



# Community Science Workshop Network



*Photo courtesy of Watsonville Register-Pajaronian*

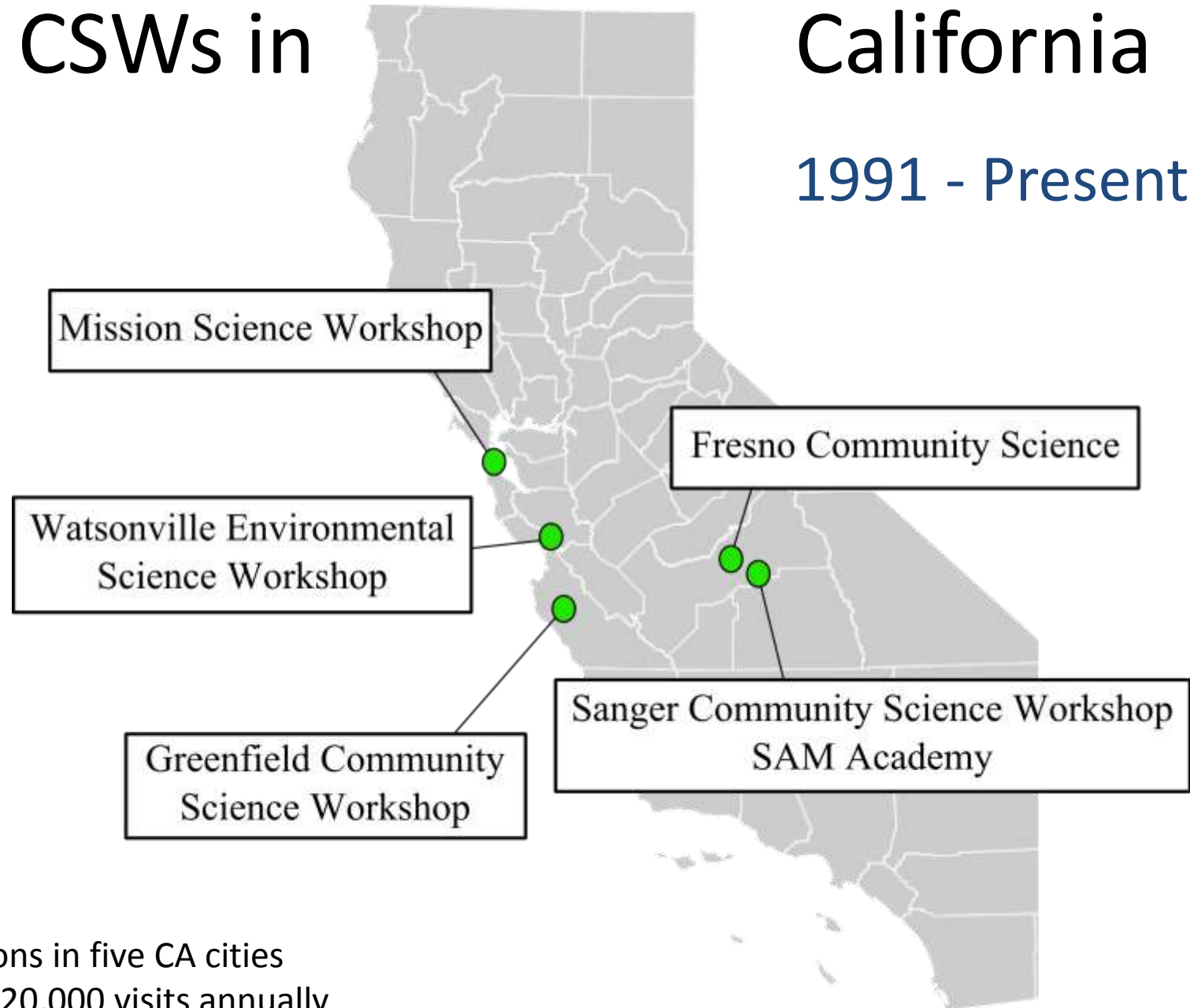


Community-based non-profit programs providing opportunities for underserved youth to **tinker, make, and explore** their world through science

# CSWs in

# California

1991 - Present



Locations in five CA cities  
Over 120,000 visits annually



- Power tools
- Hand tools
- Recycled materials



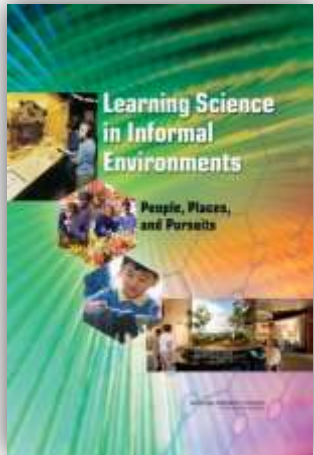
*Photo courtesy of Santa Cruz Sentinel*





- Science Exhibits
- Animal Specimens

# CSW Design Principles



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

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

# “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

**Community Center**  
**Environmental Science Workshop**  
**Taller de Ciencias Medioambientales**

Total: \_\_\_\_\_  
Date: 5/29/14

	Name Nombre	Last Name Apellido	School Escuela	ID number	Age Edad	M F
1.	Manuel	Hernandez	Radcliff	47252	12	M
2.	Michelle	Ramirez	WHS	—	14	F
3.	Kali	Ellis	—	—	—	—
4.	Callie	Garcia	—	1300218	10	M
5.	Jinje	Garcia	—	—	6	M
6.	Curro	Garcia	—	—	7	M
7.	Vicente	Garcia	—	—	10	M
8.	Juan	Lozano	—	—	14	M
9.	Jose	—	—	—	14	M
10.	Edgar	—	—	—	14	M
11.	Denise	—	—	—	15	F
12.	Victor	—	—	—	—	—
13.	ROSA	—	—	—	—	—
14.	AMY	—	—	—	—	—
15.	William	Parra	Radcliff	—	—	—
16.	ADG	—	—	—	—	—
17.						
18.						
19.						
20.						
21.						

- **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

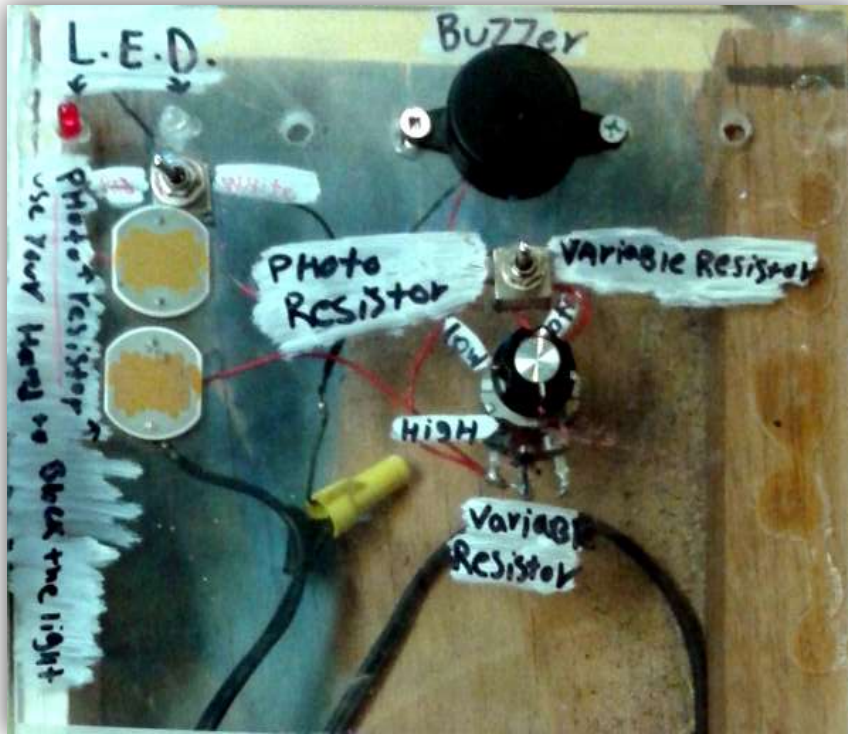


- **1/3 of educators** statewide are **former students** or parent volunteers
- **Majority female** staff members
- **Bilingual** facilitators and labels



# “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
- Staff Retention
- Pressure to be more like school
- 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)

**CSW Projects & Activities**

Browse By: **All** Project Type STEM Content Time

**Projects**

<p>2 String YoYo</p>  <p><a href="#">Play Video</a></p>	<p>2 x 4 Truck</p>  <p><a href="#">Play Video</a></p>	<p>A Simply Fruity DNA Extraction</p>  <p><a href="#">Play Video</a></p>	<p>Abacus</p>  <p><a href="#">Play Video</a></p>	<p>Airboat</p>  <p><a href="#">Play Video</a></p>
<p>Animal &amp; Plant Cell Slides</p>  <p><a href="#">Play Video</a></p>	<p>Bag Pipe</p>  <p><a href="#">Play Video</a></p>	<p>Balancing Act</p>  <p><a href="#">Play Video</a></p>	<p>Balloon Car</p>  <p><a href="#">Play Video</a></p>	<p>Bird House</p>  <p><a href="#">Play Video</a></p>