dioxide gas released from the reaction of sodium bicarbonate in baking soda with the acetic acid in vinegar.
- Key learning points from the [Kitchen Mystery](#) activity
  - When Baking Powder is mixed with water, there are small bubbles and sound of a soft fizzing noise. When baking powder is used in cooking, it is mixed in with wet ingredients. This makes the chemicals in the baking powder dissolve and they produce carbon dioxide bubbles, which makes the mixture rise.
  - If Cream of Tartar (acidic substance) is mixed with baking powder or baking soda, there is chemical reaction.
  - Did you know that Baking Powder contains Baking Soda and Cream of Tartar?

### Engineering

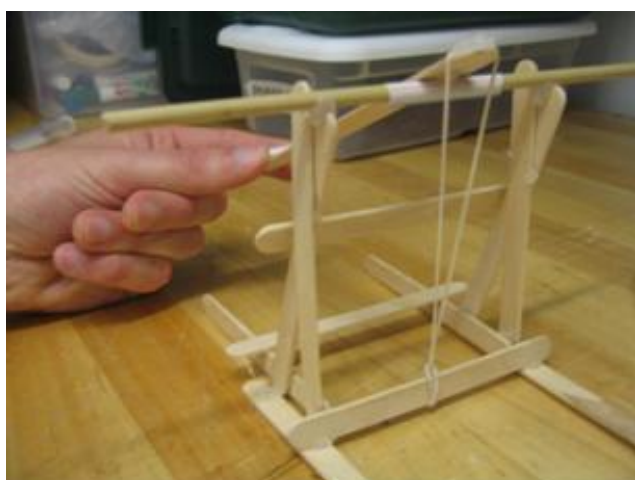


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#### Simple Machines

Lead: Sonu Arora, Jenelle Clark

In this session, the students learned about the [simple machines](#) (wheel & axle, screw, pulley, wedge) and how simple machines can be combined together to make compound machines. The students were then given an assignment to design and [build their own catapult](#) to launch grapes. The simple machines found in the catapult include the arm, which is a lever, and the straw around the dowel that forms a wheel-and-axle. Each of the students were encouraged to come up with their own designs for the catapult. They tested and modified these designs as they learned firsthand what components worked well and which needed improvement. In the end the kids came up with many unique designs for successful catapults, most of which were able to launch a grape well over 3 meters!