

BRING SCIENCE TO LIFE! A SCHMAHL SCIENCE WORKSHOP PRESENTS "SCIENCE EXPLORATIONS"



An Afterschool hands-on science club for 2nd - 6th grade Holy Family 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: Tuesday s after school, starting September 25. **Please sign up for the Forensic Science Series by September 20.** Pre-registration is required.

TIME: 3:15 - 4:15 PM. Children must arrive and be picked up punctually.

PLACE: Room 6

COST: \$40/4-week session

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

Forensic Science Series 1: (October 2, 16, 23, 30)

Join us for the growing science of talking bones, (Forensics). Students learn about the link between the criminal and the crime as they solve the case of the missing cookies! Fingerprinting, powder identification, and rainbow chromatography are just a few of our forensic explorations.

- **Agilent Afterschool To Catch A Thief: Introduction to Paper Chromatography:** This activity encourages students to use their investigative and problem solving skills to solve a crime. Using paper chromatography the students reveal the underlying composition of the four suspects pens and, utilizing the same scientific process on the ransom note, they identify the criminal. At the end of the session a second crime is provided as a take-home activity. (Code 296)
- **Fingerprint Analysis:** You leave a fingerprint every time you touch something. This is because your hands sweat, and sweat is mixed with body oils and dirt. When you touch an object, the imprint you leave behind is from the oils and dirt on your own skin sticking to the object. The prints that you can see with your eyes are called visible prints. During our workshop, students will explore the similarities and variations of fingerprints. They will lift their own fingerprints using pencil graphite and transparent tape, devise their own classification categories, and apply their classification skills to solve a crime. (Code 291)
- **Blood Typing:** You are watching ER and, once again, the doctor yells out for some "O neg". A patient lies bleeding on the gurney. You can actually see what happens if you mix the wrong types of blood together. Many life-threatening conditions can be treated by giving the patient blood, but scientists and doctors must understand the problems that can be caused. Besides the complications from getting the "wrong blood type", serious diseases can be spread through blood transfusions. Blood tests can indicate blood type, and also what diseases might be carried in the blood. (Code 225)

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- **His Hair, Her Hair, Whose Hair?** : Students will examine a set of hairs and cloth fibers. Using their observational and critical thinking skills, they will develop a procedure to identify hairs and fibers collected from crime scenes. (Code 388)

Forensic Science Series 2: (November 5, 13, 20, 27)

- **Epidemic!** The ease with which pathogens can spread through a population is very relevant today as we cope the possibility of a flu epidemic. Using diluted acids and bases as "body fluids," students participate in a classroom simulation of a spreading epidemic. Students then figure out who the original "carrier" was. (Code 79)
- **Strawberry DNA Extraction:** Have you ever wondered what a forensic scientist has to do to analyze DNA evidence? DNA (the building blocks of life) is present in the cells of all living organisms. In forensic science DNA is usually extracted from human cells to identify unknown parentage, crime scene suspects, missing victims and to investigate genetic diseases. Since 1985, "DNA fingerprinting" has been used in legal cases around the world to link suspects to the scene of a crime. Students extract DNA from fruit to see what it looks and feels like. This is similar to what a scientist has to do before they can then use the information contained in this DNA to solve crimes, although they don't use the same protocol. (Code 86)
- **Footwear Impression:** Can you identify the suspect by his or her footprints? This workshop introduces students to the techniques of footwear impression analysis. Using the same casting material that professional forensic scientists use, our students cast 12 classmates' shoes to see which matches the shoe print left at the scene of the crime. (Code 420)
- **Where's The Shooter?:** Using the same techniques as a real forensic scientist, students calculate bullet trajectory and determine the location of the shooter in a mock crime scene, and will test for exposure to gunshot residue. (Code 421)

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Holy Family 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 \$40 per child per session or \$72 per child for both sessions. **Tuesdays 3:15 - 4:15 PM**

Series	# of Students	Cost @\$40 per session
Forensics 1	_____	_____
Forensics 2	_____	_____
Less: \$8.00 discount for both sessions		(_____)
Total		=====

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

Payment is due with registration. Parkview offers limited need-based 50% fee reductions; contact school for details. Please only send check or money order made out to A Schmahl Science Workshop. Registrations will not be processed without payments. No refunds. Mail registration to A Schmahl Science Workshop, 171 Branham Lane, Ste. 10, PMB 223, San Jose, CA 95136

- Please check if you wish to be added to our mailing list for future workshops _____
- Please check if we may send information to you via email _____
- SSW may take pictures during the Workshops to be used for publicity for SSW. Names of children and locations where pictures were taken will not be published.