

E.H.I.

ENVIRONMENTAL HEALTH INVESTIGATORS



STORY BY CHARLIE BLAKE
ILLUSTRATED BY LORRY JAMISON

VOLTEA EL COMIC
PARA LA VERSIÓN
EN ESPAÑOL



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SEPA SCIENCE EDUCATION PARTNERSHIP AWARD
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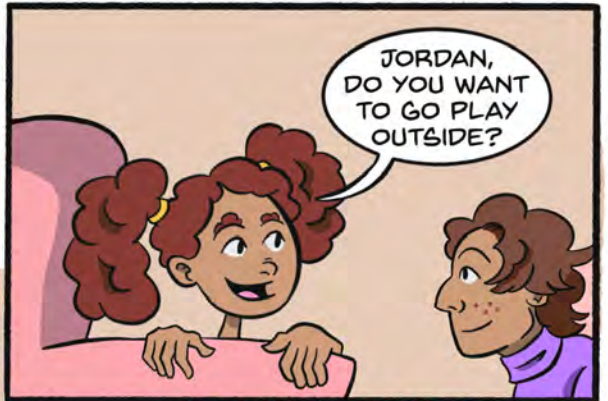
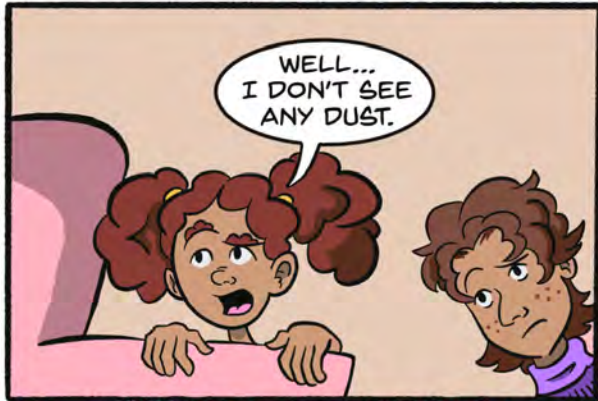
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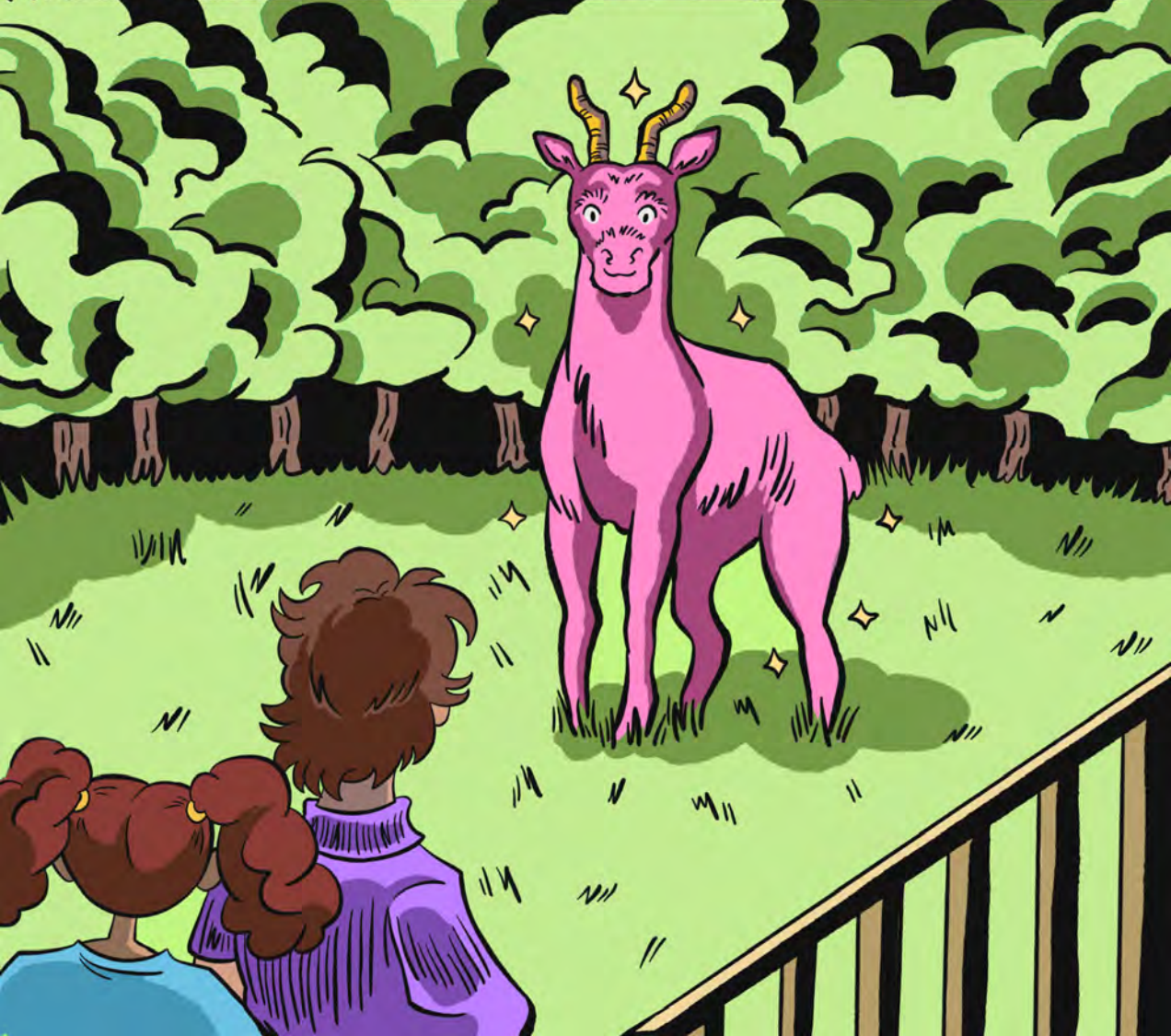
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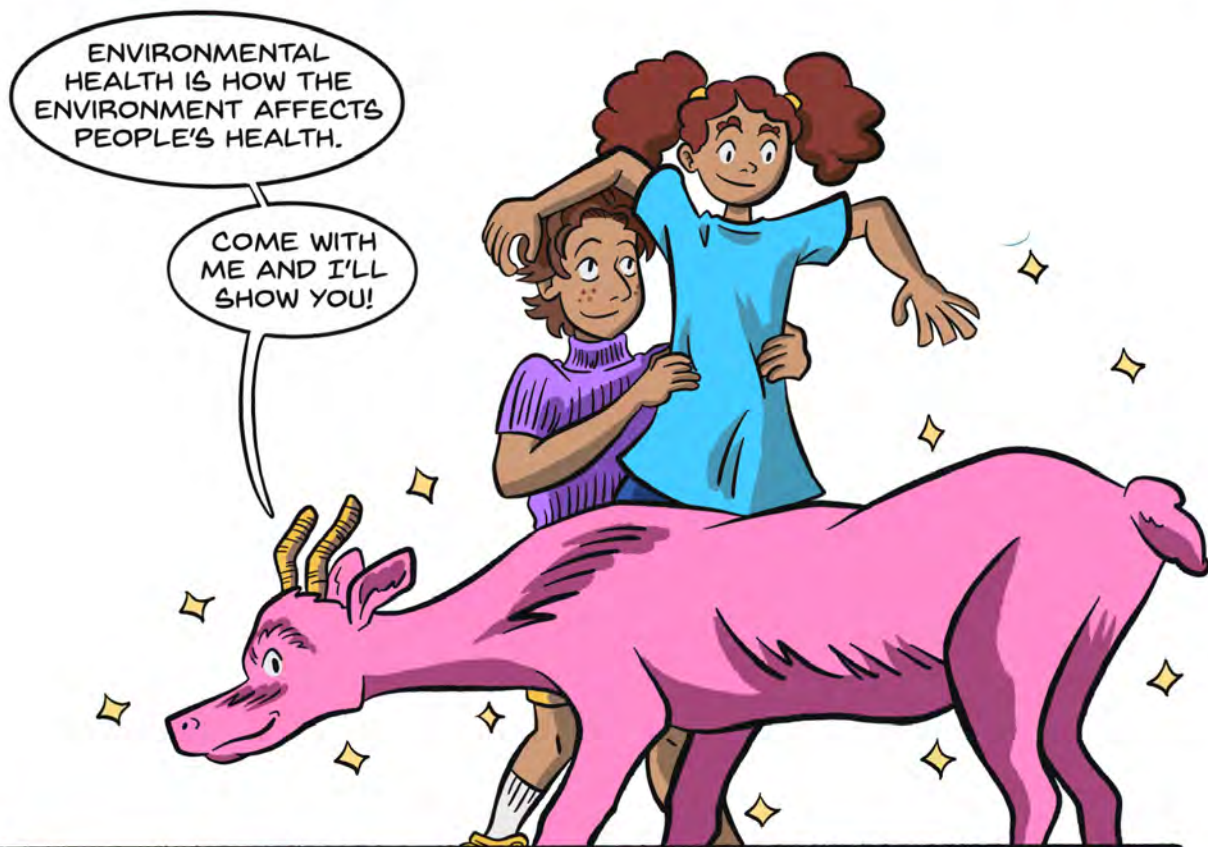
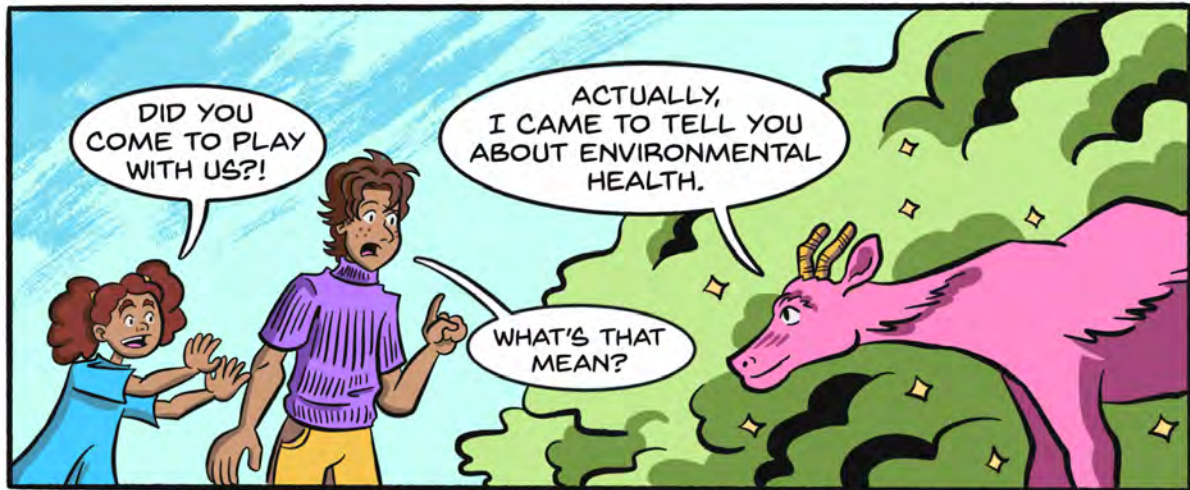
LORRY JAMISON IS A NON-BINARY CARTOONIST LOCATED IN ST. LOUIS, MAKING WHIMSICAL, LGBT+ INCLUSIVE COMICS AND ILLUSTRATIONS. THEIR RECENT WORK INCLUDES THE YOUNG ADULT HORROR COMICS *PARTY ANIMALS*, *BLUSH*, AND *SCREAM*.


YOU CAN FIND MORE OF THEIR WORK VIA @LORRYJAMISON ON ALL SOCIAL MEDIA, OR ON WWW.LORRYJAMISON.COM







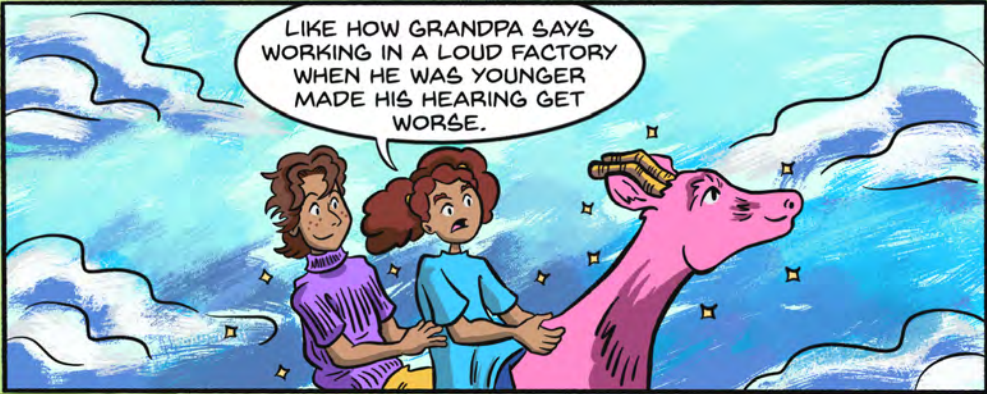




YES, BUT
POLLUTION CAN ALSO
AFFECT YOUR HEALTH
EVEN WHEN YOU CAN'T
SEE IT.

IS THAT WHY
GRANDPA WIPEES
OFF THE WINDOWSILLS
EVEN THOUGH WE CAN'T
SEE ANYTHING?

EXACTLY.
THERE CAN BE
PARTICLES TOO SMALL
TO SEE IN HOMES, IN THE
AIR, OR IN THE SOIL THAT
CAN MAKE PEOPLE SICK.
EVEN NOISE CAN
BE POLLUTION.



LIKE HOW GRANDPA SAYS
WORKING IN A LOUD FACTORY
WHEN HE WAS YOUNGER
MADE HIS HEARING GET
WORSE.

An aerial, isometric view of a town. In the upper left, a large brown factory with a grey roof emits thick white smoke from its chimney. A road runs horizontally across the middle. To the right of the road is a residential area with several small, colorful houses (red, orange, pink) with black roofs. In the lower left, a pink unicorn is running on a road, carrying two small pink figures. A parking lot with several colorful cars is visible near the unicorn. The scene is set against a green background representing grass and trees.

BUT WHY DIDN'T THE
FACTORY GIVE GRANDPA
EAR PROTECTION?

NOT EVERYBODY
UNDERSTANDS THE HARM
THAT CAN COME FROM
ENVIRONMENTAL HAZARDS.
BUT I THINK I KNOW HOW
YOU CAN HELP.



WHAT CAN WE DO? WE'RE JUST KIDS.

EVEN KIDS CAN TAKE PHOTOS OF THE ENVIRONMENT AND COLLECT SCIENTIFIC INFORMATION ABOUT YOUR COMMUNITY- THAT'S CALLED DATA.



DANG, THAT'S A LOT OF COWS MAKING A LOT OF COW POOP!

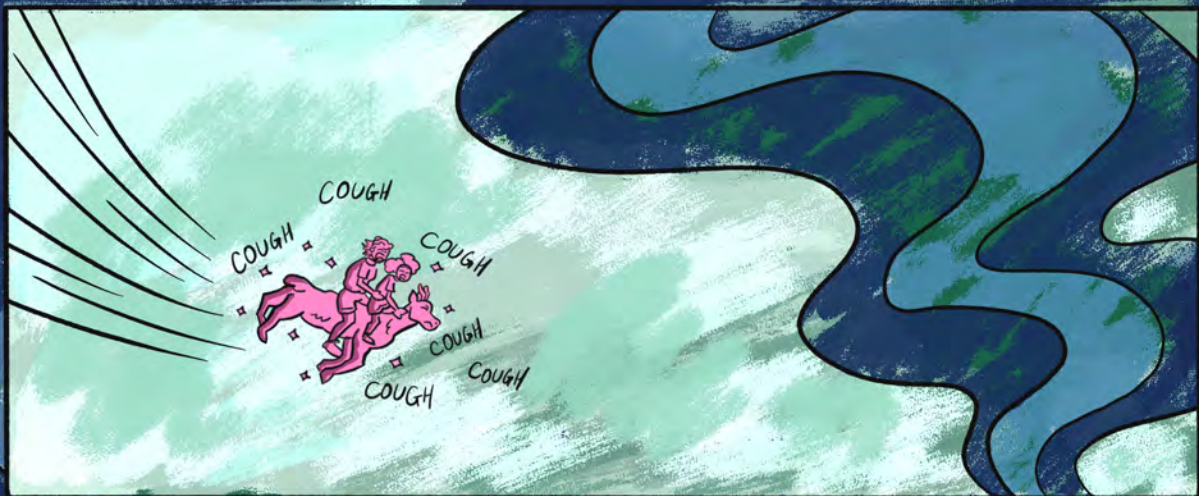
IF PEOPLE ATE LESS MEAT, WE COULD HAVE MORE SMALL FAMILY FARMS AND HOME GARDENS, AND WE WOULDN'T NEED SO MANY LARGE FACTORY FARMS THAT POLLUTE THE AIR, WATER, AND SOIL.



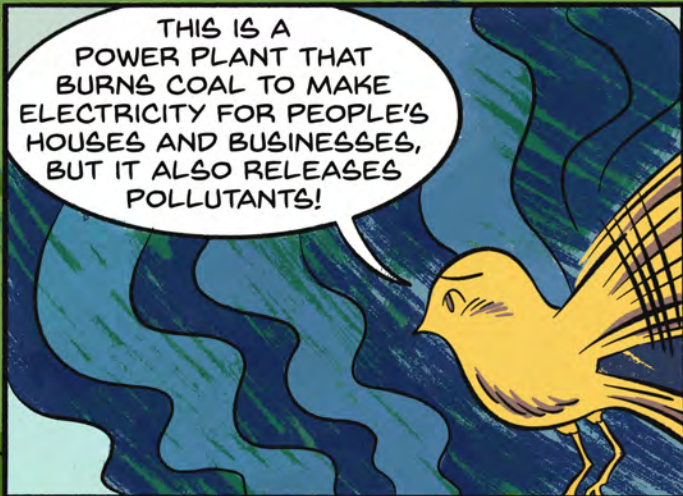
I WISH WE COULD TAKE A PICTURE OF THE SMELL TOO!



WELL, THERE ARE APPS YOU CAN USE ON YOUR PHONE TO MEASURE POLLUTION, BUT SO FAR NONE FOR SMELL. LET'S KEEP GOING!



WHAT IS THIS PLACE?



THIS IS A POWER PLANT THAT BURNS COAL TO MAKE ELECTRICITY FOR PEOPLE'S HOUSES AND BUSINESSES, BUT IT ALSO RELEASES POLLUTANTS!



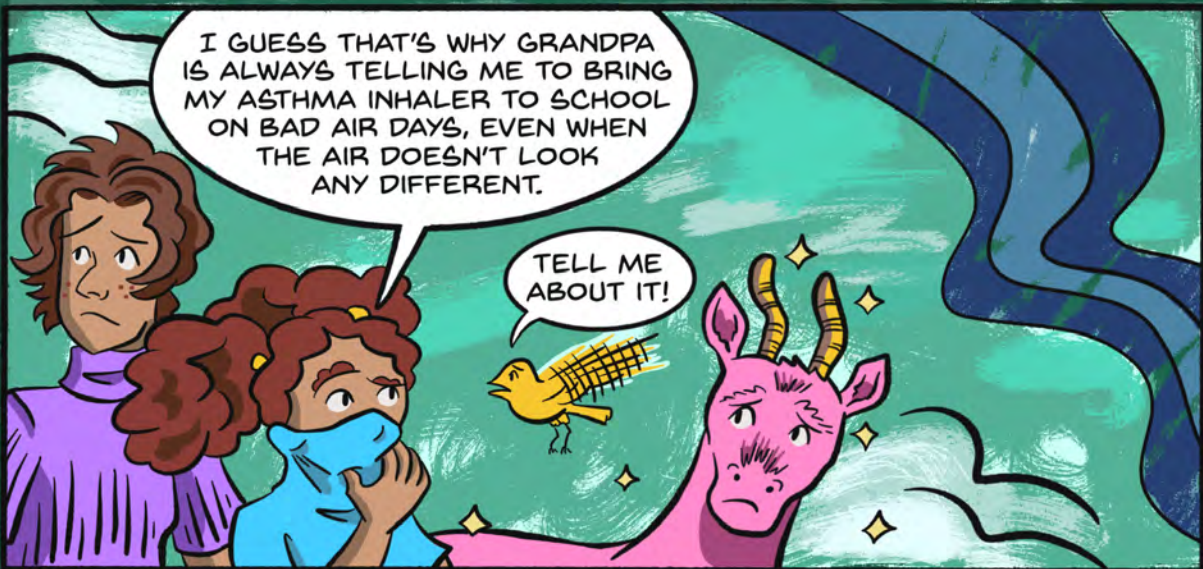
-CLICK-



WHERE DOES ALL THIS SMOKE GO?



EVEN AFTER WE CAN'T SEE IT ANYMORE, MICROSCOPIC PARTICLES AND HARMFUL CHEMICALS SPREAD INTO THE AIR ALL AROUND US.



I GUESS THAT'S WHY GRANDPA IS ALWAYS TELLING ME TO BRING MY ASTHMA INHALER TO SCHOOL ON BAD AIR DAYS, EVEN WHEN THE AIR DOESN'T LOOK ANY DIFFERENT.

TELL ME ABOUT IT!





YOU'RE RIGHT, ANGEL.
IT'S IMPORTANT TO PAY
ATTENTION TO THE AIR QUALITY
FORECAST EVEN WHEN THE SKY
LOOKS THE SAME.

COME ON,
THERE'S SO MUCH MORE
TO INVESTIGATE IN OUR
ENVIRONMENT!

WE SHOULD
HAVE MORE OF
THESE SOLAR PANELS
IN OUR CITY!

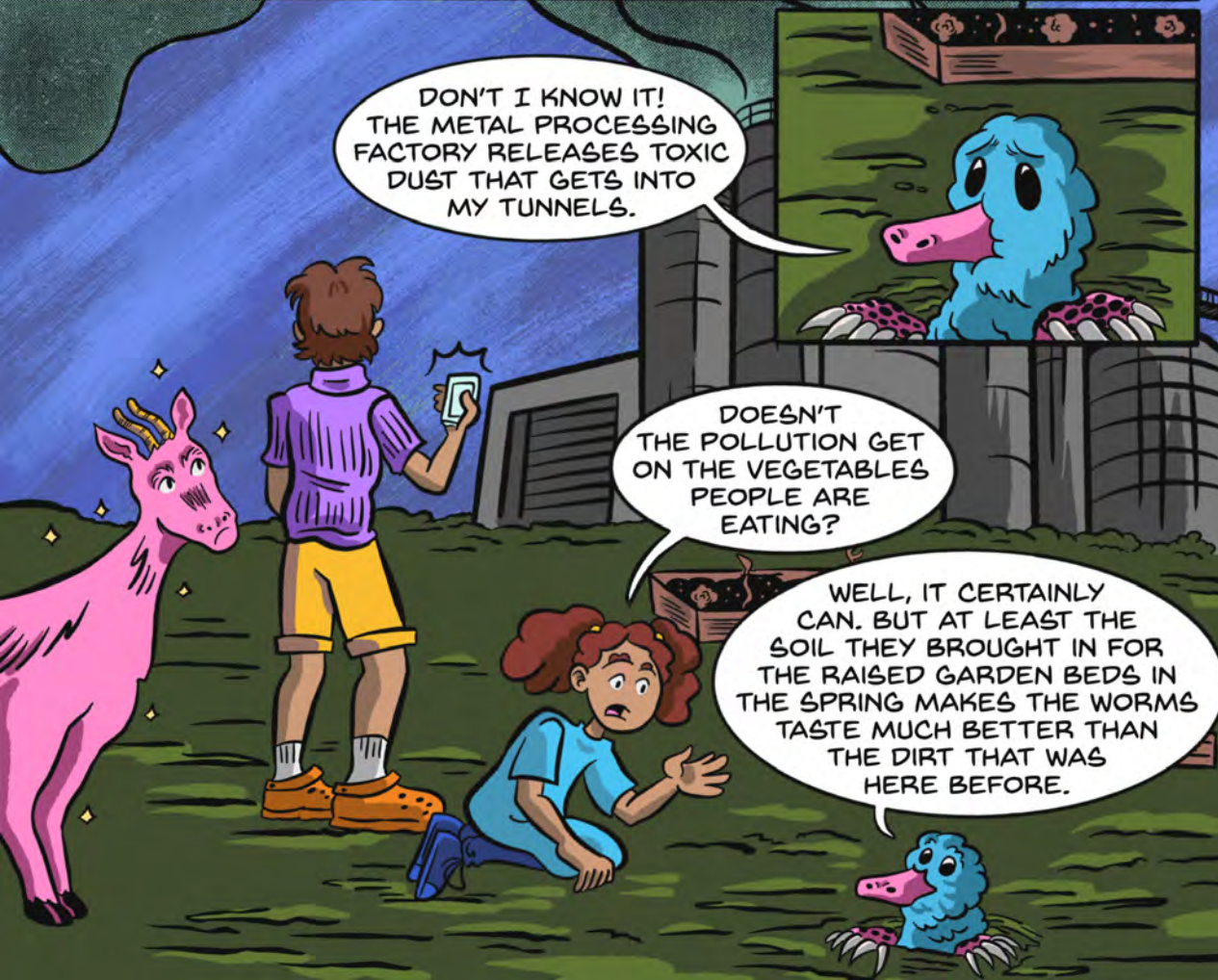
YEAH, THEN
WE WOULDN'T NEED
TO HAVE SO MANY OF
THOSE COAL-BURNING
POWER PLANTS.





OH I KNOW WHERE WE ARE GOING! OUR AUNTIE GROWS VEGETABLES HERE AT THE COMMUNITY GARDEN.

WOW, I NEVER REALIZED THE COMMUNITY GARDEN WAS SO CLOSE TO THE METAL PROCESSING PLANT.



DON'T I KNOW IT! THE METAL PROCESSING FACTORY RELEASES TOXIC DUST THAT GETS INTO MY TUNNELS.



DOESN'T THE POLLUTION GET ON THE VEGETABLES PEOPLE ARE EATING?

WELL, IT CERTAINLY CAN. BUT AT LEAST THE SOIL THEY BROUGHT IN FOR THE RAISED GARDEN BEDS IN THE SPRING MAKES THE WORMS TASTE MUCH BETTER THAN THE DIRT THAT WAS HERE BEFORE.

IT SURE IS LOUD NEAR
THE METAL PROCESSING
PLANT TOO!

YOU CAN USE
YOUR PHONE TO MEASURE
THE SOUND LEVEL IN DECIBELS
AND COLLECT DATA ON
THE NOISE POLLUTION

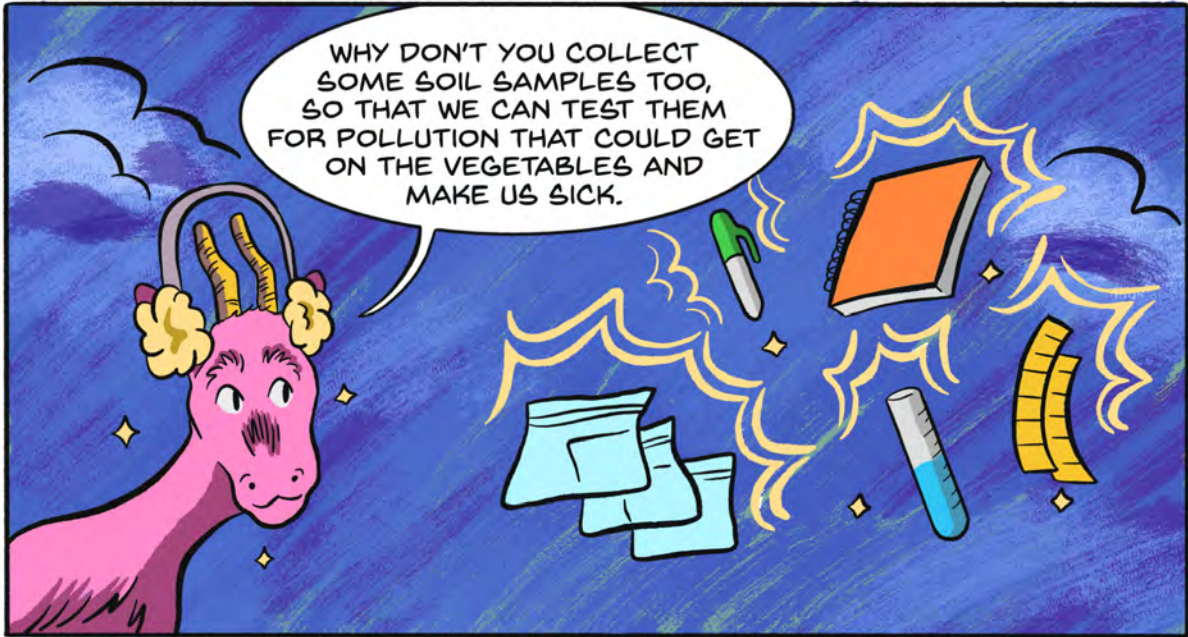


THE NOISE
HERE IS ALMOST
80 DECIBELS!

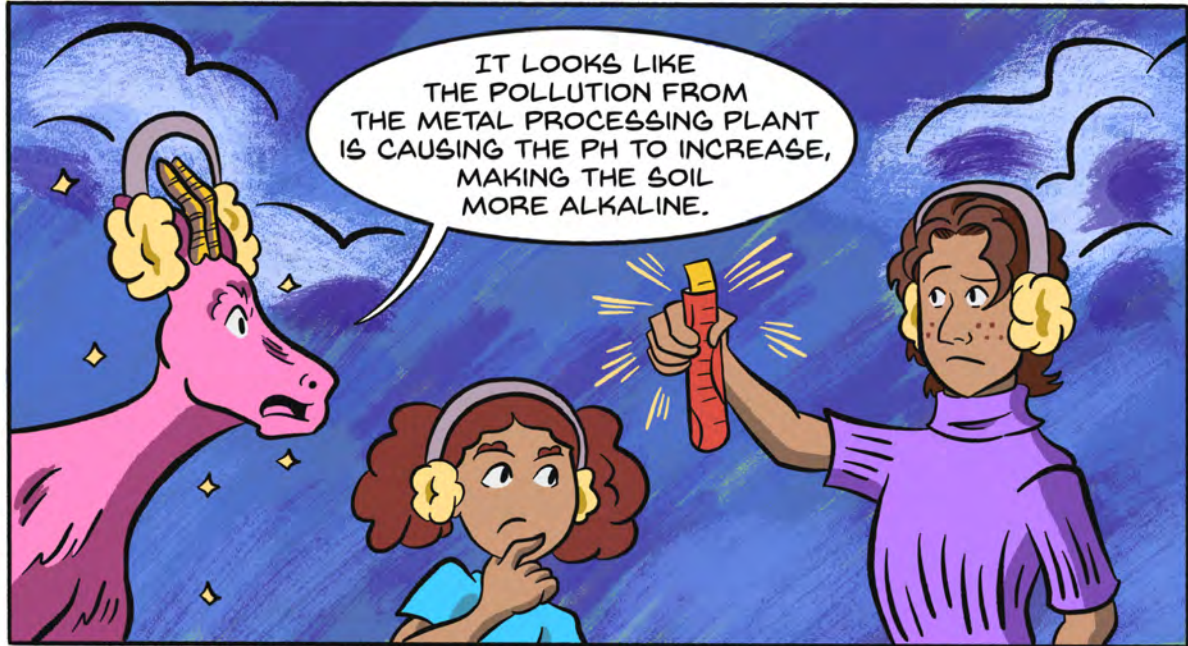


THAT'S ENOUGH
TO HURT OUR HEARING
OVER TIME IF WE STAY HERE
TOO LONG. HERE PUT THESE
ON TO PROTECT
YOUR EARS

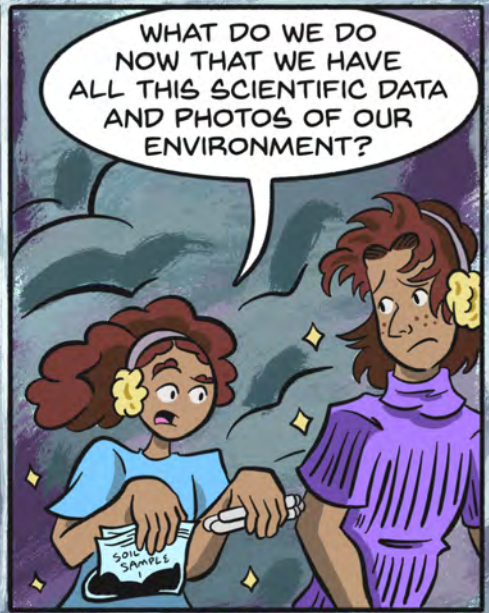


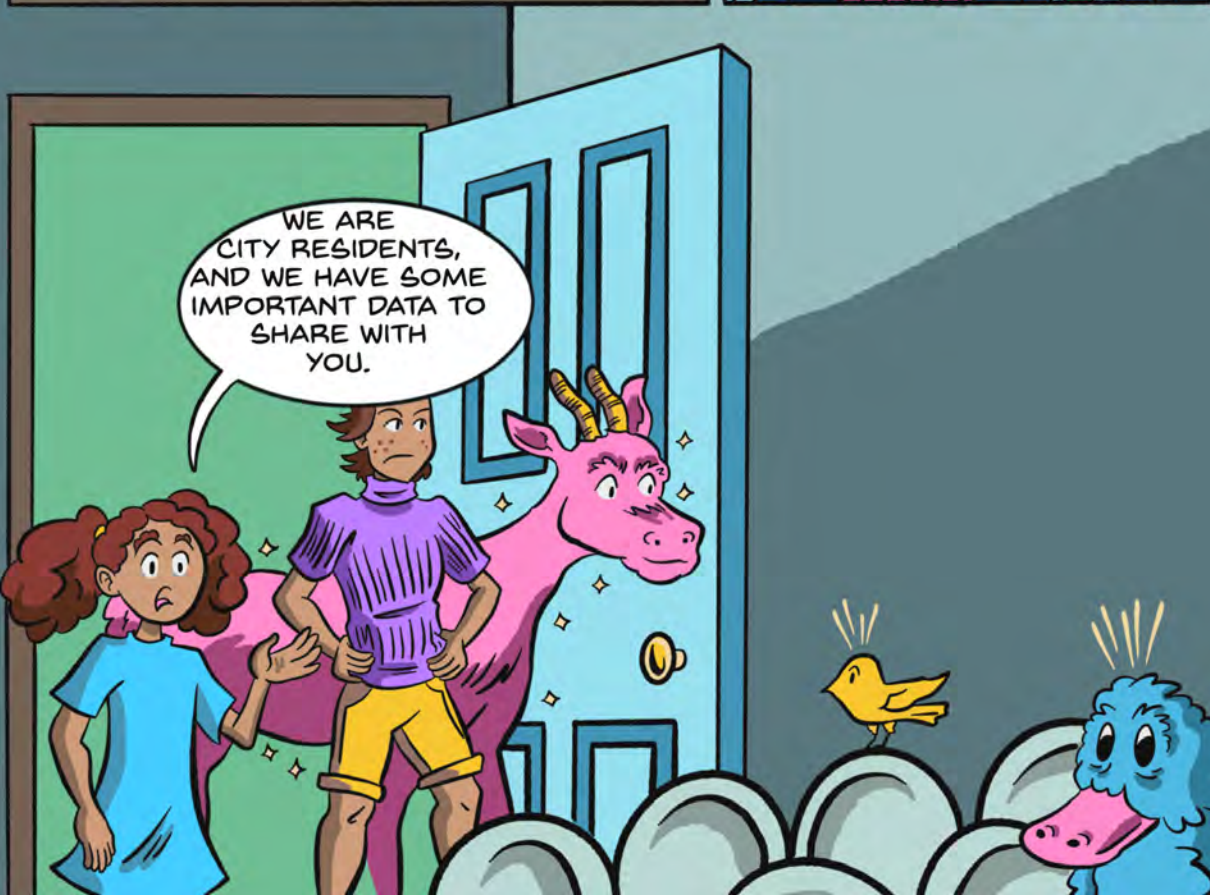
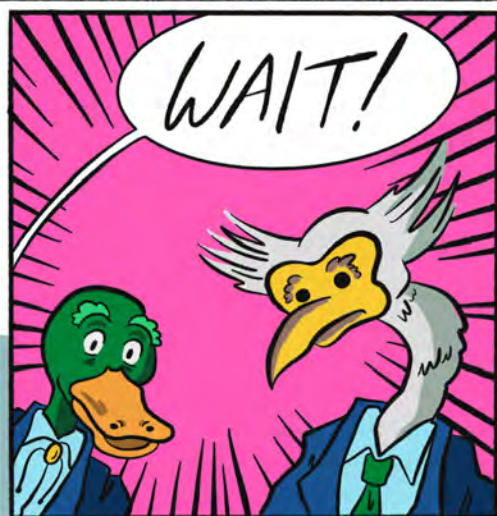
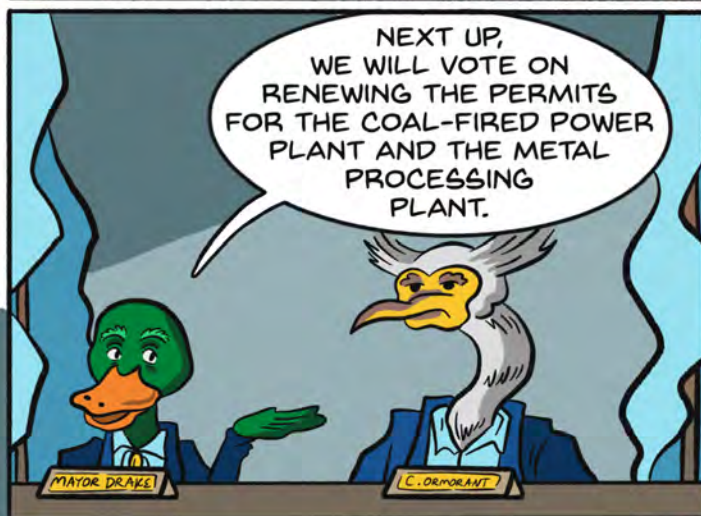


WHY DON'T YOU COLLECT SOME SOIL SAMPLES TOO, SO THAT WE CAN TEST THEM FOR POLLUTION THAT COULD GET ON THE VEGETABLES AND MAKE US SICK.



IT LOOKS LIKE THE POLLUTION FROM THE METAL PROCESSING PLANT IS CAUSING THE PH TO INCREASE, MAKING THE SOIL MORE ALKALINE.







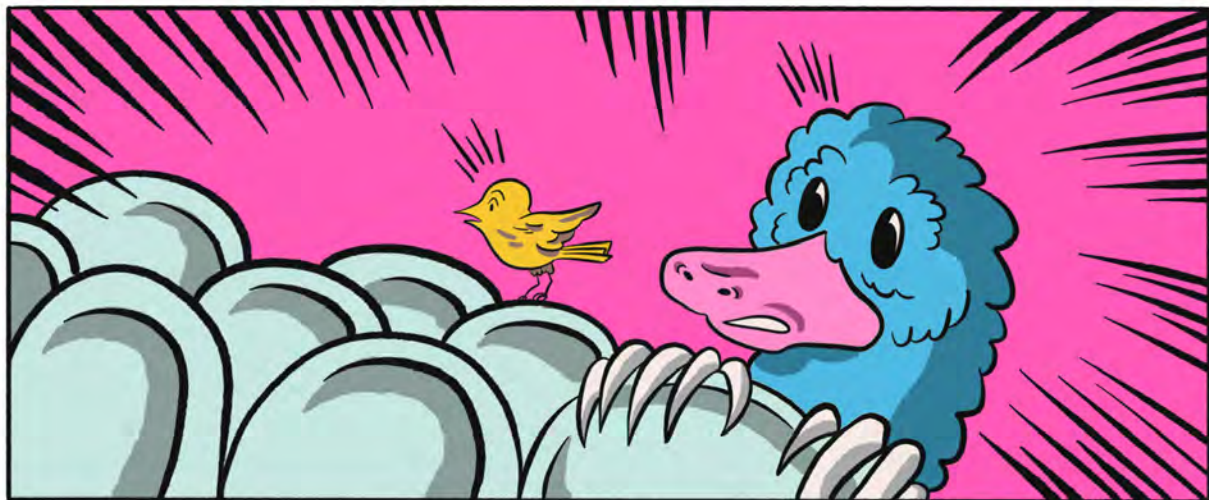
THAT METAL PROCESSING PLANT IS CAUSING NOISE POLLUTION THAT CAN AFFECT PEOPLE'S HEARING AND MENTAL HEALTH!

AND IT CONTAMINATES THE SOIL IN THE COMMUNITY GARDEN!



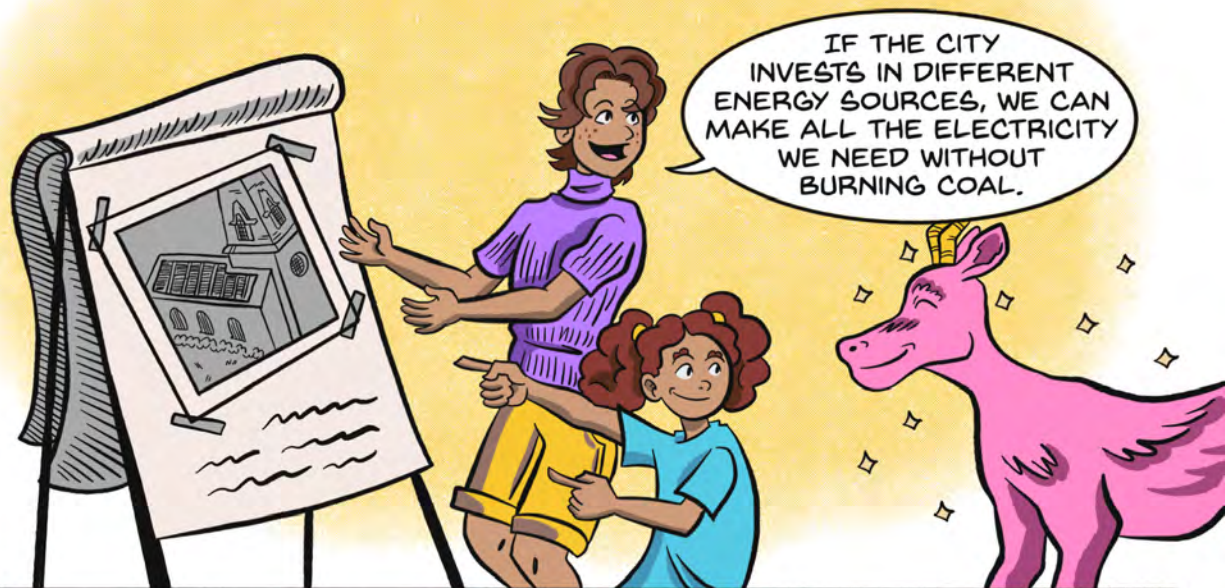


AND THE COAL-BURNING POWER PLANT IS POLLUTING OUR AIR WITH PARTICULATES AND CHEMICALS YOU CAN'T EVEN SEE!



WE CAN'T CLOSE THE COAL-BURNING POWER PLANT. WHERE WILL WE GET THE ELECTRICITY WE NEED FOR OUR CITY?





ALL IN FAVOR OF A RESOLUTION TO PROTECT THE ENVIRONMENTAL HEALTH OF OUR RESIDENTS?



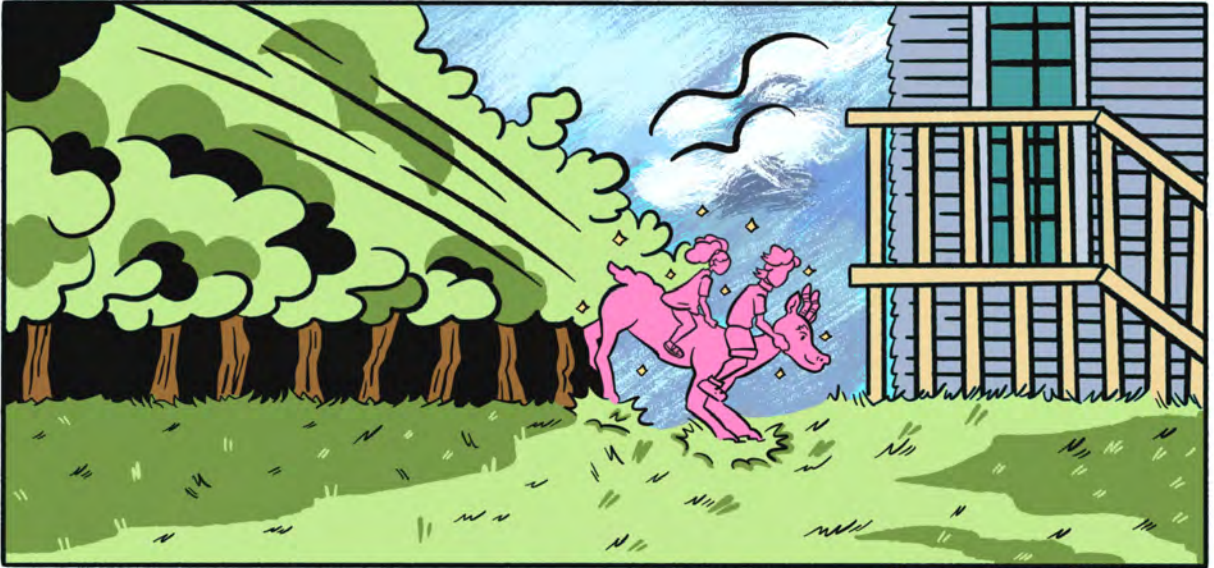
I KNEW WE COULD MAKE A DIFFERENCE WITH REAL SCIENTIFIC DATA AND PHOTOS TO GIVE VOICE TO OUR CONCERNS!



I NEVER UNDERSTOOD BEFORE HOW MUCH THE ENVIRONMENT CAN AFFECT OUR HEALTH, BUT I GET IT NOW.

I THINK IT'S ABOUT TIME I GET YOU TWO HOME.



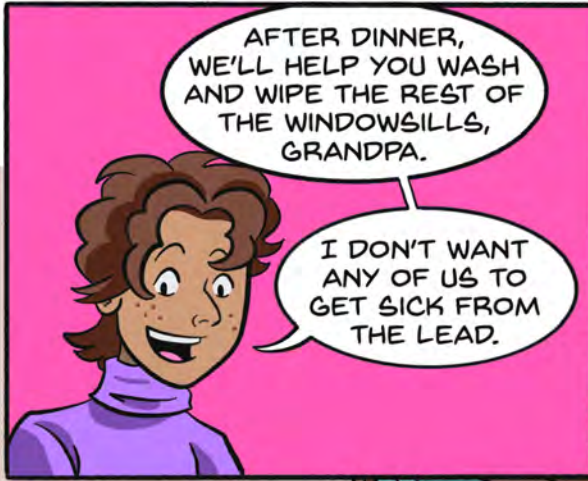




SO, WHAT DID Y'ALL DO THIS AFTERNOON?

SCIENCE!

ADVOCACY!



AFTER DINNER, WE'LL HELP YOU WASH AND WIPE THE REST OF THE WINDOWSILLS, GRANDPA.

I DON'T WANT ANY OF US TO GET SICK FROM THE LEAD.



YEAH. AND MAYBE THIS WEEK WE CAN HAVE VEGETARIAN TACO TUESDAY.

RIGHT AFTER WE GO TO THE NEXT CITY COUNCIL MEETING.



SOUNDS GOOD TO ME. GREAT JOB, ENVIRONMENTAL HEALTH INVESTIGATORS!



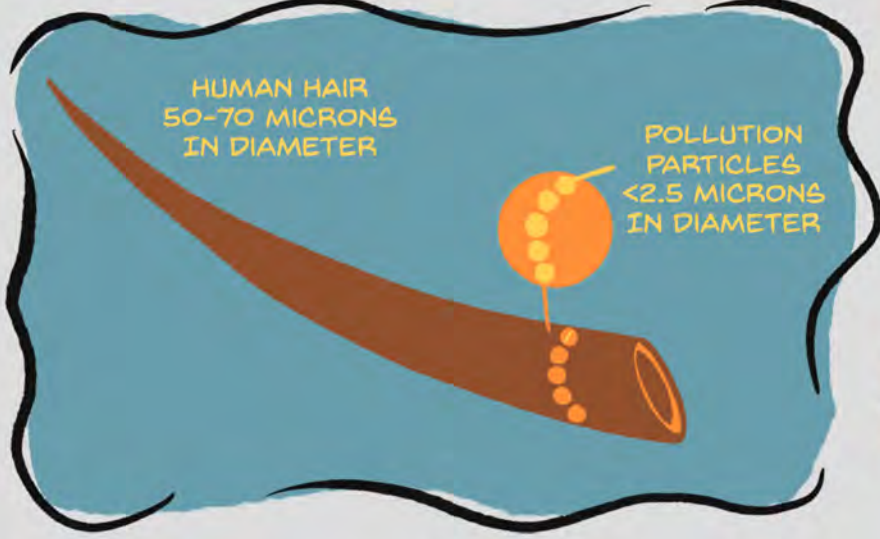
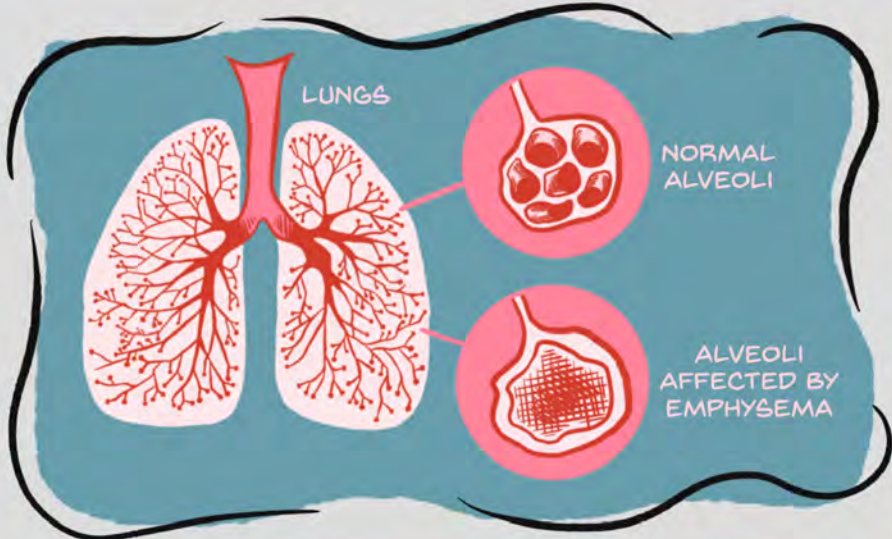
W X E G J S T R E S S H A M N
N E N A W Q H I U W S V U I J
K E V I A P E E L K M T B R Y
J F I G I L A F E S X A C C W
I Z R D R Z L H N O I S E A V
S X O E D S T A L K A L I N E
V J N S E T H R N X V X G C Z
W L M O C R F T X D V O J E W
H S E I I O P P I B Z N Y R K
P Q N L B K P O L L U T I O N
S J T P E E W K B V M C M D Q
L E A D L B Q E D M A I G N S
H F N I A S T H M A D A T A J
J F L V V G J I L J B P R D B C
T H T K Z S U A T O S D X G U

ENVIRONMENT
DECIBEL
STRESS

ALKALINE
ASTHMA
SOIL

POLLUTION
HEALTH
NOISE

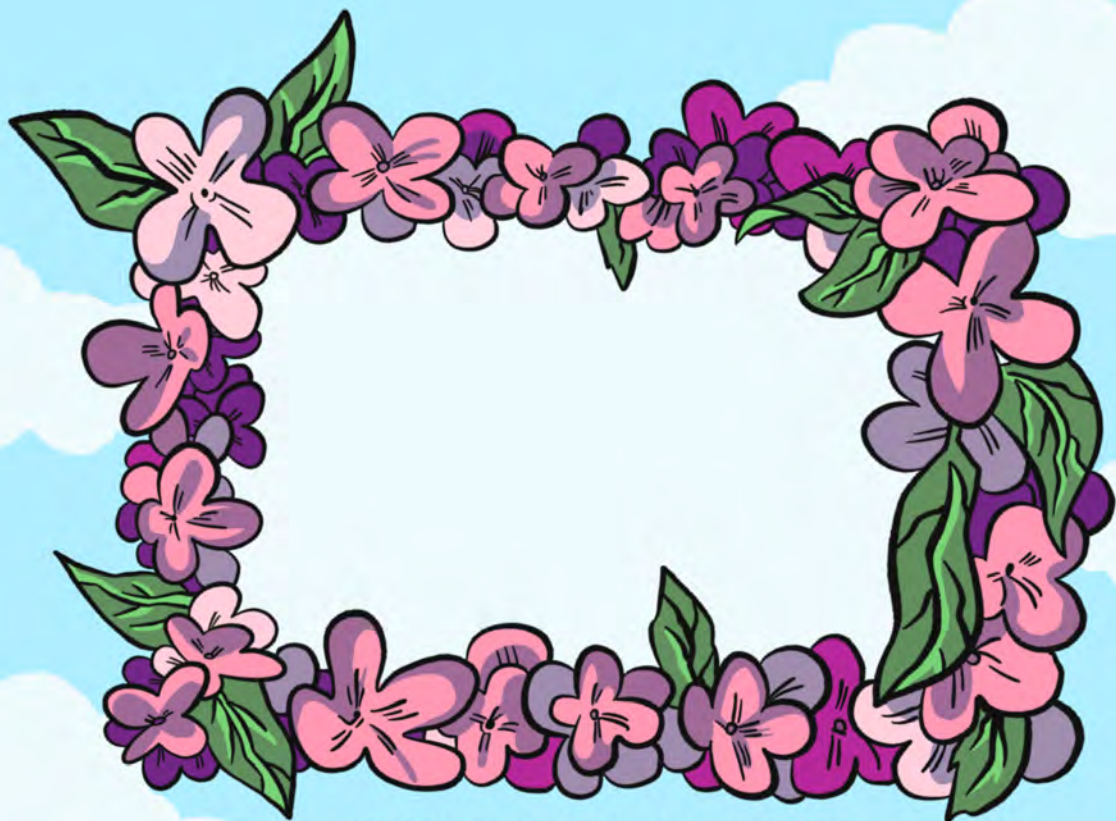
LEAD
DATA
AIR



AIR POLLUTION CAN BE MADE OF PARTICULATE MATTER THAT'S TOO SMALL TO SEE WITHOUT A MICROSCOPE.

IF POLLUTION PARTICLES ARE ABOUT 2.5 MICRONS ACROSS, AND THE AVERAGE ALVEOLUS IN A PERSON'S LUNGS IS ABOUT 200 MICRONS ACROSS, HOW MANY POLLUTION PARTICLES COULD FIT IN ONE ALVEOLUS?

$$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$



ENVIRONMENTAL ASSET

TAKE A PICTURE OF SOMETHING POSITIVE IN YOUR ENVIRONMENT
THAT YOU WOULD LIKE TO SEE MORE OF.



ENVIRONMENTAL HAZARD

TAKE A PICTURE OF SOMETHING NEGATIVE IN YOUR ENVIRONMENT
THAT YOU WOULD LIKE TO CHANGE.

What noises cause hearing loss?

85 decibels (db) is the approximate point at which extended exposure can cause hearing damage.



You can use a phone or tablet to measure the decibel levels in your environment with the noise project app (www.noiseproject.org)

What are the noise levels in your community? We got you started with some examples:

| Location | Noise level (db) | Time of day |
|-------------------------|------------------|-------------|
| Someone whispering | 30 dB | |
| Humming refrigerator | 40 dB | |
| Group of people talking | 60 dB | |
| Vacuum cleaner | 70 dB | |
| Electric lawn mower | 75 dB | |
| School cafeteria | | |
| Your kitchen | | |
| Your front yard | | |
| A hair dryer | | |
| A car radio | | |

SOMEONE SHOULD DO SOMETHING!

DRAW A LINE TO MATCH THE PERSON OR PEOPLE WITH WHAT THEY CAN DO!

COLLECT DATA ABOUT ENVIRONMENTAL FACTORS THAT COULD IMPACT HEALTH

DECIDE WHETHER TO BUY A CAR AND WHAT KIND OF FOOD TO BUY

FILE A LAWSUIT AGAINST COMPANIES FOR POLLUTING THE ENVIRONMENT.

APPROVE PERMITS FOR BUSINESSES AND BUILDING PROJECTS

FUNDRAISER FOR SERVICE PROJECTS AND LEAD AWARENESS CAMPAIGNS

ENFORCE FEDERAL LAWS AGAINST POLLUTION

INSPECT WORK ENVIRONMENTS TO MAKE SURE THEY ARE SAFE

CREATE OR RAISE TAXES ON ACTIVITIES THAT HARM THE ENVIRONMENT

MAKE DECISIONS ABOUT SCHOOL PROCEDURES LIKE RECYCLING

ENVIRONMENTAL PROTECTION AGENCY

MAYOR AND CITY COUNCIL MEMBERS

ENVIRONMENTAL HEALTH RESEARCHERS & COMMUNITY SCIENTISTS LIKE YOU!

LEGISLATORS & VOTERS

NONPROFITS & COMMUNITY ORGANIZERS

SCHOOL PRINCIPALS

GROWNUPS IN YOUR FAMILY/HOUSEHOLD

ENVIRONMENTAL LAWYERS

OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION

LEGISLATORS & VOTERS
 → CREATE OR RAISE TAXES ON ACTIVITIES THAT HARM THE ENVIRONMENT
 MAYOR & CITY COUNCIL MEMBERS
 → APPROVE PERMITS FOR BUSINESSES AND BUILDING PROJECTS, MAKE CITY POLICIES
 ENVIRONMENTAL PROTECTION AGENCY
 → ENFORCE FEDERAL LAWS AGAINST POLLUTION
 ENVIRONMENTAL LAWYERS
 → FILE A LAWSUIT AGAINST COMPANIES FOR POLLUTING THE ENVIRONMENT
 NONPROFITS & COMMUNITY ORGANIZERS
 → FUNDRAISE FOR SERVICE PROJECTS AND LEAD AWARENESS CAMPAIGNS
 OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION
 → INSPECT WORK ENVIRONMENTS TO MAKE SURE THEY ARE SAFE
 SCHOOL PRINCIPALS
 → MAKE DECISIONS ABOUT SCHOOL PROCEDURES LIKE RECYCLING
 GROWNUPS IN YOUR FAMILY/HOUSEHOLD
 → DECIDE WHETHER TO BUY A CAR AND WHAT KIND OF FOOD TO BUY
 ENVIRONMENTAL HEALTH RESEARCHERS & COMMUNITY SCIENTISTS LIKE YOU!
 → COLLECT DATA ABOUT ENVIRONMENTAL FACTORS THAT COULD IMPACT HEALTH

HELP THE MOLE GET AWAY FROM THE SOIL POLLUTION TO FIND SOME HEALTHY SOIL WITH TASTY WORMS!

