

# CLIMATE HEROES

LESSONS AND ACTIVITIES FOR YOUTH TO  
EXPLORE AND CONNECT WITH THE ENVIRONMENT



**EARTH CARE**



**CLEAN AIR**



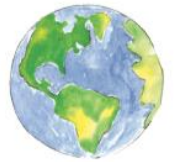
**CLEAN WATER**



**CLEAN EARTH**



**HEALTHY HABITAT**



**CLIMATE**



# Introductions

Your name

One thing you hope to learn today

Why did you choose your card?

- WHAT IS THE DIFFERENCE BETWEEN CLIMATE AND WEATHER?
- WHAT ARE SOME WAYS WE CAN HELP KEEP OUR AIR CLEAN?
- WHAT ARE SOME WAYS WE CAN HELP KEEP OUR WATER CLEAN?
- WHAT ARE SOME HABITATS YOU HAVE NOTICED IN YOUR NEIGHBORHOOD?
- HOW DO YOU THINK WE CAN WORK TOGETHER TO LOWER OUR CARBON FOOTPRINT AND KEEP OUR PLANET HEALTHY?

# WHY?

FIG. 2 MAP OF HEAT EXPOSURE AND MOST HEAT VULNERABLE CENSUS BLOCKS IN PHILADELPHIA

TEMPERATURE DIFFERENCE FROM AVERAGE

HOTTER THAN AVERAGE BLOCKS



+1.3°F

AVERAGE TEMPERATURE BLOCKS

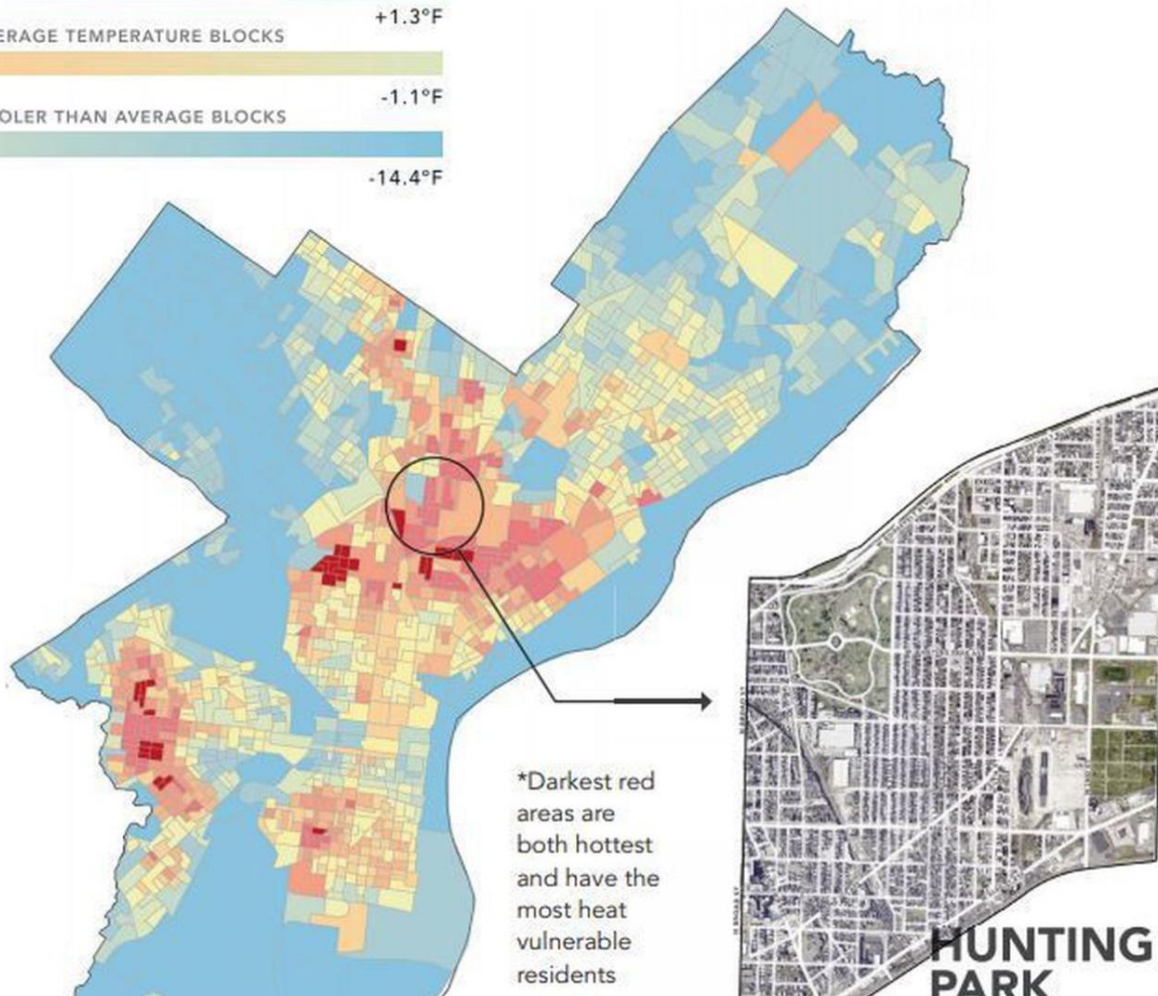


-1.1°F

COOLER THAN AVERAGE BLOCKS



-14.4°F









# WHO?















# HOW?

This new Climate Hero Curriculum offers...framework, activities, actions, resources for:

Exploring, nurturing, asking questions, finding wonder, using stories, exploration and fun, we will try to engage youth in multiple ways – inside & outside.

Offering opportunities to put new knowledge into action

# You may need to learn a bit more

- Our climate change story provides some language.
- There are numerous links embedded in the curriculum to view – and hopefully embedded here: [Bill Nye Climate Change 101](#)

## DOES WHAT I EAT HAVE AN EFFECT ON CLIMATE CHANGE?

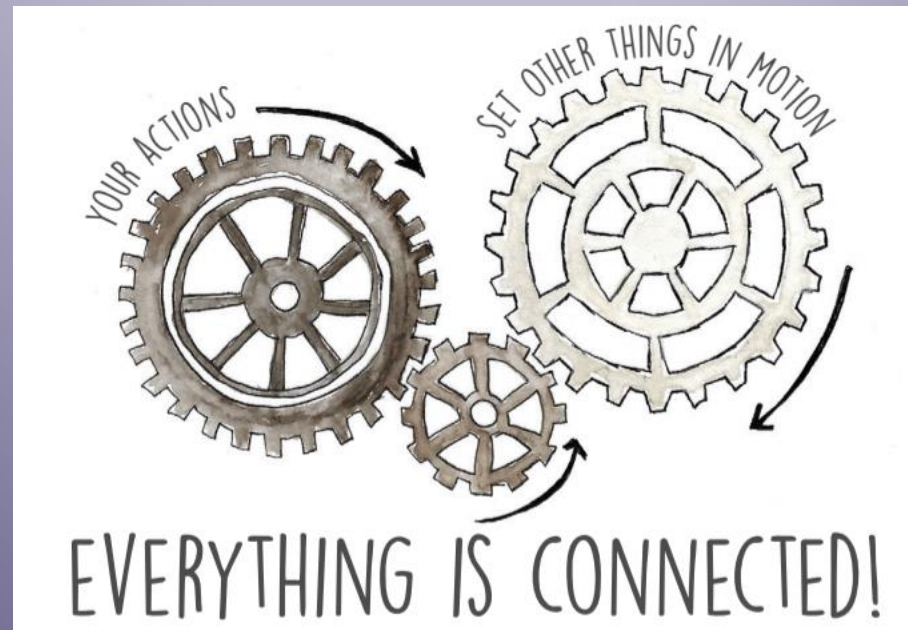
Yes. The world's food system is responsible for about one-quarter of the planet-warming greenhouse gases that humans generate each year. That includes raising and harvesting all the plants, animals and animal products we eat — beef, chicken, fish, milk, lentils, kale, corn and more — as well as processing, packaging and shipping food to markets all over the world. If you eat food, you're part of this system



# Curriculum components – all available on line. [Climate Hero Curriculum](#)

- 1. 40 page curriculum – objectives, essential questions, background info, resources for you to learn more, materials list, indoor & outdoor activities. Many embedded links
- 2. Climate Hero “Passport” – activity book for kids that align with each lesson
- 3. Climate Hero Story – to help you frame the issue and/or to read to/with youth
- Connection Cards – set of cards to illustrate story and for activity in lesson one.
- Climate Hero “badge” stickers – can be printed on labels, or paper, or youth can “color in” their badges

It's complicated



It's simple

We are all part of many intersecting communities – of people, of natural systems, of human influenced systems.

We start by helping youth center themselves in communities that care for them, and each other and then expand to grow these feeling towards natural world.

Climate Change is the result of ingenious humans, and the solutions will be too.



## LESSON 1

# MAKING CONNECTIONS

INTRODUCTION TO CLIMATE CHANGE HERO LESSONS

THEME: CLIMATE AND ECOSYSTEM CONNECTIONS

GRADE LEVEL: 1–6

SETTING: INDOOR/OUTDOOR

## TAKE AWAY:

We are all connected to, and rely on, the natural world. Learning about and taking care of plants, animals and people helps make the world better for everyone.



## LESSON 2

# THE AIR WE BREATHE

BE A CLEAN AIR HERO

THEME: AIR POLLUTION

GRADE LEVEL: 1–6

SETTING: INDOOR/OUTDOOR

## TAKE AWAY:

Trees and plants are already “Clean Air Heroes” since they remove air pollutants and produce oxygen. What are some ways that we can help trees and plants to grow in the city?



## LESSON 3

# CONNECTING GARDENS TO WATER

BE A CLEAN WATER HERO

THEME: WATER POLLUTION

GRADE LEVEL: 1–6

SETTING: INDOOR/OUTDOOR

### TAKE AWAY:

Don't Litter. Keep our streets clean - much of the trash goes from the sewer drains right into rivers. "Street to Stream."  
Gardens and Trees help keep water clean.

# CLEAN WATER HERO

## ACTIONS:

- HELP IN A GARDEN
- TAKE CARE OF A TREE
- MAKE SURE YOUR TRASH GOES INTO A TRASH CAN
- PICK UP TRASH OFF THE GROUND BEFORE IT GOES DOWN THE DRAIN
- CLEAN UP AFTER YOUR PET IF HE/SHE POOPS OUTSIDE
- CLEAN YOUR SIDEWALKS WITH A BROOM, NOT A HOSE. AND DON'T SWEEP THE TRASH INTO THE STORM DRAINS.
- DON'T USE CHEMICAL FERTILIZERS OR PESTICIDES AROUND YOUR HOUSE. THEY CAN WASH INTO STORM DRAINS AND END UP IN A STREAM.
- DON'T FLUSH MEDICINE, CHEMICALS OR TRASH DOWN THE TOILET.
- NEVER PUT SOMETHING DOWN A STORM DRAIN THAT MAY HURT A FISH.
- DRINK PHILLY WATER — LESS PLASTIC MEANS LESS WASTE.



**CLEAN EARTH**  
**HERO**

## LESSON 4

# REDUCE, REUSE, RECYCLE & COMPOST!

BE A CLEAN EARTH HERO

THEME: LOWERING OUR CARBON FOOTPRINT

GRADE LEVEL: 1–6

SETTING: INDOOR/OUTDOOR

### TAKE AWAY:

Nature has ways of “recycling” nutrients, however humans have created many materials like plastics that do not break down naturally. As stewards of this planet, we can rethink our choices, refuse single use materials, reduce consumption, reuse everything, refurbish old stuff, and repurpose/upcycle (be creative). Lastly, we can recycle.

# **SOME FACTS FROM THE PHILADELPHIA STREETS DEPARTMENT:**

IN THE U.S. 350,000 NEW CANS ARE PRODUCED EVERY MINUTE.

A CAN THAT IS THROWN AWAY WILL STILL BE A CAN 500 YEARS FROM NOW.

Every month we throw out enough glass jars to fill up Philadelphia's Municipal Services Building.

AMERICANS USE 85,000,000 TONS OF PAPER A YEAR, ABOUT 680 POUNDS PER PERSON.

A GLASS BOTTLE TAKES ABOUT 4,000 YEARS TO DECOMPOSE, MAYBE NEVER IN A LANDFILL.

Each ton of recycled paper can save 7,000 gallons of water.

PAPER PRODUCTS THAT SHOULD BE RECYCLED MAKE UP THE GREATEST PORTION OF OUR TRASH — ABOUT 60%.

THE AMOUNT OF WOOD AND PAPER WE THROW AWAY ANNUALLY IS ENOUGH TO HEAT 50,000,000 HOMES FOR 20 YEARS.

The energy saved from recycling one glass jar can run a 100-watt light bulb for 4 hours!

**RETHINK**  
YOUR CHOICES.  
**REFUSE**  
SINGLE USE.  
**REDUCE**  
CONSUMPTION.  
**REUSE**  
EVERYTHING.  
**REFURBISH**  
OLD STUFF.  
**REPAIR**  
BEFORE YOU REPLACE.  
**REPURPOSE**  
BE CREATIVE, REINVENT.  
**RECYCLE**  
LAST OPTION.



### CLIMATE HERO ACTIONS:

- BRING A REUSABLE BAG TO THE GROCERY STORE
- PARTICIPATE IN DISCUSSION — ASK AND ANSWER QUESTIONS
- REVIEW AND COMPLETE YOUR PASSPORT
- DECIDE WHAT THINGS YOU WANT TO PLEDGE TO DO

### AT HOME TO REDUCE THE EFFECTS OF CLIMATE CHANGE YOU CAN:

- TRAVEL BY FOOT, BIKE, OR SKATEBOARD INSTEAD OF CAR.
- REPLACE YOUR OLD LIGHT BULBS WITH COMPACT FLUORESCENT LIGHTS (CFLS) THAT USE LESS ENERGY.



## HEALTHY HABITAT HERO

### LESSON 5 NURTURE NATURE BE A HEALTHY HABITAT HERO

THEME: THE IMPORTANCE OF HABITAT

GRADE LEVEL: 1–6

SETTING: INDOOR/OUTDOOR

#### TAKE AWAY:

Wildlife is everywhere. Wildlife matters. Butterflies, birds, and other creatures co-exist with us, even in the city, and the presence of certain species, tells us our ecosystem is healthy. Gardening matters to wildlife. Our parks and gardens are improving our ecosystem and making life in the city better. These spaces are welcoming to people and wildlife, and support indicator species such as the monarch butterfly.



## LESSON 6

# CONNECTING TO CLIMATE ACTION

BE A CLIMATE HERO

THEME: ENVIRONMENTAL STEWARDSHIP, UPCYCLING, FOOD MILES

GRADE LEVEL: 1–6

SETTING: INDOOR/OUTDOOR

### TAKE AWAY:

Human actions have caused climate change, and human actions can help our environment heal. Our choices and our actions matter. Small changes make a difference. You make a difference. Together we can do more than working alone.

# Let's Play —

## HOW BIG IS YOUR CARBON FOOTPRINT?

For each question, you will either help to color in the Climate Hero, or you will color in your own carbon footprints (starting with the smallest).

1. IF YOU BOUGHT SOMETHING FROM THE STORE DID YOU USE...

A REUSABLE BAG: COLOR IN CLIMATE HERO'S SHIRTS  
A PLASTIC BAG: COLOR 3 FOOTPRINTS

2. DO YOU TURN THE LIGHTS OFF WHEN YOU LEAVE THE ROOM?

YES: COLOR IN CLIMATE HERO'S PANTS  
NO: COLOR 2 FOOTPRINTS

3. DID YOU LITTER THIS WEEK?

NO: COLOR IN CLIMATE HERO'S BOOTS  
YES: COLOR 4 FOOTPRINTS

4. DID YOU PICK UP TRASH ON THE STREET, PARK, AROUND YOUR NEIGHBORHOOD THIS WEEK?

YES: COLOR IN CLIMATE HERO'S CAPE  
NO: COLOR 3 FOOTPRINTS

5. DID YOU DRIVE IN A CAR THIS WEEK?

NO: COLOR IN CLIMATE HERO'S MASK  
YES: COLOR 2 FOOTPRINTS

6. DID YOU TAKE THE BUS OR WALK SOMEWHERE THIS WEEK?

YES: COLOR IN CLIMATE HERO'S HAT  
NO: COLOR 2 FOOTPRINTS

7. HOW OFTEN DID YOU EAT MEAT THIS WEEK?

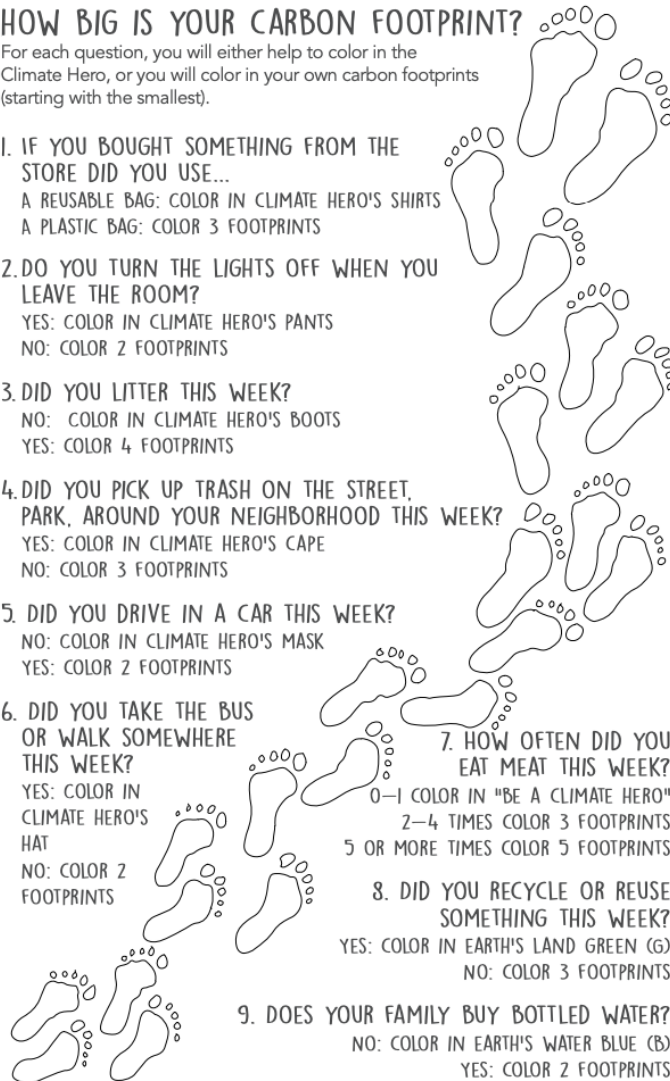
0-1 COLOR IN "BE A CLIMATE HERO"  
2-4 TIMES COLOR 3 FOOTPRINTS  
5 OR MORE TIMES COLOR 5 FOOTPRINTS

8. DID YOU RECYCLE OR REUSE SOMETHING THIS WEEK?

YES: COLOR IN EARTH'S LAND GREEN (G)  
NO: COLOR 3 FOOTPRINTS

9. DOES YOUR FAMILY BUY BOTTLED WATER?

NO: COLOR IN EARTH'S WATER BLUE (B)  
YES: COLOR 2 FOOTPRINTS



# Tips for Working with Youth

- Brain Dump-Mind Map – see how much the group knows about a subject before and after a lesson.
- Don't hand out supplies early...
- Simple hands on activities –seed sorting, shelling beans –are surprisingly engaging.
- Circle up – go around in circle to have youth answer or ask questions, otherwise a few eager youth may do all the talking.
- Think/pair/share
- Bell Ringers/Exit Tickets...short independent activity at start/end of lesson –makes good use of transitions

# I PLEDGE TO:

- ☐ TURN OFF THE LIGHTS AND SHUT DOWN OTHER ELECTRONICS WHEN I LEAVE A ROOM
- ☐ TAKE THE BUS OR WALK
- ☐ NOT EAT MEAT SO OFTEN
- ☐ HELP IN THE GARDEN
- ☐ HELP TAKE CARE OF TREES IN MY NEIGHBORHOOD
- ☐ REMEMBER TO BRING A REUSABLE BAG TO THE STORE
- ☐ REDUCE, REUSE AND RECYCLE
- ☐ USE RE—FILLABLE BOTTLE FOR WATER
- ☐ EAT MORE FOOD FROM THE GARDEN AND FROM FARMER'S MARKETS
- ☐ NOT GET TAKE OUT FOOD IN STYROFOAM CONTAINERS
- ☐ NOT LITTER
- ☐ PICK UP TRASH
- ☐ LEARN ABOUT INSECTS AND ANIMALS
- ☐ CARE FOR OUR PLANET EARTH
- ☐ REPLACE LIGHT BULBS WITH COMPACT FLUORESCENT LIGHTS (CFLS) OR (LED'S) THAT USE MUCH LESS ENERGY

# <https://www.phila.gov/documents/educational-resources/>



SERVICES ▼

PROGRAMS & INITIATIVES

NEWS & EVENTS

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🏠 / [Publications & forms](#) / Educational resources

## Educational resources

Curriculum, activities, and additional resources for educators, parks and recreation leaders, and the general public.

Name	Description	Released	Format
<a href="#">Climate Hero curriculum and resources</a>	Lessons and resources for teaching young people about climate change.	January 29, 2020	PDF

This content was last updated on January 29, 2020 by [Philadelphia Parks & Recreation](#).



**THIS PROJECT WAS COMPLETED WITH SUPPORT OF CUSP PHILLY  
BY A TEAM ASSEMBLED BY ELISA RUSE-ESPISITO**

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**SPECIAL THANKS TO:**

Anna Herman, project manager, curriculum writer & editor

Ilana Grubin, curriculum and education specialist

Olade Olayinka, Penn State Extension Master Gardener Volunteer

Andrea Lewandowski - Illustration and Graphic Design

Teen Leadership Corps (TLC) @ Awbury Arboretum

And all the students and Phila Department of Park & Rec Center leaders  
who helped us test our lessons, and who are our first climate heroes!