

# BRING SCIENCE TO LIFE!

## A SCHMAHL SCIENCE WORKSHOP PRESENTS "SCIENCE EXPLORATIONS"

An Afterschool hands-on science club for 2nd - 6<sup>th</sup> grade  
Cherrywood Elementary School students.



Do your kids like to take things apart or put things together? Do they like to ask questions, investigate and try to find answers? Come join SSW as we embark on a series of hands-on science exploration workshops. Learn about Science and Engineering in a setting where kids are free to explore and investigate what interests them. We offer science workshops that have been kid-tested, parent and teacher approved.

**DATES:** Thursdays after school, starting September 25. **Please sign up for the Engineering Science Series by September 18.** Pre-registration is required.

**TIME:** 1:15 -2:15 pm. Children must arrive and be picked up punctually.

**PLACE:** Multipurpose room

**COST:** \$65/5-week session

**INSTRUCTOR:** All Workshops are conducted by fully trained and reliable SSW facilitators.

### Engineering 1: Sept. 25, Oct. 2, 9, 16, 23

- **September 25 - Simple Machines: Gears and Levers:** Give me a lever long enough and a place to stand, and I will move the world." -Archimedes, 230 BC. Students will learn how gears and levers make work easier. (Code 87)
- **October 2 - Gadget Anatomy:** This lesson teaches students what simple machines are, how they work, and how they are useful in the household. We will be taking apart complex machines like clocks, toasters, and locks in order to discover the simple machines inside them. (Code 49)
- **October 9 - Roller Coasters:** Students work in groups to make a roller coaster with split foam tubes, marbles and tape. They discover amazing ways to get as many energy conversions as possible. This relates to potential and kinetic energy, friction, and inertia. (Code 35)
- **October 16 - Building Bridges:** Paper folded or rolled into columns and beams can be surprisingly strong. Through exploring the simplest type of paper bridges, children discover that they can make very strong structures with very limited materials. As they continue to take on more and more difficult bridging challenges and learn more about the capabilities of their materials, they gradually uncover a number of simple principles of bridge building. (Code 281)
- **October 23 - Earthquake Engineering:** How do engineers construct buildings that withstand earthquakes? If you love building, join us as we construct bridges and build with a variety of materials that include straws, toothpicks, and marshmallows. (Code 176)

### Engineering 2: Oct 30, Nov 6, 13, 20. Dec 4

- **October 30 - Balloon Rockets:** Students learn that air takes up space. Students learn about pressure and about the relationship between temperature, pressure, and volume (Boyle's / Charles' laws). Students learn that air moves (the Bernoulli principal) and that air has weight. Students will create an air-powered rocket that will travel the greatest distance. (Code 3)

For questions please contact Belinda Lowe-Schmahl, 281-7595 or [bel@schmahlsience.org](mailto:bel@schmahlsience.org)

Please visit our website at [www.schmahlsience.org](http://www.schmahlsience.org)

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- **November 6 - Soda Straw Rockets:** Student make small flying rockets out of paper and propel with air blown through a straw using an air compressor. (Code 367)
- **November 13 - Sound Science:** Students participate in a musical acoustics workshop. Students learn about simple harmonics, standing waves, nodes and nulls, wavelength and amplitudes. Subjects covered are the following: sound travels in waves and is produced by vibrating objects; long = low pitch, short = high; pitch; sound intensity increases with amplitude; how to measure frequency. (Code 170)
- **November 20 - Musical Instruments:** Students will make Tooter Tubes, harmonicas and Buzzers using recycled materials. (Code 394)
- **December 4 - Electricity - Sparks and Shocks:** Students learn about thunder, lightning, and electrons. They discover how to separate a mixture of salt and pepper, lightning safety, and with one hair-raising experience, they discover the nature of static electricity. This relates to weather, lightning safety, electrons, positive and negative charges, voltage, lightning bolts, and cloud formation. This workshop answers questions and explain how static electricity works. Students make their own static electricity generator to take home! (Code 74)

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Cherrywood Elementary School  
A Schmahl Science Workshop  
171 Branham Ln., Ste. 10, PMB 223, San Jose, CA 95136 408-281-7595



Child(ren)'s Name \_\_\_\_\_ Grade(s) \_\_\_\_\_

Parent Name \_\_\_\_\_ email \_\_\_\_\_

(Confirmation of enrollment will be sent by email)

Address \_\_\_\_\_

City \_\_\_\_\_ Zip \_\_\_\_\_

Home Phone \_\_\_\_\_ Emergency Phone \_\_\_\_\_

Allergies \_\_\_\_\_

Please indicate how many children will attend each workshop. Cost is \$65 per child per session or \$117 per child for both sessions.

Workshop Series	Students' Names	# of Students	Amount Due
Engineering 1 - \$65 per student			
Engineering 2 - \$65 per student			
<b>Less: \$13.00 discount for both sessions</b>			
<b>Total due</b>			

**Students must be picked up punctually. Parents will be charged a fee for late pickup.**

- **Mail registration to:** A Schmahl Science Workshop, 171 Branham Lane, Ste. 10, PMB 223, San Jose, CA 95136.
- **Payment is due with registration. No refunds. No substitutions.** Send check or money order made out to A Schmahl Science Workshop. Credit Card Payments: MasterCard, Visa (Circle One)  
Card Number \_\_\_\_\_ Exp. Date \_\_\_\_\_ CID \_\_\_\_\_  
Signature \_\_\_\_\_ Date \_\_\_\_\_
- Check here to be added to our mailing list of future workshops \_\_\_\_\_.
- Check here for information via email \_\_\_\_\_.
- SSW may take workshop photos for use in SSW's publicity. Names and locations will not be published. Check here if we have your permission to take photos of your children during our workshop(s) \_\_\_\_\_.