LEAD ME TO THE GARDEN

Helen Yajaira Estrada, Victoria Gomez, Angelu Lesaca, and Pearl Yoon

Orange County Environmental Justice

When two middle schoolers go to summer camp and plant a secret garden, they unearth an environmental justice issue impacting their hometown.

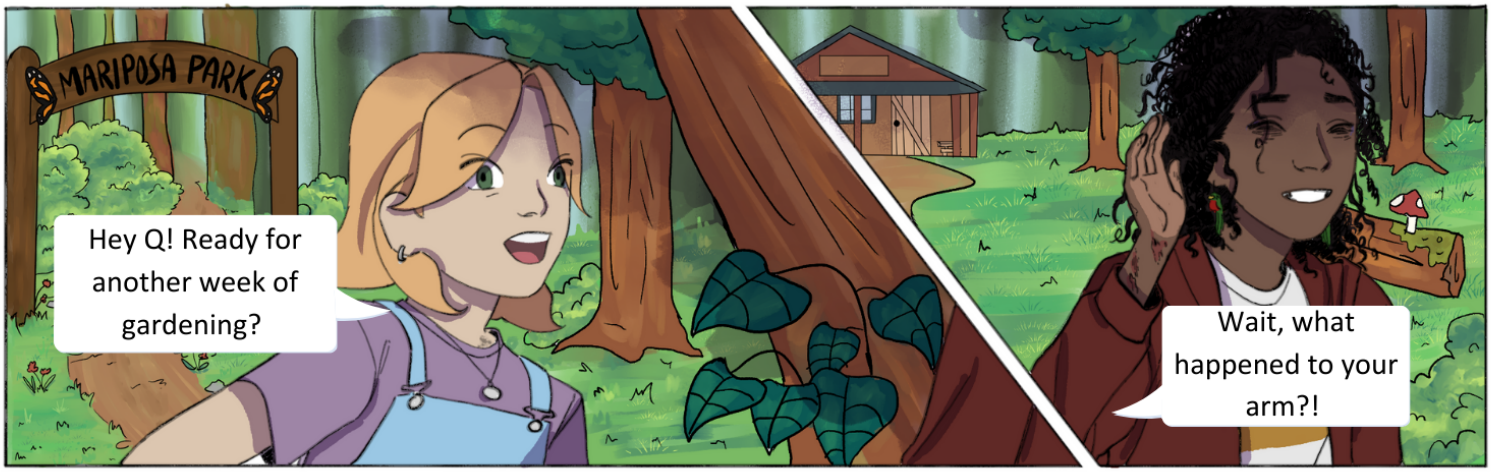

Buenas Suerte Mija!
Enjoy summer camp sweetheart! Just put yourself out there and I'm sure you'll have a lot of fun.
Thanks mom and dad! I can't wait!
MARIPOSA PA
I'd rather be playing Gametendo.
Ah!
THUD!
OW!


¡EEEHH! Who are you? Why did you follow me here?
I just saw your footpr-
...
...
Wait!
SHH!
Here, I have a first aid kit to help with your cut. Let me patch it up for you.
All done-
Oh right! My name is Quetzaly Rosales, what's your name?
I'm Elise Lancaster.
Pleasure to meet you!
Wanna explore with me?
Sure!


I've never been to summer camp before! I'm so excited to explore nature!
I've always wanted to plant a secret garden! Where there's lots of beautiful flowers and trees and animals!
You can join me if you want!
Did you know that ALL of this is Tongva land?
I didn't know that! Are you from Orange County?
Yeah! I was born and raised in Santa Ana! And my family is Xinka and Maya Indigenous. Just like the Tongva people, we have our own Creator and connections to the land. Back home my uncles are water protectors who defend our water from illegal mining that wants to contaminate our rivers. And here, Mami teaches me everything she knows about herbs and plants. She's a gardener!
Cool! My mom's a doctor.
We visit South America twice a year for her conference but I don't think I've ever been to Guatemala before!
Oh. Ok!


WHOOSH
Anyways, we're here!
...What
Check out these gloves! I think they'll fit you!
TADAHH! Pick a tool, any tool! I've got lots in my backpack.
Holy moly! You've got a treasure trove of tools! Don't you have any textbooks in there?
haha...
Yeah... I'm not much of a school person ...
I have some difficulty focusing. I have ADHD.
oh...
I don't, uh, know much about ADHD, but you're still really smart!
and you know so much about this place!
I think a garden is a great idea!
Whatever you're doing, count me in!

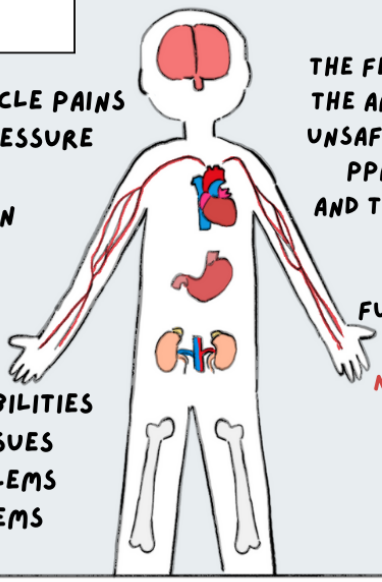

You seem to know so much about gardening.
Yeah! When I was younger, my parents and I would always play in the soil and come home all dirty.
Oh, my parents don't have time for all that. They just hire a landscaper for our garden. My dad is busy running our family business. It's been around since the 1930s.
Oh, that's nice. My dad works several jobs. He did landscaping once.
Till he got sick...
GASP--
Did you know that California poppies were used for food and medicine by Indigenous people?
They treated headaches and sores using these poppies.



Oh dear, have you been experiencing these symptoms lately?

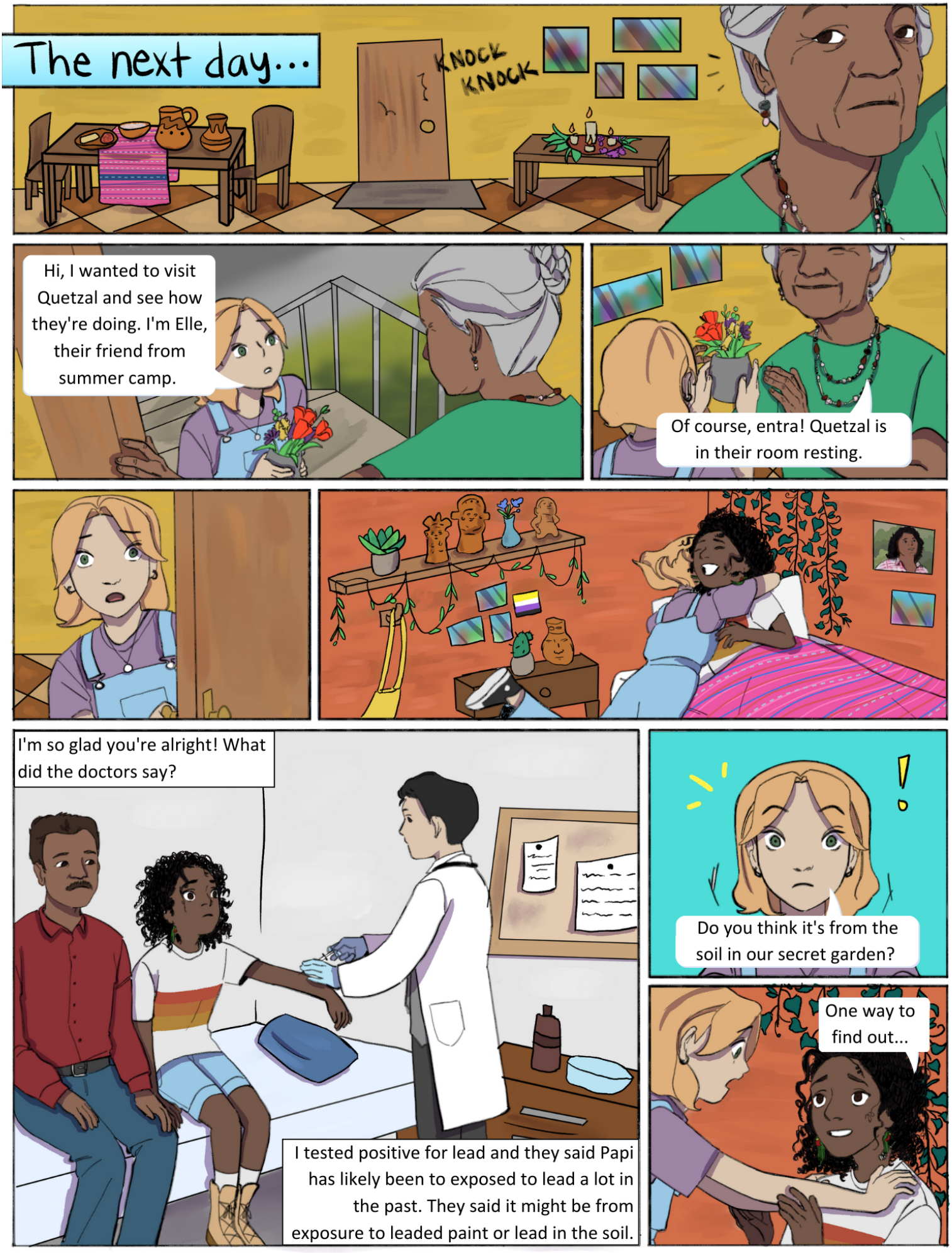
- ANEMIA
- JOINT AND MUSCLE PAINS
- HIGH BLOOD PRESSURE
- ASTHMA
- ABDOMINAL PAIN
- DIZZINESS
- HEADACHES
- RASHES
- MEMORY LOSS
- LEARNING DISABILITIES
- BEHAVIORAL ISSUES
- HEARING PROBLEMS
- SPEECH PROBLEMS
- SEIZURES

EFFECTS OF LEAD

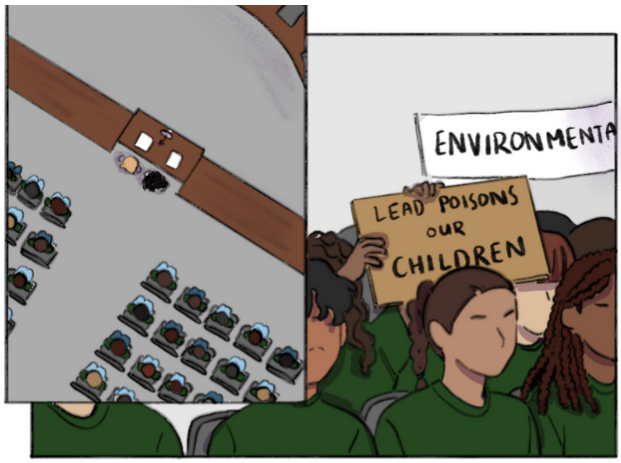


THE FEDERAL THRESHOLD FOR THE AMOUNT OF LEAD THAT IS UNSAFE FOR CHILDREN IS 400 PPM (PARTS PER MILLION) AND THE STATE THRESHOLD IS 80 PPM LEAD HAS NO ESSENTIAL BIOLOGICAL FUNCTIONS IN THE HUMAN BODY AND THERE IS NO SAFE LEVEL OF LEAD

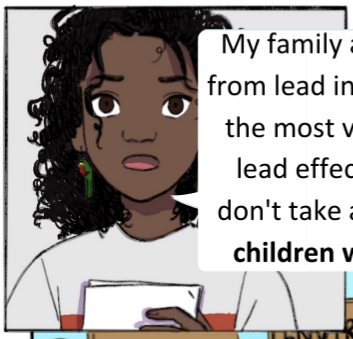
Many people in the city have been testing positive for lead in their blood.


The next day...
KNOCK KNOCK
Hi, I wanted to visit Quetzal and see how they're doing. I'm Elle, their friend from summer camp.
Of course, entra! Quetzal is in their room resting.
I'm so glad you're alright! What did the doctors say?
I tested positive for lead and they said Papi has likely been to exposed to lead a lot in the past. They said it might be from exposure to leaded paint or lead in the soil.
Do you think it's from the soil in our secret garden?
One way to find out...


did some research
in 1900s, cars had leaded gasoline
seeped into soil on old roadways
still there today in some cities
impacts low-income communities of color
LEAD CONTAMINATION IN SANTA ANA
XRF SCANNER
Alright, let's start!
Guys! I found something! I can't believe this!
This whole area has a lot of lead, it's not safe for anyone!
Detected
ppm
Pb
230
Zn
50
Mg
40
That explains it, Juan! My parents also tested for high lead levels which must mean this isn't the only area with contaminated soil. We've got to do something!
What can we do? We're just kids, do you think the adults will believe us?
We have the data and the samples! If we can make a small change, let's do it!
El pueblo unido jamas sera vencido!
The people united will never be defeated!



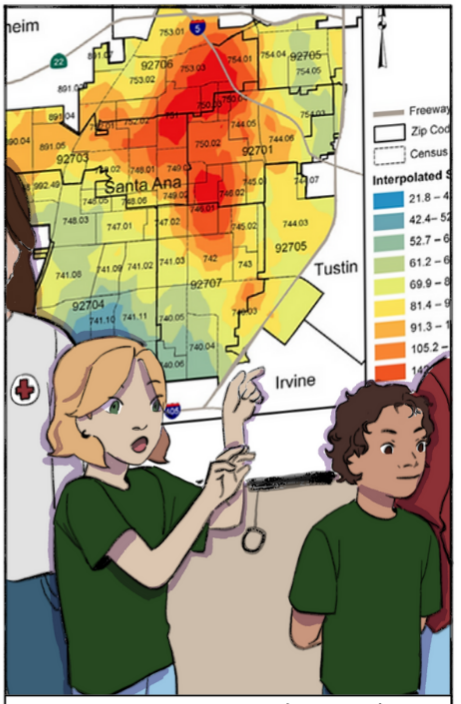
We found that Santa Ana residents are exposed to high levels of lead. This is important to our community.



My family and I got sick from lead in soil. Kids are the most vulnerable to lead effects, so if we don't take action, **more children will get sick!**

Here are some steps we can undertake...

Using native plants like California Buckwheat, California Telegraph weed, and mycorrhizal fungi, we can absorb and remove the lead from our soil. This is called bioremediation and is fairly affordable!



We can continue to educate the public and provide medical assistance to communities affected by lead.

The community must be involved in decision making when crafting future solutions and mitigation strategies because this is their home and have faced these health issues directly!

I'd like to end by saying the Xinka people, my people, my family and friends have been fighting for a better life—we've always been warriors. The Xinka and other Indigenous groups in OC like the Acjachemen and Tongva people, in line with our ancestral ways of organizing, have worked as a community!


SOIL LEAD CONTAM
IN SANTA ANA CONQUERS
The story of a friendship that lead the charge for change
OUR FUTURE, OUR SOIL
FREE BLOOD LEAD TESTING
Hello campers! Welcome to Mariposa Summer Camp, we're super excited to have you here! We've got something special planned for you today.
That's right. This summer, we plan to focus on raising awareness on soil lead contamination and taking action!
Wow! This garden you've created is so awesome!
Yes! With the community and experts, we restored this place!
We can't wait!
This garden is a symbol of hope and resilience. That even us kids can make a difference.
We hope to see you join us in the fight against soil lead in Santa Ana!
END.

Soil Lead in Santa Ana

Lead can acutely and chronically affect one's health, causing symptoms like asthma, seizures, behavioral health issues, and more. After local Santa Ana reporter (now national reporter) Yvette Cabrera began her own research on lead in the soil with community members, the city refuted and claimed the evidence wasn't strong enough to move forward. Because of this, OCEJ, UCI, and a youth-based organization called Jovenes Cultivando Cambios (AKA Youth Cultivating Change) worked together to collect more soil samples. The samples were then used to produce various maps and scientific research that relays how much of the city is affected by soil lead.

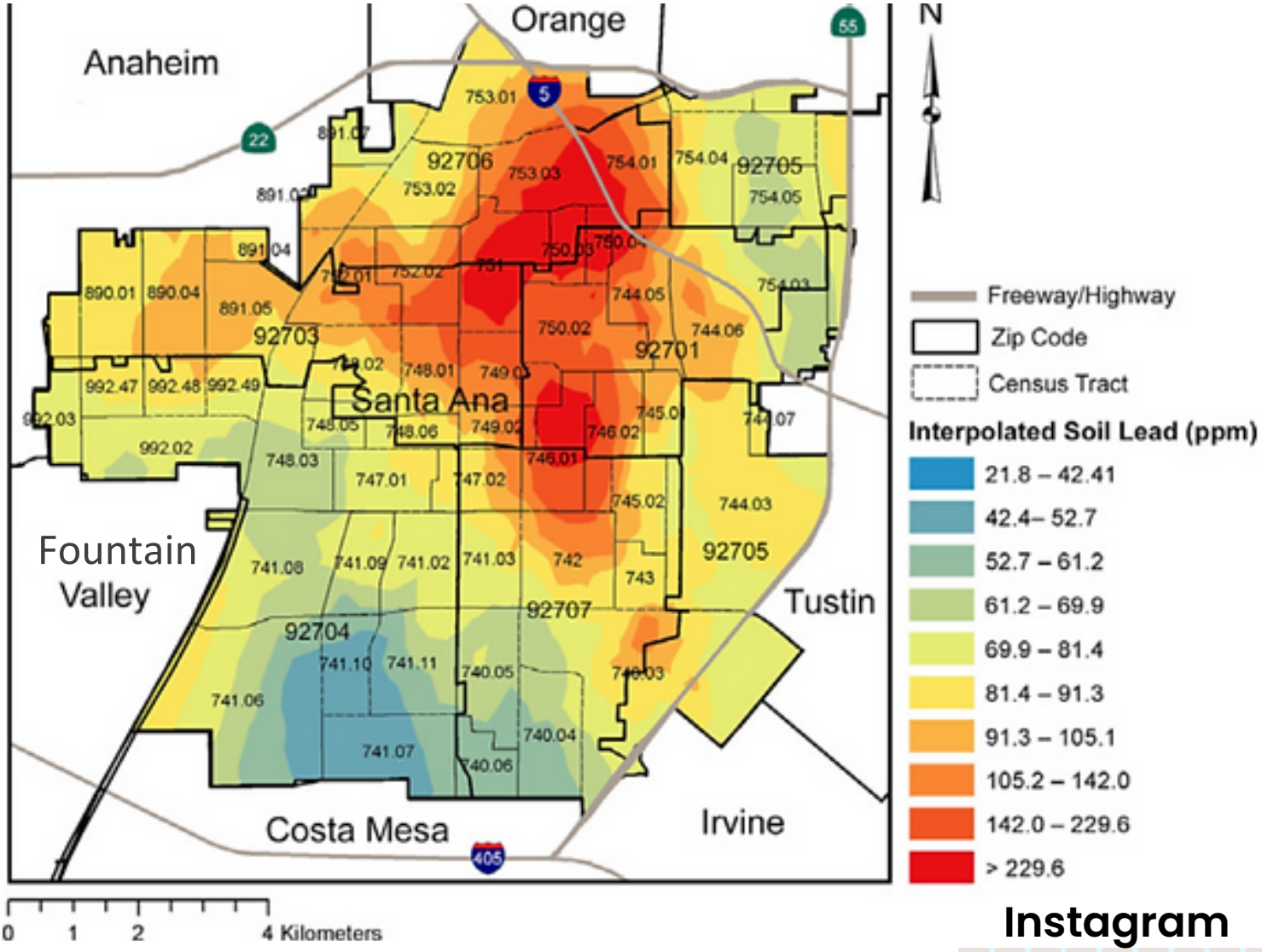
In 2022, OCEJ and other community organizations worked to fight for environmental justice policies in Santa Ana's General Plan Update, including lead policies like removing lead from the soil (prioritizing a method called bioremediation) and more access to blood lead testing. The traditional method of remediation is called "dig and dump," where the soil is removed and taken elsewhere, however, this method is expensive, labor intensive, and can put the safety of laborers at risk if proper safety precautions aren't taken. Bioremediation uses native plants and fungi to absorb the lead out of the soil, actually solves the problem instead of moving it somewhere, and is cheaper than traditional methods.

OCEJ is now in the phases of working with the city, OC Healthcare agency, and other community organizations like GREEN Madison Park Neighborhood Association to implement the lead policies and raise awareness throughout the Santa Ana community. Some of these methods of raising awareness include this comic book, tabling at various events, community presentations, focus groups, and the development of an Environmental Health Equity Action Plan (EHEAP) based on the findings of the focus groups.

English Version of the EHEAP

Spanish Version of the EHEAP

Additionally, If you are interested in getting involved with our soil lead work, scan the following QR code or email maya@ocej.org.



Those Most Affected

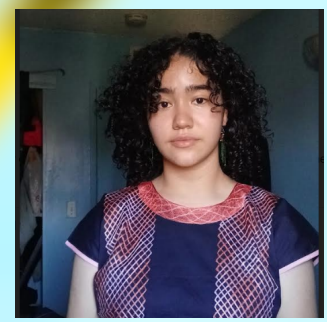
- People of color
- Lower income
- Less college educated residents
- More renters
- More residents without health insurance
- Residents with immigrant status background
- Limited English proficiency
- Latinx residents

The areas with the highest amount of soil lead are downtown and central Santa Ana, where as the area with the lowest amount is South Coast Plaza, towards Costa Mesa. It is also significant to note that the dark yellow color from 81.4-91.3 ppm is already surpassing the California state threshold for lead of 80 ppm.

Instagram

Website

Meet the Writers & Illustrators



Helen Yajaira Estrada is a Xinka & Maya indigenous student, poet, and historian born and raised in Santa Ana. Having taken AP Environmental Science during high school, Estrada was recognized with a Science Excellence award for her love and dedication for the field. Estrada hopes to continue to embrace their love for science, art, and history in her community and beyond!

Victoria Gomez is a high school graduate and earned her AA degree at Santa Ana College. She is going to California State University Long Beach to major in animation. Victoria eventually wants to purse a career within this industry. In her free time, she likes to pick up new hobbies such as roller-skating and crocheting.

Angelu Lesaca is an undergraduate student and researcher at the University of California, Irvine. Her field of study is Environmental Science and Policy, with a minor in Earth and Atmospheric Science. When she's not immersed in her studies, you can find her exploring the trails of Southern California and identifying local plant life.

Pearl Yoon is a rising freshman at UC Santa Barbara, majoring in biology. Her fascination with ecology and living systems naturally drew her to become invested in environmentalism. Outside of academics, she loves dedicating her time to visual storytelling, whether it be by reading webtoons and manga or storyboarding and animating.

ORANGE COUNTY ENVIRONMENTAL JUSTICE