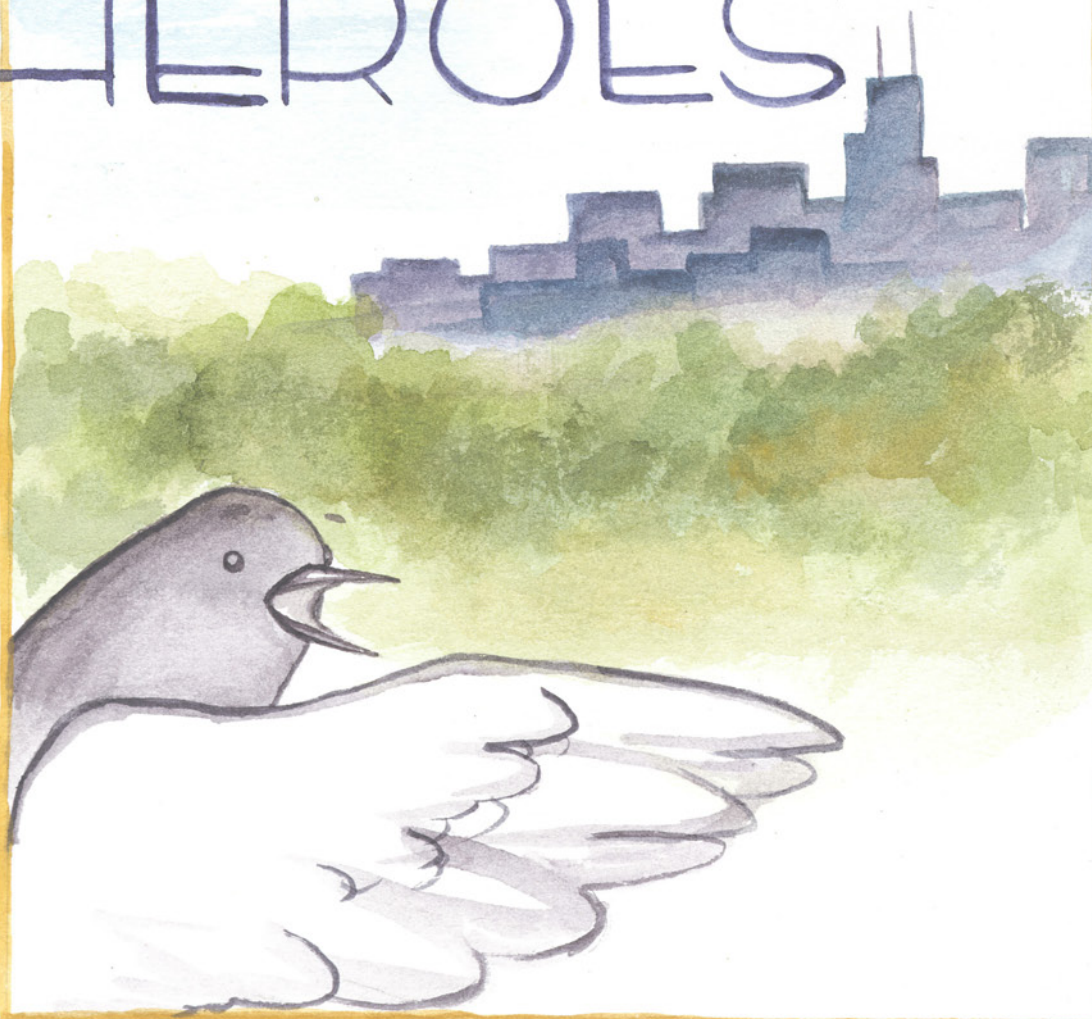


The
AMAZING ADVENTURES

of

CHICAGO'S
CLIMATE ACTION
HEROES



OUR WORLD'S CLIMATE IS CHANGING



Hmmm...

TEMPERATURES, HUMIDITY, AND WIND ARE BECOMING LESS STABLE RESULTING IN MORE FLOODS, DROUGHTS, AND HIGHER TEMPERATURES.



No kiddin'!

CLIMATE CHANGE IS LARGELY BEING CAUSED BY HUMANS BURNING FOSSIL FUELS TO DO THINGS LIKE DRIVE THEIR CARS, HEAT THEIR HOMES, AND RUN THEIR FACTORIES.



You don't say...

CLIMATE CHANGE IS A HUGE PROBLEM...



WHO ARE THE HEROES THAT WILL RISE TO MEET THIS CHALLENGE? WHAT SUPER HUMAN POWERS MUST THEY POSSESS?

Ok, Hold it, Mr. Narrator!

HUH? OH, HELLO THERE, BIRD. WHAT IS IT?

You had me up until that whole "hero" baloney.



WHAT DO YOU MEAN?

Climate change is a HUGE problem, but that doesn't mean you have to have SUPER HUMAN powers to be able to do something about it.



Once we understand climate change, we can figure out what we can all do to help.

Take, for example, what my friends and I are doing in the Chicago Region....



It all started one day...

Hey everybody, thanks for meeting me here!

Well, you did say that it was important... Beaver, this wetland you built is quite lovely.

Oh, thanks! Well, the Mrs. always wanted a place, and...

EHEM!

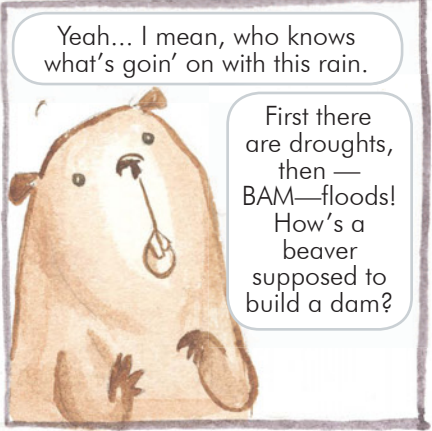
Sorry, but we really do have some important issues to talk about here! I think we all have been noticing that we're in trouble, Chicago's **CLIMATE IS CHANGING**, and it's making it harder for all of us to live around here.



Oh my, yes. I do believe it has been getting a bit warmer.



And the weather has been crazy!

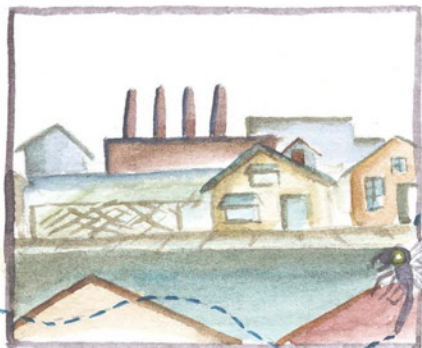


Yeah... I mean, who knows what's goin' on with this rain.

First there are droughts, then — BAM—floods! How's a beaver supposed to build a dam?



I think we need to find some humans who are willing to help us....



CLICK
CLICK

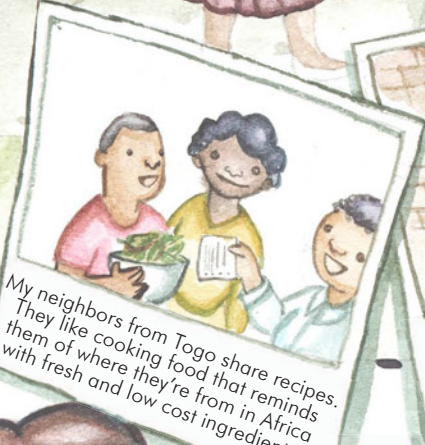
Hey there, Amira. On another Southeast Side photo shoot? What kind of photos did you take today?



I got tons of stuff. All my friends and neighbors are the best models, cuz they're always doing neat things.



A kid in my class told me he and his parents do "stewardship work" like weeding and other stuff that helps natural areas stay healthy.



My neighbors from Togo share recipes. They like cooking food that reminds them of where they're from in Africa with fresh and low cost ingredients.



Ms. Peters "weatherizes" her house by sealing her windows. She says it keeps her house toasty in the winter, cool in the summer, and saves energy and money.



Here's my neighbor with his Southeast Side mini-farm. He likes to be able to raise his own food in his backyard.



These are great photos! You know, when I was your age, things around here looked very different.... There were big steel factories here....

That reminds me, I don't want to be late!

We're on our way to talk to the Governor about clean energy in our neighborhood.



We want our government to know that we want jobs and factories that don't pollute our neighborhood.



Wow!
Good luck!



My neighbors are doing a lot to make the Southeast Side a better place to live.



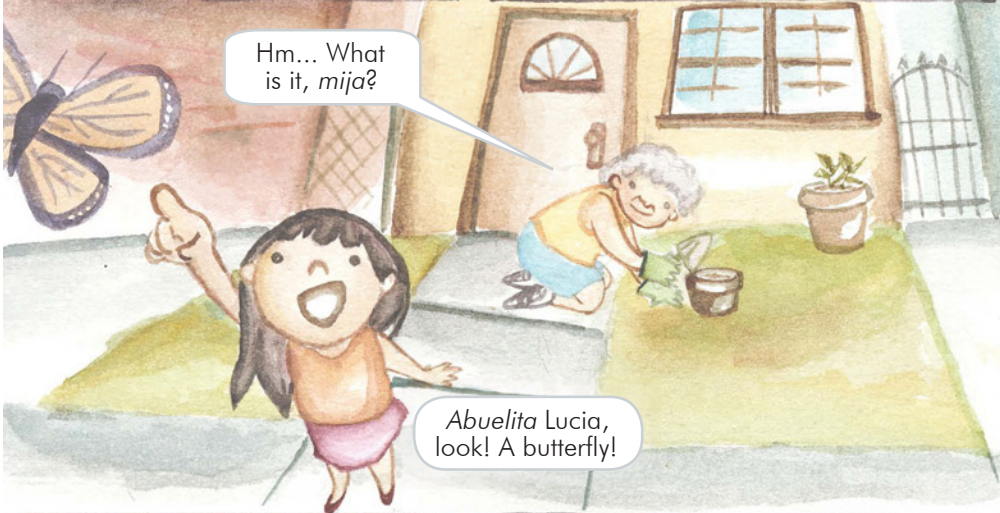
CLICK
CLICK

Somewhere in Pilsen...



Abuelita...

Abuelita...

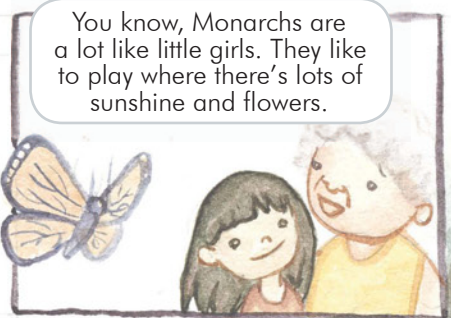


Hm... What is it, *mija*?

Abuelita Lucia, look! A butterfly!



Oh my! It's a Monarch... When it's cold here in Chicago, some Monarchs migrate all the way to Michoacán, Mexico, where your *abuelita* is from.



You know, Monarchs are a lot like little girls. They like to play where there's lots of sunshine and flowers.



When I was your age there were plenty of places to play like that.



Here is so different, especially with that coal plant nearby....



I worry that there are no safe places for butterflies or little girls to grow up.

Some of my neighbors are really worried about the coal plant polluting our air and how that affects our health....

So my neighbors and I work together to make sure there are safe, green spaces in our neighborhood.



Hey, lil' Bird, you hungry, too?

Mmmm, smells good, Mr. Walter! Your kitchen is the best restaurant in town! Lucky for me, I live next door to you!



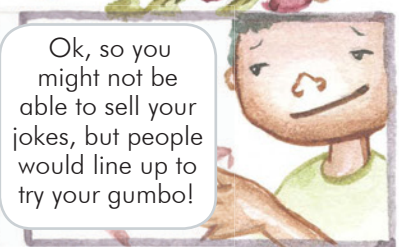
Well, I like to think the secret ingredient is history! My great grandma used this recipe in Mississippi, and even before that, our ancestors used a lot of the same ingredients in Africa.

Plus, I use veggies that are grown nearby. You know a lot of our neighbors grow great produce right here in Bronzeville.

I mean, why eat something that's gotta be sliced and diced in a factory and then all wrapped up to be trucked over to a shelf, when you can walk a block over and pick your tomato right off the vine?



Plus, our neighbor Mrs. Jones grows beets that can't be beat! Ha!



Ok, so you might not be able to sell your jokes, but people would line up to try your gumbo!

They already do! You know, our neighbors are starting up a mini green economy.



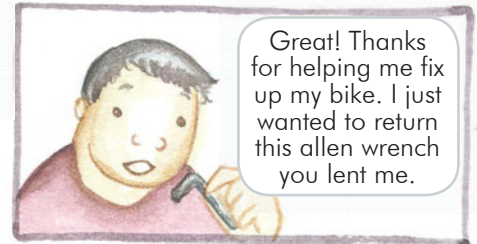
People are growing, buying, and preparing local produce right here in Bronzeville!

Somewhere in Forest Glen...



Hey, Jimmy!
Building something
again, I see.

Oh, hey, Mr. Arong.
How was your ride through
the forest preserve?



Great! Thanks
for helping me fix
up my bike. I just
wanted to return
this allen wrench
you lent me.



No
problem!



What
did you
make
this time,
Jimmy?

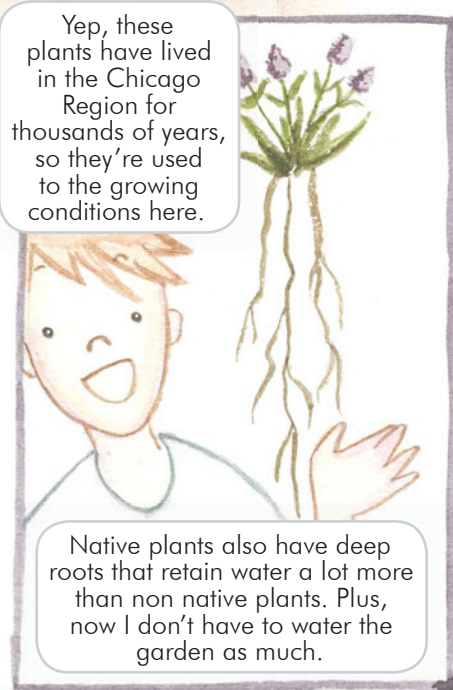
A rain
barrel! it
catches
water
from the
roof.



Summer storms have
been getting pretty crazy,
and this can help decrease
basement flooding in our
neighborhood.

It looks
good with
our native
garden,
right?

Native
garden? You
mean plants from
this area?



Yep, these
plants have lived
in the Chicago
Region for
thousands of years,
so they're used
to the growing
conditions here.

Native plants also have deep
roots that retain water a lot more
than non native plants. Plus,
now I don't have to water the
garden as much.



A nice looking yard that
can help reduce flooding?...
Think you can help me
install something like that in
my yard, Jimmy?

Sure
thing!

That night...

OK Gang, you know what to do. We'll meet back here...

BRONZEVILLE

FOREST GLEN

SOUTHEAST SIDE

PILSEN

Magic Sound

Whoa! I think...

Am I...

I think I'm...

I'M SHRINKING!!!

What's goin' on?

Hey! You're the bird from this morning on my window!

Hey, Walter! That soup really did smell good! Sorry to wake you, but we need your help!

My help? Unless you need a salad I'm not sure what I can do....

Well, we're also finding friends in Forest Glen, Pilsen, and the Southeast Side, and-

That reminds me, we're late to meet the others. Hop on!

Ah... So you shrunk me so that I'm travel-sized!

Yup! I'll explain everything when we're with the others....

Got any seat belts?

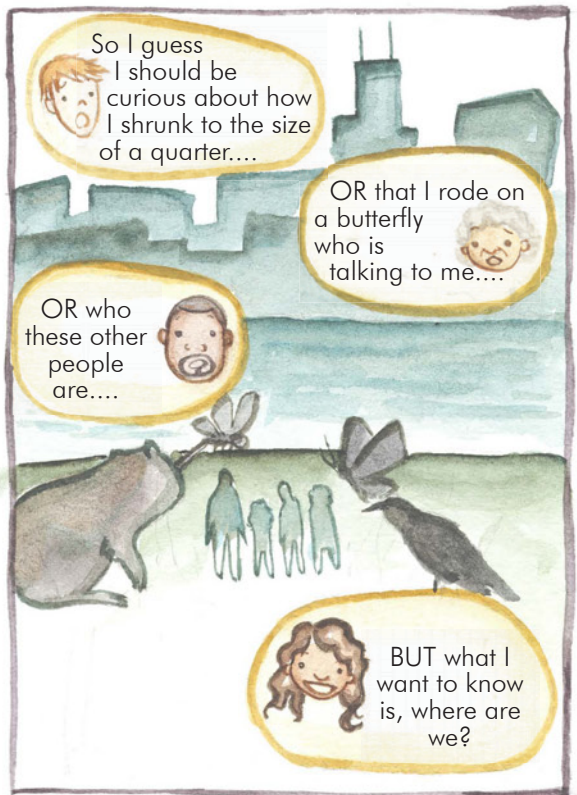


Hey! Bird is here, now we can get started!

Woohoo! This is the best dream ever!

Thanks for the ride, Miss Butterfly. You must be tired.

Hey, everyone!



So I guess I should be curious about how I shrunk to the size of a quarter...

OR that I rode on a butterfly who is talking to me....

OR who these other people are....

BUT what I want to know is, where are we?

OK! Introductions! All of you have been brought here to Northerly Island because Chicago's native species need help.



BLACK TERN

We wanted to talk to you about what's happening that's making it harder for us to live here in the Chicago Region.

And you four seem to already be doing things that are helping us.

HINE'S EMERALD DRAGONFLY



JIMMY, FROM FOREST GLEN



MONARCH BUTTERFLY

LUCIA, FROM PILSEN



NORTH AMERICAN BEAVER



WALTER, FROM BRONZEVILLE



AMIRA, FROM THE SOUTHEAST SIDE



Jimmy, buddy! You got some great buildin' chops, you know that, kid?



You mean my rain barrel and native garden?

I love that stuff! And I should know good building. The dams I make end up creating wetlands that other animals just love.



I just wanted to help decrease basement flooding in our neighborhood and have a lawn that's easy to take care of, and looks nice. I didn't know I was helping you, too!

With our changing climate, we have bigger storms.

Water that doesn't get absorbed by plants or soil will run off our streets and rooftops,



pickin' up all sorts of dirty stuff and trash, and then that stuff'll get into my lakes and streams.

Well, get more of your friends thinkin' about how they deal with their water, and I'll be able to keep creating wetlands.



You know, I met the Mrs. in one of the wetlands created by Beaver.

In fact, we Black Terns all start and raise our families in wetlands... But in Chicago, climate change is threatening wetlands.

Keep doing things that help us deal with climate change, like using local produce.



So what can we do to help you?



Well I just like using fruits and veggies that are



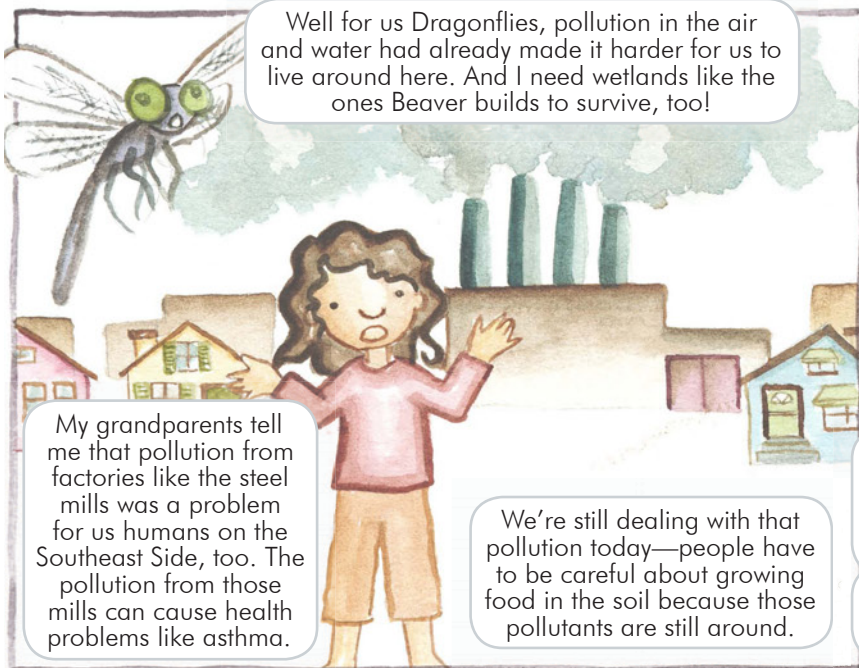
grown nearby cuz they're fresher and tastier.



But that's something that's good for all of us!

Burning fossil fuels is the biggest cause of climate change, so it's good to choose food that doesn't have to be packaged in a factory, or driven across the country to get to you!

Well for us Dragonflies, pollution in the air and water had already made it harder for us to live around here. And I need wetlands like the ones Beaver builds to survive, too!

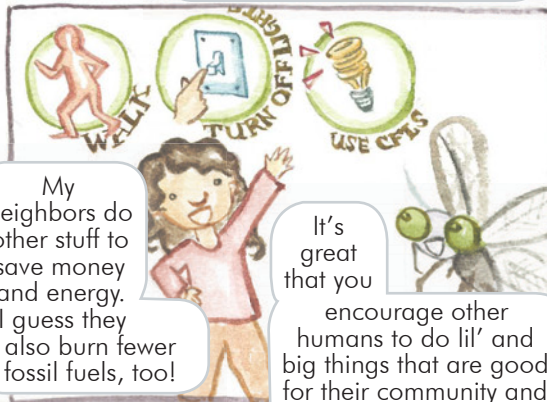


My grandparents tell me that pollution from factories like the steel mills was a problem for us humans on the Southeast Side, too. The pollution from those mills can cause health problems like asthma.

We're still dealing with that pollution today—people have to be careful about growing food in the soil because those pollutants are still around.



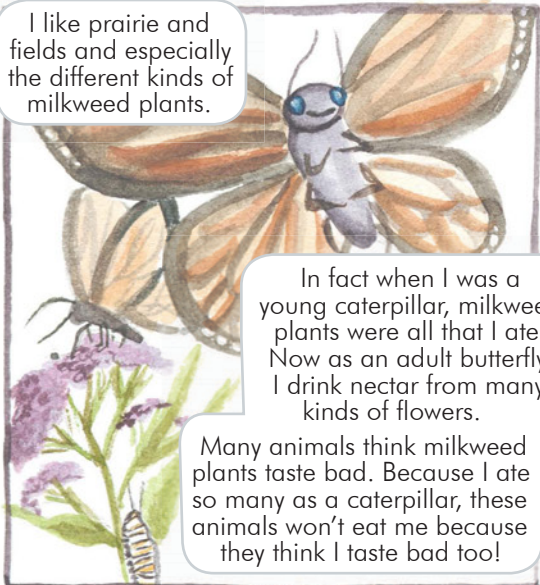
Now our community welcomes factories willing to seek neighborly solutions to pollution on the Southeast Side!



My neighbors do other stuff to save money and energy. I guess they also burn fewer fossil fuels, too!

It's great that you encourage other humans to do lil' and big things that are good for their community and the environment!

I like prairie and fields and especially the different kinds of milkweed plants.



In fact when I was a young caterpillar, milkweed plants were all that I ate. Now as an adult butterfly, I drink nectar from many kinds of flowers.

Many animals think milkweed plants taste bad. Because I ate so many as a caterpillar, these animals won't eat me because they think I taste bad too!



I use milkweed to protect my grandchildren, too. Milkweed can be used to make medicines, like home remedies for small scratches, warts, and even poison ivy.

Native plants like milkweed are great to plant because, as Jimmy and I both know, they look great and are easy to take care of! I'm glad that they're helping you stay around in Chicago!

Well it seems like we all have a reason to help each other! We were hoping you could find ways to have your friends help us keep livin' here in Chicago!



Climate change isn't just nature's problem, it affects us humans too, and all of us (even the ones without wings) can do something about it!



Some of our neighbors are already helping by doing stuff for the environment—



and some of them don't even realize that the things they are already doing for themselves are good for the environment, too!

Others just need a little more information to help them get started.



We'd be glad to think about more things we can do!

That's all we ask! I think this is a pretty great place to live.... We all gotta work together to make sure it can keep getting better!



SO THEN WHAT HAPPENED?

Well by the next morning, we brought our new friends back to their houses, and original sizes...



They all kept up their work, doing stuff that was good for them and us.



And getting their friends and neighbors to join in.



See what I mean, Mr. Narrator? When you want to take part in *Climate Action*, you can leave your cape at the door.

MEET YOUR NEIGHBORS

Hello, my name is Walter and I live in Bronzeville. I like to cook healthy food, using local ingredients. Here's a link to some community projects about local food and other issues happening in my neighborhood: climatechicago.fieldmuseum.org/bronzeville



Hey! Jimmy here, from Forest Glen. My yard both looks great and helps the environment using native plants and rain barrels. Take a look at these rain barrel installations and other projects going on in my neighborhood: climatechicago.fieldmuseum.org/forest-glen



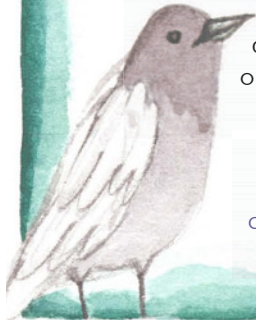
Hello, lovely to meet you. My name is Lucia and I am from Pilsen. My neighbors and I worked together to create a community garden and take a stand against air pollution near our homes: climatechicago.fieldmuseum.org/pilsen



Hiya! I'm Amira, from the Southeast Side. I like to spread the word on all the environmentally friendly things my neighbors do around their community, and in their own homes: climatechicago.fieldmuseum.org/south-chicago

MEET THE ANIMALS

Hello, we Black Terns spend our winters in South America, but come to places like the Chicago Region to meet our mates and raise our families. Those places, or habitats, are threatened by climate change.



You can learn more about how climate change affects me here: chicagowildernessmag.org/issues/summer1999/blacktern.html

Monarch butterflies that spend the summer in the Chicago Region travel to places like Michoacán, Mexico, where a lot of Pilsen residents are from! Today's changing climate can make this long trip harder for me.



Learn more about how climate change affects Monarchs here: commondreams.org/headlines03/1111-06.htm

People know me for my giant green eyes, just like every other Hine's Emerald Dragonfly. We're listed as endangered, so you can see why climate change worries me. Climate change threatens my usual hangouts, the wetlands. Even if other wetlands come and go—the ones that I rely on are special and rare.



You can learn more about me here: fws.gov/midwest/endangered/insects/hed/hins_fct.html

I'm a North American Beaver, and the dams that I make help create wetlands that a lot of other animals rely on. Climate change can affect the lakes, streams, and rivers that I like, making it tough for me to keep building my dams.



Well you can find out more here: web.extension.illinois.edu/illinoissteward/openarticle.cfm?ArticleID=552



Make Your OWN Comic Book!

HEY! Do you or someone you know do things that are good for the environment? Follow these instructions, and use the next page as a guide. Soon you'll have everyone reading your very own comic book!



STEP ONE: Take one piece of paper (11" by 8.5") and fold it so there are 8 even squares.

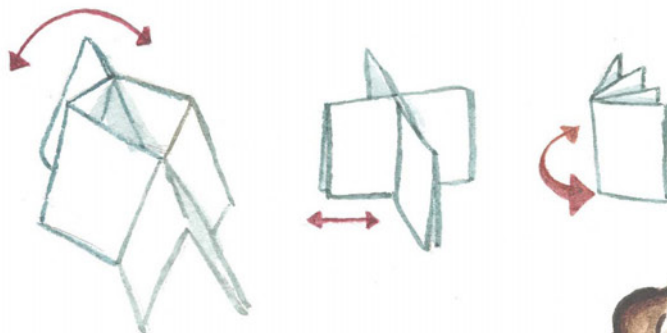


STEP TWO: Draw the cover of your comic book on the top right square, then work your way counter clockwise. Make sure your drawings stay right side up! (Look at the next page for help and ideas of what to write on each page.)

STEP THREE: Cut along the black dotted line. (Look at the next page for help.)

STEP FOUR: Fold up your paper along the same fold lines again. Your paper should open in the middle,

making two pages that you can fold over into your book!



Now get out there, and share your comic book with all your friends!



BY: (YOUR NAME)

Draw the cover to your climate action comic book, this end up!

COVER

Draw the BACK cover to your climate action comic book, this end up!

BACK COVER

How can you encourage your friends and neighbors to do things that are good for the environment and their community?

PAGE 6

How does this activity help you, your family, or your community?

PAGE 5

CUT ALONG BLACK DOTTED LINE

FOLD ALONG THIS LINE

PAGE

1

Who are you? What is your name?

PAGE

2

Where are you from? What is your community like?

PAGE

3

What is an environmentally friendly action that you, or someone you know does?

PAGE

4

How does this activity help the environment?

FOLD ALONG THIS LINE

FOLD ALONG THIS LINE

FOLD ALONG THIS LINE

The Amazing Adventures of Chicago's Climate Action Heroes was inspired by four real Chicago community climate action projects. To learn more about these projects, visit:

climatechicago.fieldmuseum.org/communities.

There are many ways to use this comic book as an educational tool, including:

- Act out the stories
- Research the communities and animals
- Share your community's climate action stories

Find these ideas and more at:

climatechicago.fieldmuseum.org/learn.

Illustrated by Lisa See Kim

 Printed on recycled paper. © The Field Museum, ECCo, 2012



Find this and other climate action tools at
climatechicago.fieldmuseum.org



MONARCH BUTTERFLY

Danaus plexippus



FACTS:

- All butterflies get their start as caterpillars. The white, yellow, and black striped caterpillars that become monarch butterflies start tiny (less than a 1/4 inch) then grow to about 2 inches before changing, or pupating, into adult butterflies.
- Caterpillars pupate in a chrysalis and emerge as adults after about 2 weeks.
- Adult Monarchs have wingspans of about 4 inches.
- When it's winter in the Chicago Region, Monarchs migrate to warmer places like Michoacán, Mexico and back every year. A single butterfly doesn't make the whole trip; it lays eggs along the way, and the next generation keeps up the migration.



NORTH AMERICAN BEAVER

Castor canadensis



FACTS:

- Adult beavers weigh about 45 pounds and are a little more than 3 feet long.
- Beavers mostly eat the inner bark of living trees, but they also eat leaves, bark, and young shoots of some plants that live in water.
- Beavers use sticks, grass, and mud to build their homes, called lodges. They build lodges in lakes, ponds, and streams and also build dams from the same materials across streams.
- Beaver dams slow the water flow of streams, which eventually create ponds. The ponds change the ecology of the streams. Different kinds of plants, fish, and animals can live and eat in the new pond habitat.



HINE'S EMERALD DRAGONFLY

Somatochlora hineana



FACTS:

- Hine's Emerald is an endangered species. This means there aren't many left! The remaining populations are scattered across the Midwest and in Ontario, Canada.
- The Hine's Emeralds start out as larvae and can only live in the cool waters of spring-fed marshes that overlay dolomite bedrock. They live as larvae for 2 to 4 years, eating mostly other small invertebrates, or animals that don't have backbones. They will also eat small fish and tadpoles.
- Adults are about 2 1/2 inches long with a wingspan of about 3 3/4 inches. They only live 5 to 6 weeks and survive by eating other flying insects.



BLACK TERN

Chlidonias niger



FACTS:

- Black Terns are about 10 inches long, have a 24 inch wingspan, and weigh just 2-2 ounces.
- They like to hemi-marshes, a type of wetland that has a good amount of plants that grow in standing water, and extend above the water. These groups of plants are called emergent vegetation. Black Terns lay 2-4 eggs at a time, on floating mats of vegetation in hemi-marshes.
- Though they eat mostly insects, Black Terns sometimes eat small fish.
- Black Terns change their wardrobe! In the summer, they're black and dark gray. They then molt, or shed their old feathers. In the winter, their under parts are mostly whitish.



BLACK TERN

Photo: Public Domain

For more information, visit:
chicagowildernessmag.org/issues/summer1999/blacktern.html

Cut along dotted line to create your own animal bookmark!

HINE'S EMERALD DRAGONFLY

Photo: Dr. Paul Burton

For more information, visit:
fws.gov/midwest/angered/insects/hed_hins_fct.html

Cut along dotted line to create your own animal bookmark!

NORTH AMERICAN BEAVER

Photo: Public Domain

For more information, visit:
web.extension.illinois.edu/illinoissteward/openarticle.cfm?ArticleID=552

Cut along dotted line to create your own animal bookmark!

MONARCH BUTTERFLY

Photo: Laura Milkert

For more information, visit:
commondreams.org/headlines03/1111-06.htm



CHICAGO COMMUNITY
CLIMATE ACTION TOOLKIT

Find this and other climate action tools at
climatechicago.fieldmuseum.org



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IDEAS FOR USING THE AMAZING ADVENTURES OF CHICAGO'S CLIMATE ACTION HEROES AS AN EDUCATIONAL TOOL



The Amazing Adventures of Chicago's Climate Action Heroes illustrates the impacts of global climate change on the Chicago region's human and nonhuman populations and shows what four Chicago communities are doing in response. In each neighborhood, the climate action heroes take action that benefits their natural environment while also improving their community's quality of life in other ways. The story's conclusion invites the reader to become a climate action hero and tell their neighborhood's climate action story. The book is a great fit for upper elementary school to early secondary school youth and can also be used with adults.

GROUP READING

There are 13 large and small speaking parts in the comic book. Depending on time and space constraints, a group can either do a "table read" or act out the comic book like a play. Those without speaking parts can participate by miming some of the environmentally-friendly practices as they are described by those playing the comic book characters (e.g., weatherizing a house, swapping recipes).

To add to the experience, each participant can complete a "character study" of the character they'll play, then present their findings to the rest of the group. For example, the person playing the part of the butterfly might research the migration patterns of Monarch butterflies, and the person playing Amira might research the history of the Southeast Side.

After the reading, the group can recap what projects they saw at work in the comic book and talk about what they do themselves that is similar, or what they would like to do and how they would go about doing it. What resources would they need? Who else could they recruit to help them?



MAKE YOUR OWN

The comic book is meant to inspire action and is a great starting point for readers to initiate their own individual and group climate action projects. These projects can advance skills in scientific research, creative thought, and collaboration.

On the last page of the book, there are instructions for making your own comic book. If you're teaching a unit on climate change that involves a climate action component, you can have students create comic books to tell the story of their climate action project(s). In this way, the class project begins and ends with a comic book: the one that inspired the class, and the one each student makes after the class completes the project. Students might also create a comic book to show others how to do what they did (e.g., a step-by-step guide to installing a rain barrel, or five small changes you can make to reduce your classroom's energy use).

Participants can also interview friends, relatives, and neighbors and then use the comic book format to tell their community's green stories (e.g., my grandfather's vegetable garden, my church's annual rummage sale). In either case, the group can then come together and use their comic books to share climate action stories and learn from one another. Remind your group that an effective climate action comic book clearly presents an environmental challenge and then shows a solution that is good for both people and nature.

A sheet of letter-sized paper will produce a fairly small comic book. You might consider using larger-format paper. Regardless of which size paper you use, remember that the blank back side of the comic book artwork can be used to say more about the project or topic. If you take a look at the instructions for folding and cutting, you'll see that the final book unfolds into a full sheet of paper with just a small slit in the center. This provides a good amount of space for more detailed information.



VISUAL AID FOR CLIMATE CHANGE LESSONS

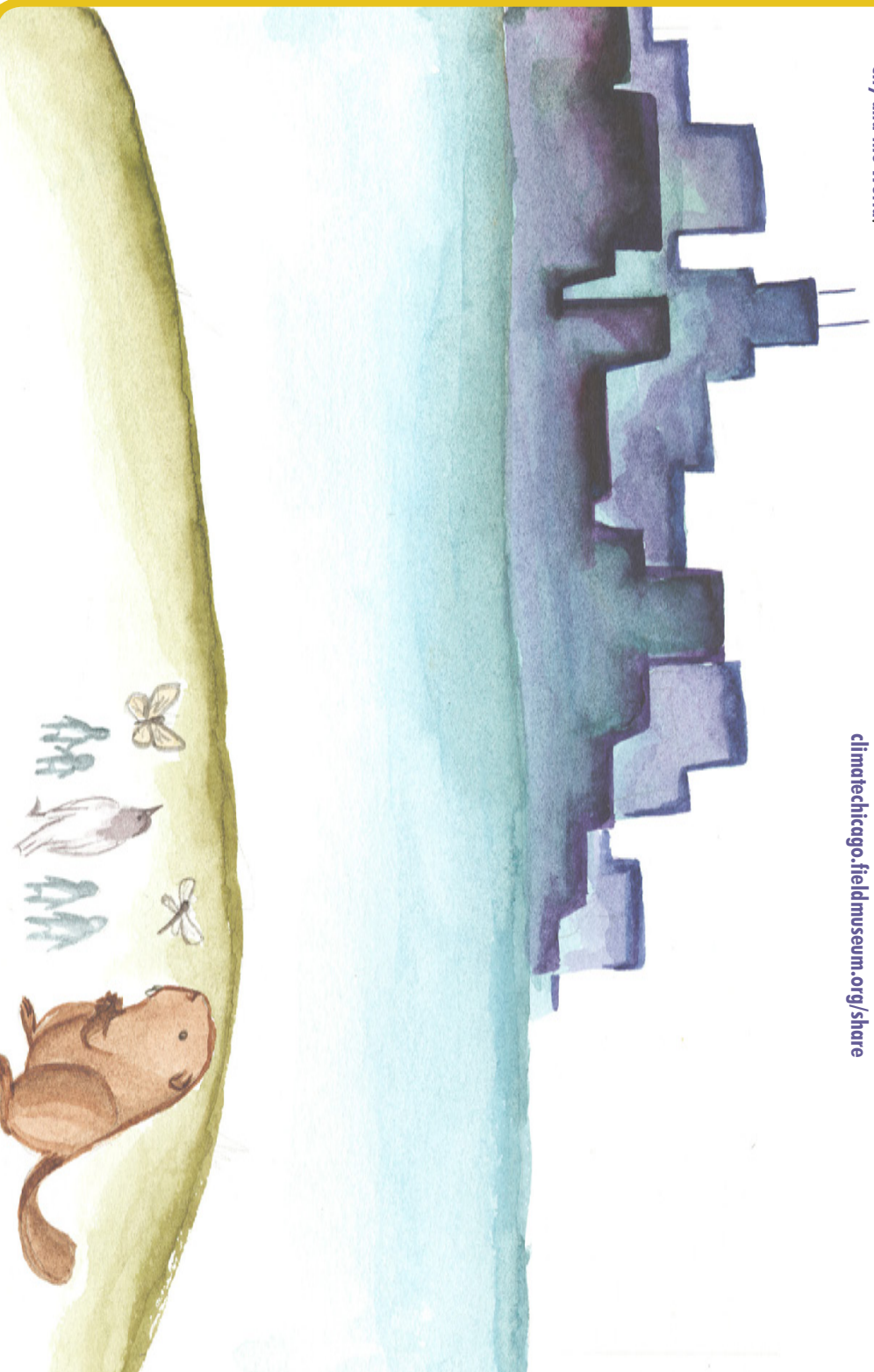
The comic book is available as a high-resolution digital file at climatchicago.fieldmuseum.org/learn, making it easy to enlarge single pages or frames for use in presentations. The comic book's stylized, light-hearted illustrations can serve as a fun and accessible alternative or supplement to more complex scientific diagrams, such as those in the more detailed climate science booklet, *Climate Change in the Windy City and the World*.



DISTRIBUTION

This comic book was created to stand on its own and is a great resource to make available at workshops or in public waiting areas, for people to read on site or take home. It includes links to additional information if readers are interested in learning more about local wildlife, climate science, and taking climate action on their own.

Please share your ideas and experiences using this and our other tools:
climatchicago.fieldmuseum.org/share



ADDITIONAL RESOURCES:

- For more help teaching the science of climate change, see *Climate Change in the Windy City and the World*, available at: climatchicago.fieldmuseum.org/learn
- To learn more about the real climate action projects that inspired the comic book, visit: climatchicago.fieldmuseum.org/communities. The website includes video documentaries, photo slideshows, and more.
- For additional guidance developing climate action project ideas for your community, visit: climatchicago.fieldmuseum.org/doyourown



Find this and other climate action tools at climatchicago.fieldmuseum.org

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