

CHAPTER 5

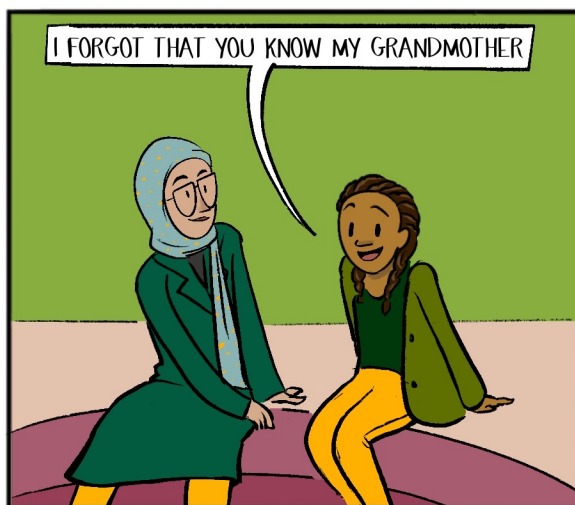
POLLUTION
















MAYBE LATER. I HAVE A LOT OF WORK TO GET DONE BY TONIGHT, SORRY.




OKAY, SWEETIE.



I'M SO SORRY, GLORIA. IT'S HARD WHEN THINGS CHANGE. IT SEEMS YOU HAVE SOME EXPERIENCE WITH THE MODULE I HAVE PLANNED—



WE HAVEN'T GONE IN A WHILE. MORE HOUSES AND ROADS HAVE BEEN BUILT AND THE SMOG HAS GOTTEN WORSE WHERE WE LIVE. I KNOW PEOPLE NEED PLACES TO LIVE, IT'S JUST... I DON'T KNOW.



I WAS THINKING WE COULD DO IT TOGETHER. "ENVIRONMENTAL POLLUTION." DO YOU FEEL UP TO IT?



YES, I'M READY.

WONDERFUL. AND IN POINT OF FACT, OUR GUEST SHOULD BE ARRIVING RIGHT ABOUT ...

NOW!

HI!

HELLO! GLORIA, THIS IS BRENDA. SHE'S OUR RESIDENT MEDICAL EXPERT AT CAMP C.O.R.E.

GOOD TO MEET YOU.

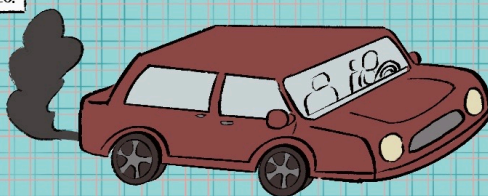
SHALL WE START?

OF COURSE!

WE'LL BE DISCUSSING THE IMPACT POLLUTION HAS ON HUMAN HEALTH TODAY. IT'S A HEAVY TOPIC, BUT ONE OF THE MOST IMPORTANT.



SOMETIMES WE THINK OF THE ENVIRONMENT AS SOMETHING DISTANT FROM OUR "NORMAL" LIVES.



IN REALITY, EVERYTHING WE DO IS CONNECTED TO THE ENVIRONMENT. WE ARE ALL A PART OF IT. AND WHEN WE TAKE CARE OF THE EARTH, IT TAKES CARE OF US.

GLORIA—IF YOU HAD TO GUESS, WHAT DO YOU THINK CAUSES THE MOST ENVIRONMENTAL POLLUTION?



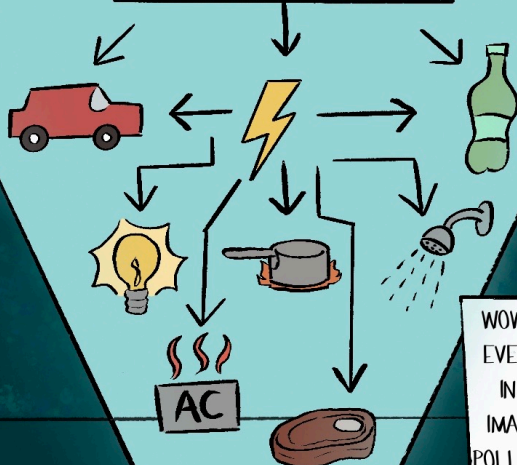
ISN'T IT STUFF LIKE COAL AND GASOLINE?



SPOT ON.



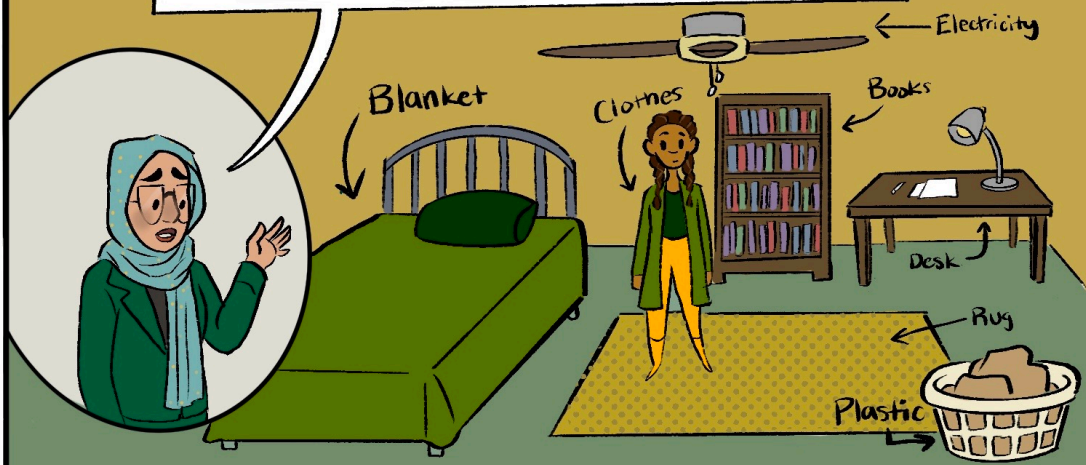
WE CALL THESE ENERGY SOURCES "FOSSIL FUELS." OIL, COAL, AND NATURAL GAS ARE CURRENTLY THE MAIN FUELS FOR TRANSPORTATION, HEATING, ELECTRICITY, AND MANUFACTURING IN THE WORLD.



WOW, THAT'S LIKE... EVERYTHING WE USE IN A DAY. I CAN'T IMAGINE HOW MUCH POLLUTION THAT MUST MAKE.



YOU'RE CONNECTING THE DOTS. POLLUTION ISN'T JUST SMOKESTACKS AND PESTICIDES. EVERYTHING WE USE OR CONSUME HAS AN INVISIBLE POLLUTION FOOTPRINT — MAINLY THE FOSSIL FUELS IT TAKES TO PRODUCE GOODS AND TRANSPORT US.



BUT IF THESE ENERGY SOURCES ARE SO BAD, WHY DO WE USE THEM?



TIME FOR A HISTORY LESSON!



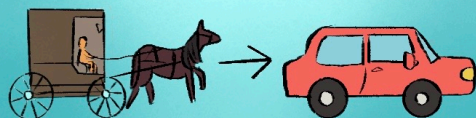
WHEN WE FIRST STARTED USING FOSSIL FUELS, THEY WERE GENERALLY BETTER THAN THE ALTERNATIVES.



LAMP OIL WAS CLEANER THAN TORCHES, AND ELECTRICITY WAS CLEANER THAN LAMP OIL.



THE USE OF FOSSIL FUELS IMPROVED OUR LIVES IN MANY WAYS, MAKING THINGS EASIER, SAFER, AND MORE COMFORTABLE FOR PEOPLE.



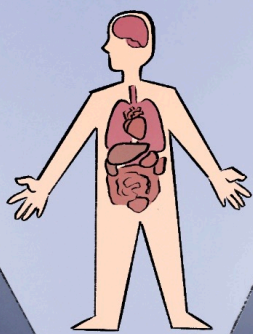
BUT THERE WERE SOME SERIOUS SIDE EFFECTS FOR BOTH THE EARTH AND OURSELVES.



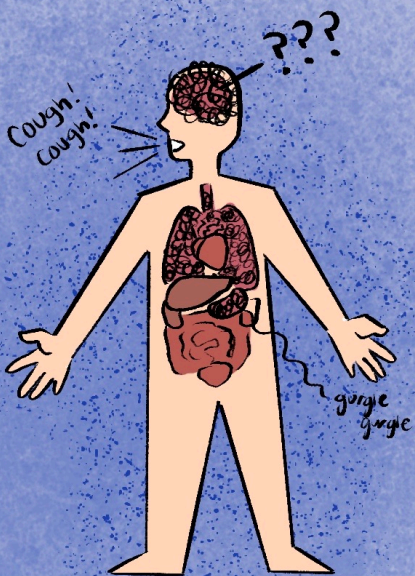
THAT SOUNDS LIKE WHEN YOU HAVE GOOD INTENTIONS, BUT THEN YOU REALIZE WHAT YOU DID ACTUALLY HURT SOMEONE.



THAT'S ONE WAY TO THINK OF IT. EVERYONE HAS HEARD ABOUT POLLUTION, BUT MOST PEOPLE DON'T KNOW HOW SERIOUS IT IS. MANY OF THE PATIENTS I SEE HAVE CONDITIONS THAT ARE CAUSED BY EXPOSURE TO DIRTY AIR, WATER, AND SOIL.



THE HUMAN BODY IS INCREDIBLY BEAUTIFUL AND COMPLEX. WHEN WE ARE IN A HEALTHY ENVIRONMENT, OUR BODIES CAN FIGHT OFF DISEASES AND HEAL FROM INJURIES.



BUT WHEN OUR BODIES ARE EXPOSED TO UNHEALTHY CHEMICALS, IT INCREASES DISEASE AND CAUSES SERIOUS PROBLEMS.

I KNOW MY GRANDMA HAS FELT BAD, BUT I'VE BEEN OKAY — DOES IT ONLY AFFECT YOU IF YOU'RE OLDER?



POLLUTION AFFECTS THE YOUNG AND OLD DIFFERENTLY, BUT IT HURTS ALL OF US.

IT EVEN AFFECTS BABIES BEFORE THEY ARE BORN AND PEOPLE WHO SEEM TOTALLY HEALTHY. SOME OF THE EFFECTS HAPPEN RIGHT AWAY—LIKE HAVING TROUBLE BREATHING OR THINKING CLEARLY—



BUT SOME OF THE DAMAGE ONLY SHOWS UP YEARS LATER, LIKE PROBLEMS WITH REPRODUCTION, MENTAL HEALTH, AND METABOLISM.



JUST LIKE OUR ANCESTORS AND ELDERS TEACH US, THE HUMAN BODY NEEDS CLEAN AIR TO BREATHE AND CLEAN WATER TO DRINK.

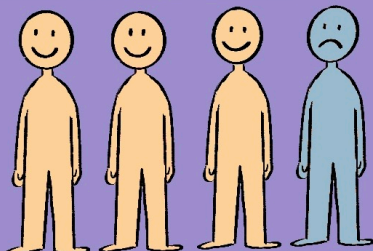
IF POLLUTION IS MAKING PEOPLE SICK, DO PEOPLE DIE FROM IT, TOO?



SADLY, YES.



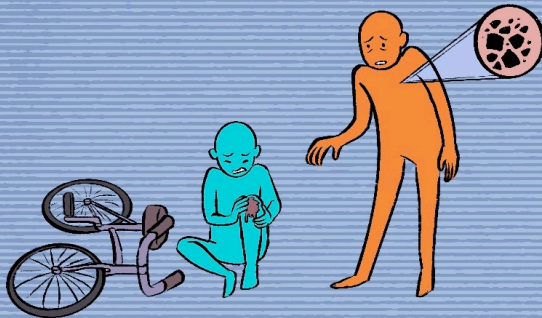
AT LEAST 15 MILLION PEOPLE DIE EVERY YEAR BECAUSE OF POLLUTION—THAT IS ONE IN FOUR DEATHS GLOBALLY.



I HAD NO IDEA POLLUTION WAS SUCH A BIG DEAL. HOW HAVE I NEVER LEARNED ABOUT THIS BEFORE?

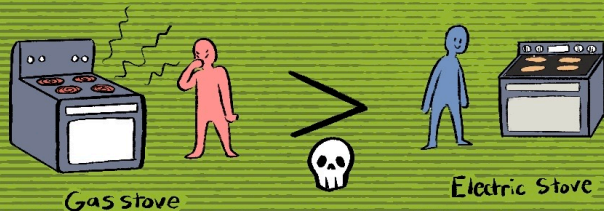


POLLUTION IS DIFFERENT FROM OTHER DANGERS.



WHEN SOMEONE CRASHES THEIR BIKE, YOU KNOW RIGHT AWAY WHY THEY HAVE A SCRAPED KNEE. POLLUTION IS SNEAKY. LIKE WITH SMOKING OR A HEALTHY DIET, THE CONSEQUENCES ARE REAL, BUT HARD TO SEE RIGHT AWAY.

INDEED. FOR EXAMPLE, RESEARCHERS FOUND THAT PEOPLE WHO LIVED IN HOUSES OR APARTMENTS WITH GAS STOVES WERE 42% MORE LIKELY TO EXPERIENCE ASTHMA SYMPTOMS. IT TOOK CAREFUL OBSERVATIONS OF MULTIPLE FAMILIES TO SEE THE CAUSE AND EFFECT.



THIS IS A LOT. I FEEL... GUILTY. GUILTY THAT A LOT OF THINGS WE USE ARE CONTRIBUTING TO THIS PROBLEM THAT'S HURTING EVERYONE. DO YOU THINK EVERYONE WOULD FEEL THIS WAY IF THEY KNEW?

I UNDERSTAND. WHEN WE REALIZE WE'VE CAUSED HURT, ESPECIALLY WHEN WE DON'T MEAN TO, IT DOESN'T FEEL GOOD. BUT WE CAN ALWAYS MAKE AMENDS AND DO OUR BEST TO REPAIR THE HURT WE CAUSED.



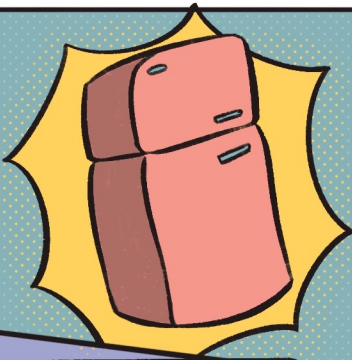
BUT THIS SEEMS SO HUGE. HOW CAN WE FIX A PROBLEM THAT AFFECTS EVERYONE AND EVERYTHING?

THAT'S A BIG QUESTION. WE'RE STILL WORKING ON ANSWERING IT. BUT WE AREN'T WORKING ALONE.



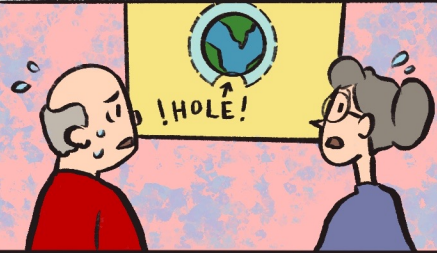
THERE ARE SO MANY PEOPLE IN THE PRESENT AND FUTURE WHO ARE WORKING TO CREATE A HEALTHIER ENVIRONMENT. LET'S LOOK BACK IN TIME TO LEARN FROM THOSE WHO CAME BEFORE US.





THE FIRST ELECTRIC REFRIGERATORS AND FREEZERS USED TOXIC GASES TO KEEP FOOD COOL. AFTER SEVERAL FATAL ACCIDENTS, A NONTOXIC GAS CALLED CFC WAS CREATED.

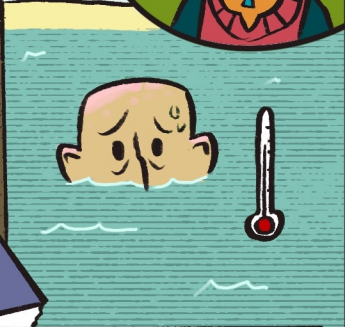
THE CFC'S SAVED MANY LIVES, BUT IN THE 1970'S, AMERICAN RESEARCHERS NOTICED THAT CFC'S WERE DESTROYING THE OZONE LAYER AND CREATING A HOLE AROUND THE SOUTH POLE.



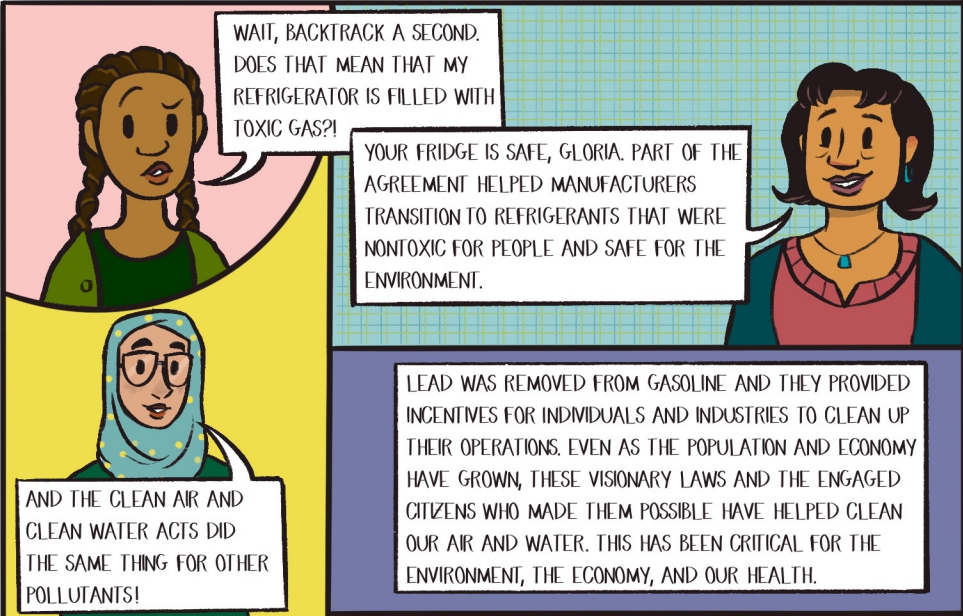
I'VE HEARD ABOUT OZONE BEFORE—IT'S LIKE EARTH'S SUNSCREEN, RIGHT?



EXACTLY.



AS OZONE DECREASED, RADIATION FROM THE SUN STARTED BEATING DOWN ON PEOPLE, PLANTS, AND ANIMALS IN THE SOUTHERN HEMISPHERE. CROPS STARTED TO FAIL, FORESTS BECAME LESS HEALTHY, AND SKIN CANCER BEGAN TO RISE. PEOPLE CAME TOGETHER AND PASSED THE MONTREAL PROTOCOL, AN INTERNATIONAL AGREEMENT TO STOP MAKING AND USING CFC'S.



WAIT, BACKTRACK A SECOND.
DOES THAT MEAN THAT MY
REFRIGERATOR IS FILLED WITH
TOXIC GAS?!

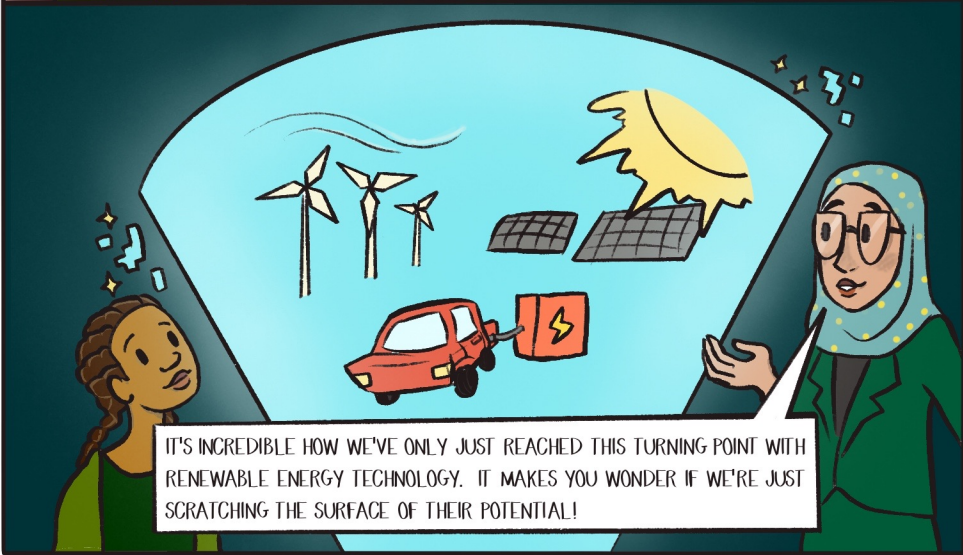
YOUR FRIDGE IS SAFE, GLORIA. PART OF THE
AGREEMENT HELPED MANUFACTURERS
TRANSITION TO REFRIGERANTS THAT WERE
NONTOXIC FOR PEOPLE AND SAFE FOR THE
ENVIRONMENT.

AND THE CLEAN AIR AND
CLEAN WATER ACTS DID
THE SAME THING FOR OTHER
POLLUTANTS!

LEAD WAS REMOVED FROM GASOLINE AND THEY PROVIDED
INCENTIVES FOR INDIVIDUALS AND INDUSTRIES TO CLEAN UP
THEIR OPERATIONS. EVEN AS THE POPULATION AND ECONOMY
HAVE GROWN, THESE VISIONARY LAWS AND THE ENGAGED
CITIZENS WHO MADE THEM POSSIBLE HAVE HELPED CLEAN
OUR AIR AND WATER. THIS HAS BEEN CRITICAL FOR THE
ENVIRONMENT, THE ECONOMY, AND OUR HEALTH.

THERE WILL ALWAYS BE THOSE WHO
COMPLAIN OR SAY IT'S NOT POSSIBLE, BUT
WHEN WE'RE UNITED IN A GOOD CAUSE, WE
BECOME UNSTOPPABLE.

FINALLY, WE HAVE PRACTICAL
ACCESS TO THE TECHNOLOGIES
THAT COULD ELIMINATE FOSSIL
FUEL POLLUTION COMPLETELY;
THE QUESTION IS, ARE WE
GOING TO USE THEM?



IT'S INCREDIBLE HOW WE'VE ONLY JUST REACHED THIS TURNING POINT WITH
RENEWABLE ENERGY TECHNOLOGY. IT MAKES YOU WONDER IF WE'RE JUST
SCRATCHING THE SURFACE OF THEIR POTENTIAL!

THINGS ARE CHANGING SO FAST IN ENERGY RIGHT NOW. RENEWABLE ENERGY SOURCES LIKE WIND AND SOLAR ARE ADVANCED AND RELIABLE, AND NOW THEY ARE THE CHEAPEST AND CLEANEST FORM OF ENERGY AVAILABLE TODAY.

UNLIKE NONRENEWABLE RESOURCES LIKE FOSSIL FUELS, THESE TECHNOLOGIES USE ENERGY THE EARTH OFFERS US FREELY: THE WIND AND THE SUN.

COMBINED WITH ENERGY TRANSMISSION, ELECTRIC VEHICLES, AND NEW HEATING TECHNOLOGY, A HOPEFUL FUTURE IS WELL WITHIN OUR REACH.



THIS IS AMAZING, AND THIS DOES
MAKE ME FEEL SO HOPEFUL!

A LARGE PART OF OUR PURPOSE HERE AT
CAMP C.O.R.E IS TO EMPOWER YOUNG
PEOPLE TO BE CLEAN ENERGY ADVOCATES.

SPEAKING OF THE OTHERS, I
THINK IT'S TIME WE JOIN THEM
FOR ANOTHER ADVENTURE!

WELL, CONSIDER ME AN
ADVOCATE! AND I HOPE THE
OTHER CAMPERS WILL BE, TOO.

THERE IS A LOT OF MISINFORMATION
ABOUT ENERGY OUT THERE, AND YOU
CAN MAKE A BIG DIFFERENCE BY
EDUCATING YOUR PARENTS, TEACHERS,
AND FRIENDS.

ALL SEPARATE
MODULES HAVE BEEN
COMPLETED. ARE YOU
READY TO JOIN YOUR
FELLOW CAMPERS?

boop
GREETINGS, HUMAN.

YES! JUST—ONE SEC.

HUDA, CAN YOU MAKE SURE
MY GRANDMA GETS THIS? I
WANT TO MAKE SURE TO
SPEND MORE TIME WITH HER
ONCE CAMP IS OVER.

MYCOLOGY
OF COURSE!

ZAP