



# Community Science Workshop Network



*Photo courtesy of Watsonville Register-Pajaronian*

Community-based non-profit programs providing  
opportunities for underserved youth to **tinker,**  
**make,** and **explore** their world through science

# CSWs in



# California

1991 - Present

Mission Science Workshop

Watsonville Environmental  
Science Workshop

Greenfield Community  
Science Workshop

Fresno Community Science

Sanger Community Science Workshop  
SAM Academy

Locations in five CA cities  
Over 120,000 visits annually



- Power tools
- Hand tools
- Recycled materials



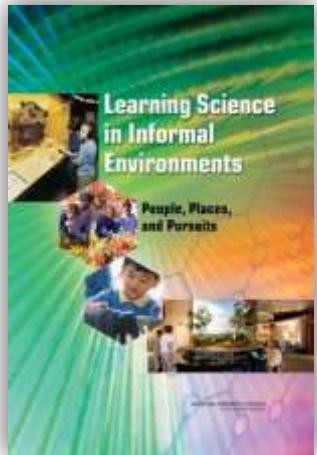
*Photo courtesy of Santa Cruz Sentinel*





- Science Exhibits
- Animal Specimens

# CSW Design Principles



These features map to recommendations in  
“Learning Science in Informal  
Environments”

- Accessible
- Connected
- Open-Ended and Student-Driven
- Relevant to and Respectful of  
Community Interests and Expertise

# “Outside-In” Access

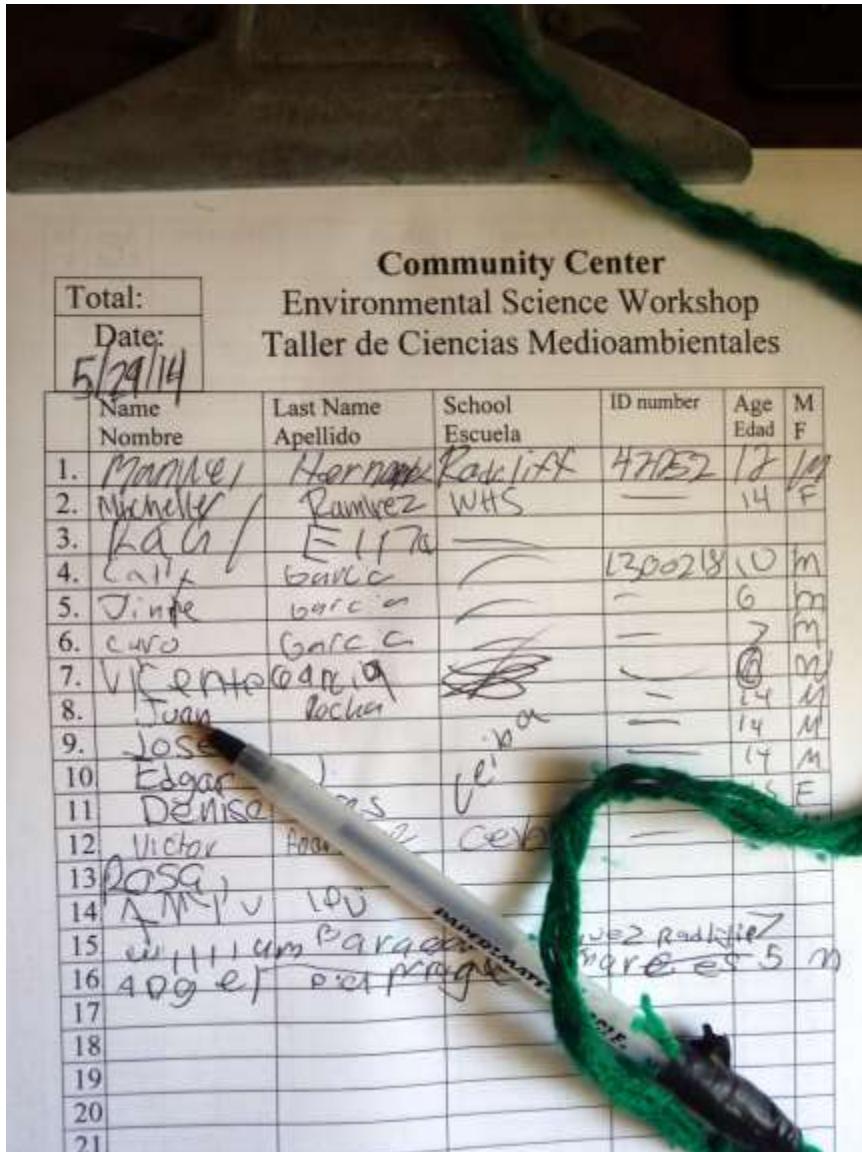


- **Permanent, dedicated spaces** located on existing walking routes to low income homes and schools
- **Free** to individual participants and affordable for schools



- **Multiple entry points** in time and space

# “Outside-In” Access



- **Drop-in hours** let kids participate without enrollment forms and permission slips
- **Partnering with existing enrollment-based programs** to reach broad sectors of the community

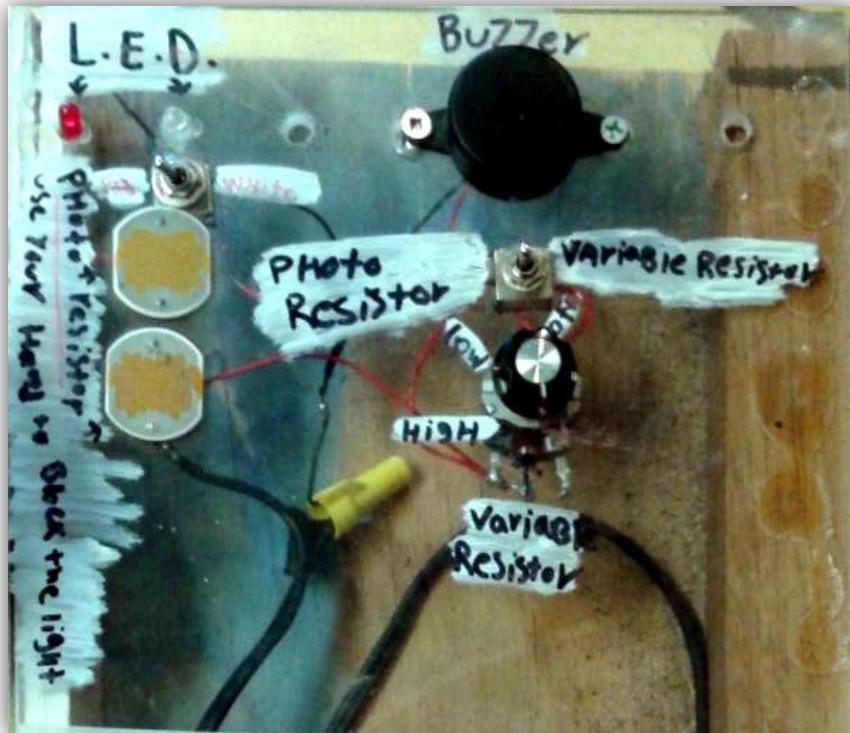
# “Inside-Out” Access



- **1/3 of educators** statewide are **former students** or parent volunteers
- **Majority female** staff members
- **Bilingual** facilitators and labels



# “Inside-Out” Access



- **Everyday materials** and hand-made exhibits
- Tools stored at **kid-height**



- **Purposefully messy** environment shows kids that **nothing is off-limits**
- User-generated content

# Connected Hubs



- Each member of the **human scale** CSW organization is intimately familiar with every program
- CSW programs are **local** hubs for science, and can adapt to relevant conditions
- **Flexible**, grassroots staffing structure makes it easy to initiate new partnerships
- **Familiar** materials, tools, objects and topics blur the lines between “life” & “science”
- **Inclusive** programs welcome the whole family and provide opportunities for **intergenerational** learning

# Open-Ended and Student-Driven



- **Frustration** is part of a positive process of learning

- **Students choose** what they want to do, how they want to do it, **what** questions to ask and **how** they want to answer them
- Emphasis is on the **science practices**, vs. a particular content area or material
- Adult **facilitation** is key
- **Infinite combinatorial capacity** in activities, tools and materials as presented in the space

Staff: Wow, you're making it so big. So what was the thing you were doing where you could make it bigger?

Girl: A bubble inside a bubble inside a bubble

Staff: That is so cool!

Girl: We did it in science class that's why he knows

Staff: Yeah, it's a really cool thing, I've never seen anything like it before.

Staff: So can you make that one bigger, that outside one bigger?

Girl: nooooo....

Staff: Oh, I think he can!

Girl: It stretches.



Staff: It does stretch.

Girl: It stretches, because if there is more soap around, it will stretch

Staff: When does it seem to break?

Boy: When you touch it with, because the bubbles like, like, water, and when you touch it with something dry it will pop.

Girl: Yeah, like if that is dry, then it's popped.

# Responsive & Relevant



- Recognizing the value of the **community's** existing experience and **knowledge base**



- Students are encouraged to express their expertise through **mentoring** and **peer-to-peer** learning

# So Why Isn't Everyone Doing This?



- Time, Space & Materials
- Pressure to be more like school
- Staff Retention
- Measuring Impact

# Looking Ahead



- Widespread public messaging on the **specific strengths** of OST STEM learning
- Closing the **gaps in the map**: addressing the geographic distribution of resources

Check out our website at:  
[www.cswnetwork.org](http://www.cswnetwork.org)



The screenshot shows the homepage of the CSW Projects & Activities website. The header features a banner with the text "CSW Projects & Activities" and a subtext "You can make these projects the recycled materials". Below the banner are navigation buttons for "Browse By: All", "Project Type", "STEM Content", and "Time", along with a search bar and a "SEARCH" button. The main content area is titled "Projects" and displays a grid of ten project cards. Each card includes a thumbnail image, the project name, and a "Play Video" button. The projects listed are: 2 String YoYo, 2 x 4 Truck, A Simply Fruity DNA Extraction, Abacus, Airboat, Animal & Plant Cell Slides, Bag Pipe, Balancing Act, Balloon Car, and Bird House.

Project	Description	Play Video
2 String YoYo	A hand-made yo-yo made from a piece of wood and a string.	Play Video
2 x 4 Truck	A small truck made from a 2x4 wooden board and wheels.	Play Video
A Simply Fruity DNA Extraction	A person extracting DNA from a strawberry.	Play Video
Abacus	A traditional abacus with beads on a frame.	Play Video
Airboat	A small boat with a motor and a propeller.	Play Video
Animal & Plant Cell Slides	A close-up of a cell slide under a microscope.	Play Video
Bag Pipe	A person playing a bag pipe.	Play Video
Balancing Act	A small object balanced on a string.	Play Video
Balloon Car	A toy car made from a balloon and a bottle.	Play Video
Bird House	A small wooden bird house.	Play Video