

# Building Resilience with Equitable Climate Change Education

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**Triangle**  
ASSOCIATES, INC

# Who We Are: Triangle Associates



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**Alexis Alloway**

**Patricio Ku**



# Who We Are: Education Team



# What We Do: Triangle Associates



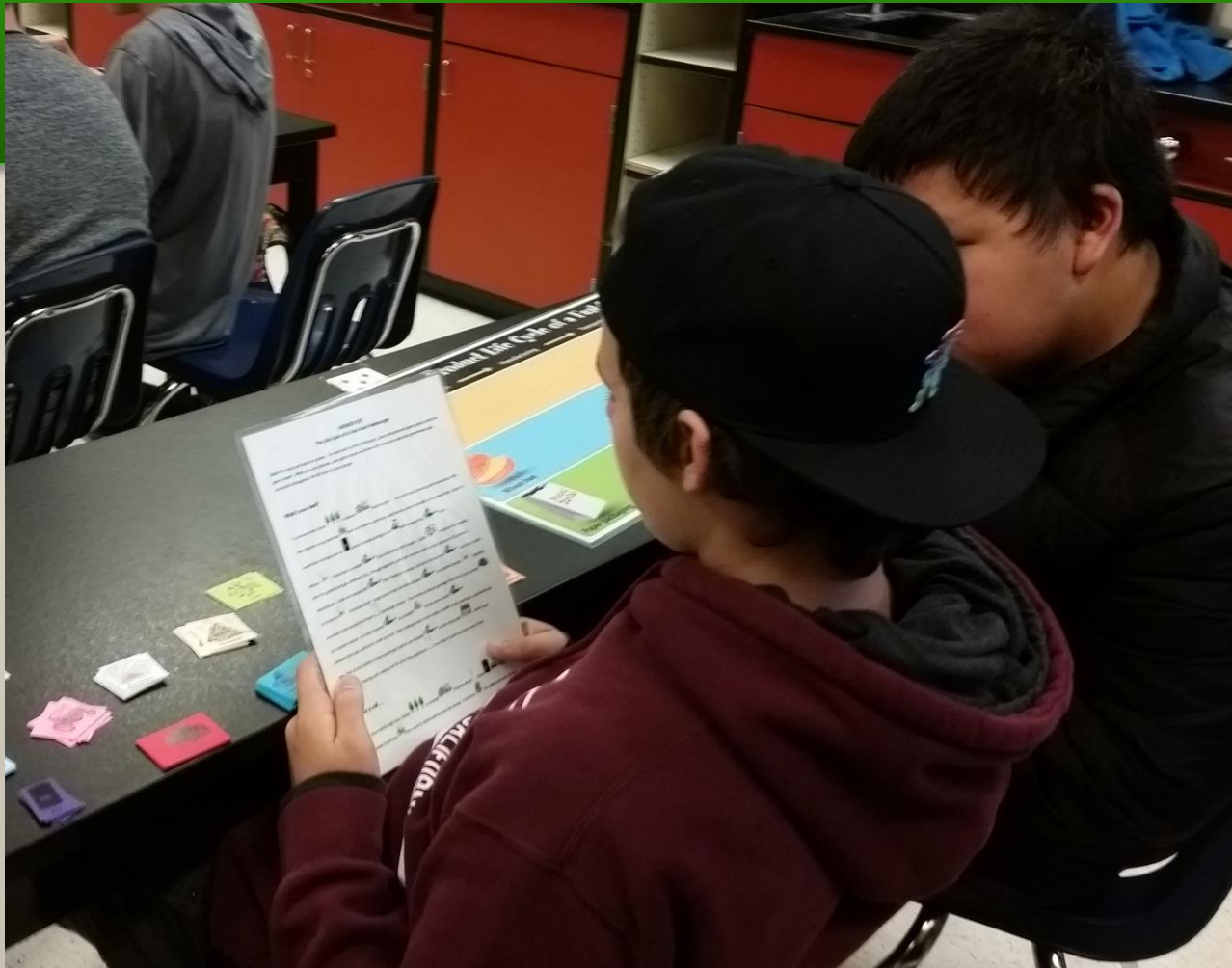
**All-school theatrical assemblies**

# What We Do: Triangle Associates



**Storytelling Programs**

# What We Do: Triangle Associates



**Classroom Workshops**

# What We Do: Triangle Associates



**Action Project Assistance**



# What We Do: Triangle Associates



**Teacher Training & Toolkits**

# Fact or Fiction?

**Fact**



**Fiction**



# Fact or Fiction?

20% of teachers emphasize that recent global warming “is likely due to natural causes. . .”

**Fiction!**

# Fact or Fiction?

**30%** of teachers emphasize that recent global warming “is likely due to natural causes. . .”

# Fact or Fiction?

Fewer than half of science teachers report any formal college instruction in climate science.

# Fact or Fiction?

Fewer than half of science teachers report any formal college instruction in climate science.

**Fact!**

# Fact or Fiction?

Washington State received a “B” grade in how funding is equitably distributed among districts.

**Fiction!**





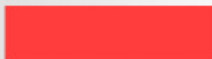
# Fact or Fiction?

Washington State received a “C-” grade in how funding is equitably distributed among districts.



# Wide gap between white and black kids in Seattle

Black students test three and a half grade levels behind white students in the Seattle school district, according to a new study. That ranks as the 5th biggest achievement gap among the nation's 200 largest school districts.

DISTRICT	GRADE 3-8 ENROLLMENT	WHITE-BLACK ACHIEVEMENT GAP (IN GRADE LEVELS)
1 District of Columbia Public Schools	16,645	4.4 
2 Atlanta Public Schools	23,061	4.2 
3 Charleston 01	19,364	3.8 
4 Oakland Unified	21,940	3.8 
5 <b>Seattle Public Schools</b>	<b>21,303</b>	<b>3.5</b> 

# Fact or Fiction?

The world's richest 10%  
cause 33% of global CO<sub>2</sub>  
emissions.

**Fiction!**

# Fact or Fiction?

The world's richest 10%  
cause **50%** of global CO<sub>2</sub>  
emissions.

# Fact or Fiction?

Climate change more seriously impacts the health of low-income and communities of color compared to the rest of the population.

# Fact or Fiction?

Climate change more seriously impacts the health of low-income and communities of color compared to the rest of the population.

**Fact!**

# Goals for Today:

1. Understand why **equitable climate change education is needed** to build resilient communities.

**2. Share strategies** for teaching climate change to marginalized communities.

# Why Schools?



# Why Schools?



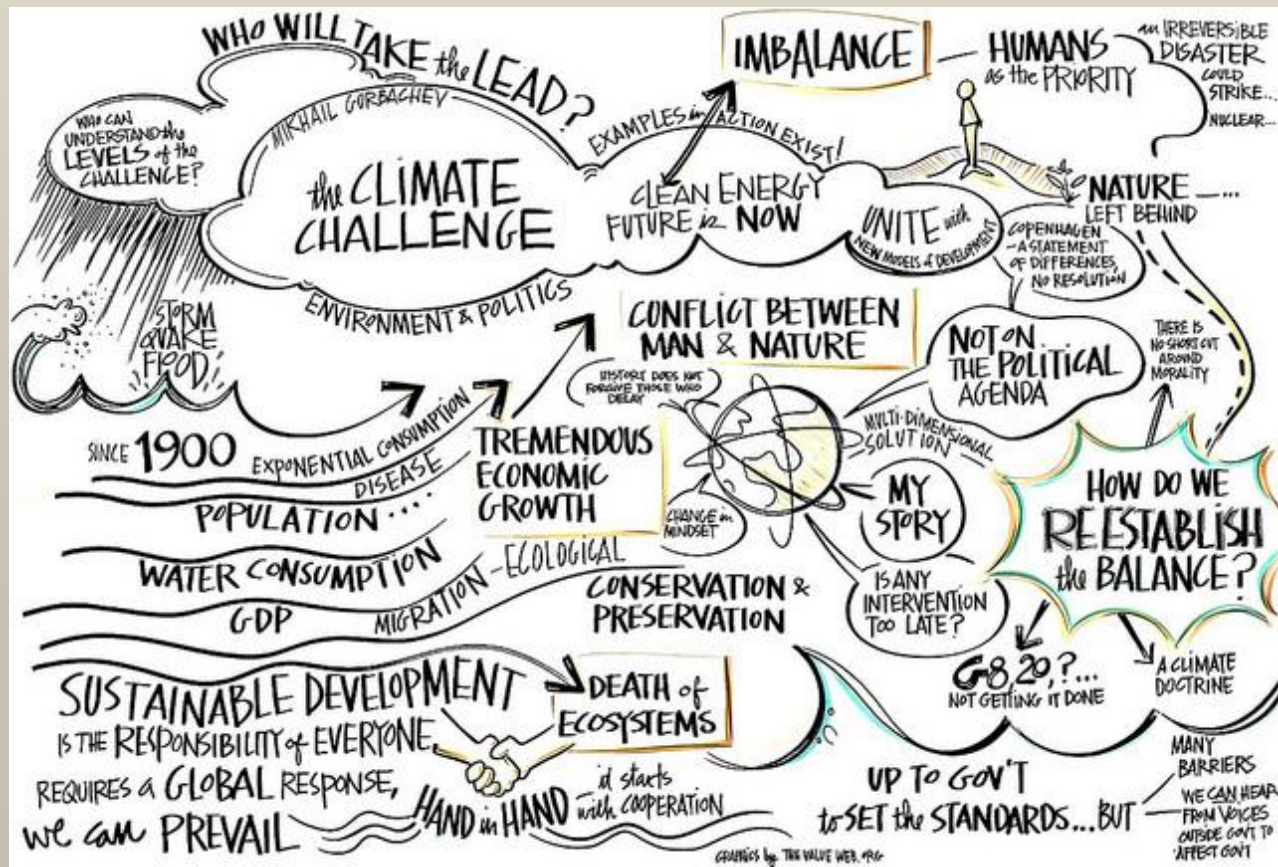


# Why Schools?



# Why Invest in Equitable Climate Change Education?

Climate Change is COMPLEX!



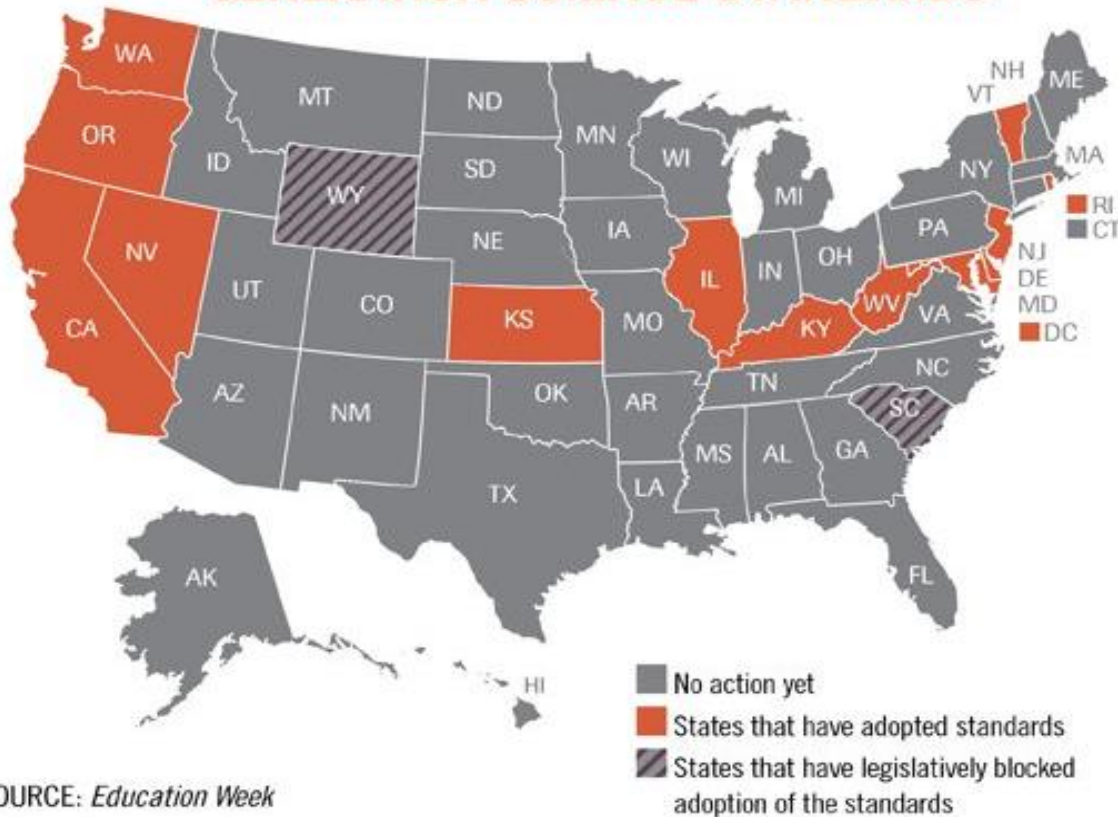
# Why Invest in Equitable Climate Change Education?

If you don't, somebody else will!



# Why Invest in Equitable Climate Change Education?

## STATES ADOPTING THE NEXT GENERATION SCIENCE STANDARDS



- Inconsistencies
- Inadequate resources

SOURCE: *Education Week*

# Why Invest in Equitable Climate Change Education?



-Disappearing  
resources

# Call to grassroots climate change education



# Marginalized Communities



# Strategies

- I. Know your audience
- II. Speak the language
- III. Build a personal connection
- IV. Utilize models
- V. Empower don't discourage

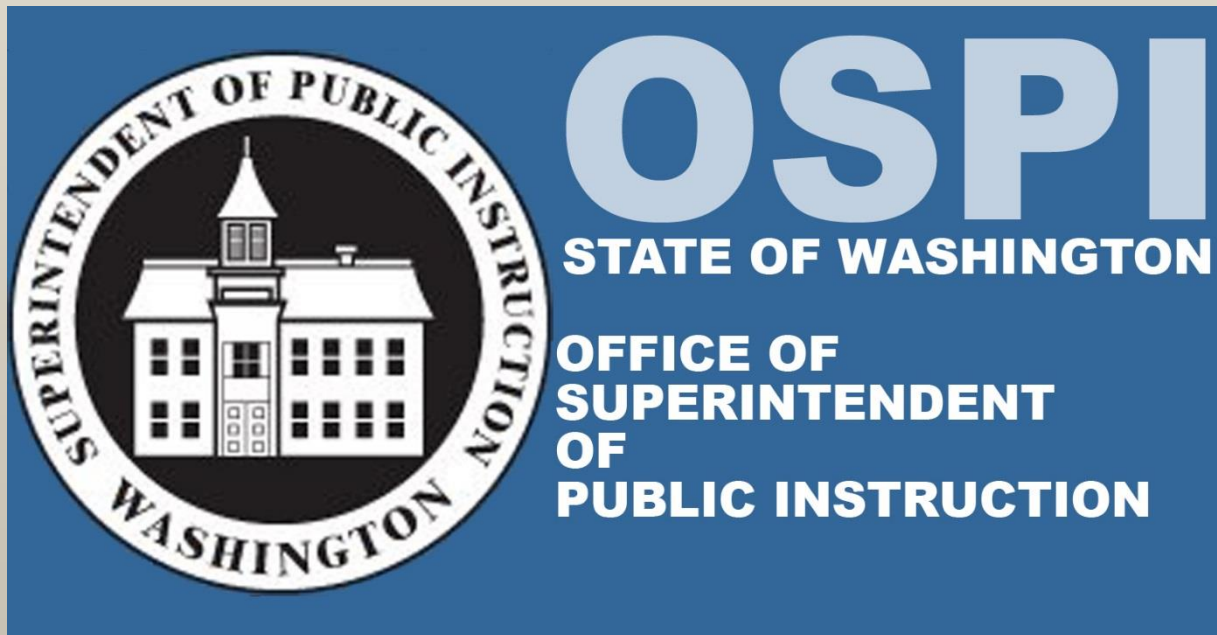


# I. Know your audience

Education:  
Not "One Size Fits All"



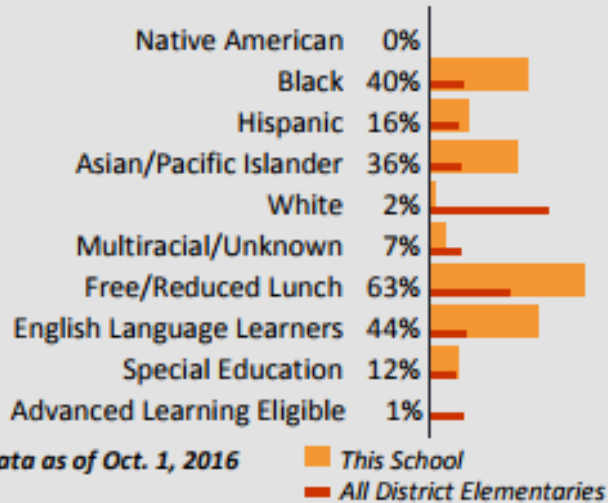
# I. Know your audience



[www.k12.wa.us](http://www.k12.wa.us)

# I. Know your audience

## Student Demographics

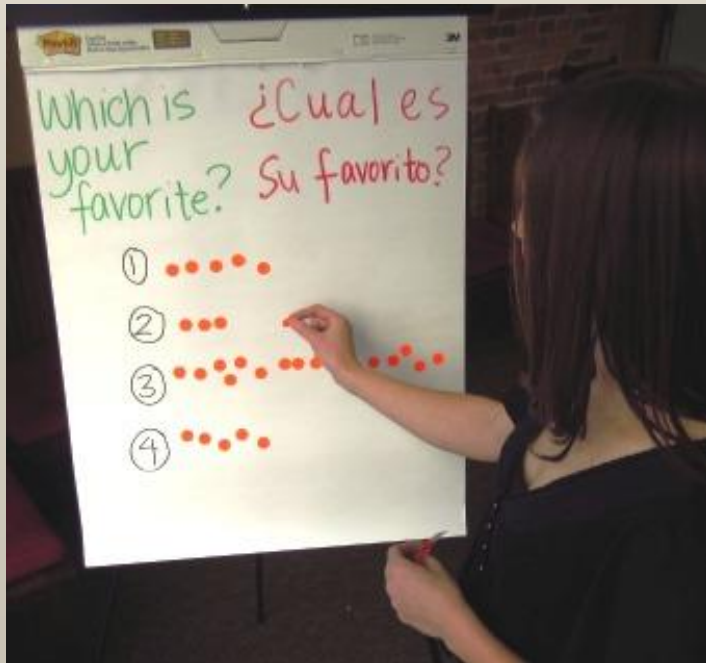


## Student Proficiency on State Tests

Spring 2017 School average compared to District elementary school average

	English Language Arts		Mathematics	
	School	District Avg	School	District Avg
<b>All Students</b>	<b>31%</b>	66%	<b>40%</b>	64%
Native American		46%		38%
Black	<b>26%</b>	33%	<b>31%</b>	35%
Hispanic	<b>14%</b>	45%	<b>14%</b>	44%
Asian/Pacific Islander	<b>46%</b>	63%	<b>60%</b>	69%
White		80%		77%
Multiracial	<b>27%</b>	69%	<b>55%</b>	67%
Free/Reduced Lunch	<b>22%</b>	38%	<b>29%</b>	40%
Eng. Lang. Learners	<b>8%</b>	17%	<b>18%</b>	30%
Special Education	<b>17%</b>	43%	<b>22%</b>	42%
Gifted		96%		97%

# I. Know your audience



-Focus groups



-Ambassadors

# II. Speak the language



Bilingual Programs

# II. Speak the language

## Choosing Languages:

### B. Snohomish County Superior/Juvenile/District/Municipal Courts and Superior County Clerk's Office

Snohomish County Superior/Juvenile/District/Municipal Courts and the County Clerk's Office continue to make every effort to provide service to all LEP, deaf and hearing-impaired persons. The following list shows the non-English languages that are most frequently spoken at home in Snohomish County (in descending order of frequency):

- Spanish
- Russian
- Vietnamese
- Ukrainian
- Korean
- Arabic
- Tagalog
- Chinese
- Cambodian
- Punjabi

### Student Demographics

Enrollment		
October 2016 Student Count		718
May 2017 Student Count		762
Gender (October 2016)		
Male	377	52.5%
Female	341	47.5%
Race/Ethnicity (October 2016)		
Hispanic / Latino of any race(s)	250	34.8%
American Indian / Alaskan Native	3	0.4%
Asian	96	13.4%
Black / African American	66	9.2%
Native Hawaiian / Other Pacific Islander	59	8.2%
White	158	22.0%
Two or More Races	86	12.0%
Special Programs		
Free or Reduced-Price Meals (May 2017)	483	63.4%
Special Education (May 2017)	90	11.8%
Transitional Bilingual (May 2017)	138	18.1%
Migrant (May 2017)	8	1.0%
Section 504 (May 2017)	14	1.8%
Foster Care (May 2017)	N<10	
Other Information ( <a href="#">more info</a> )		
Unexcused Absence Rate (2016-17)	3,568	3.0%

Information on Homeless Students may be found [here](#)

# II. Speak the language



## Home Assignment

In class you learned about climate change and the atmosphere. Now you can go home and share what you learned with your family.

### Instructions:

Ask a family member to join you in surveying your home to learn more about your family's carbon footprint. Record your findings here.

**1** Count the number of light bulbs in your house.

- |   |                                    |
|---|------------------------------------|
| <input type="checkbox"/> Kitchen            | <input type="checkbox"/> Bathrooms |
| <input type="checkbox"/> Dining area        | <input type="checkbox"/> Bedrooms  |
| <input type="checkbox"/> Family/living area | <input type="checkbox"/> Other     |

Record the total number here: \_\_\_\_\_

How many are regular/old fashioned bulbs? \_\_\_\_\_

How many are compact fluorescent bulbs (CFLs)? \_\_\_\_\_

Could any of the regular ones be changed to CFLs? \_\_\_\_\_

How many? \_\_\_\_\_

**2** Count the number of electrical items you have plugged in.

- |   |   |
|---|---|
| <input type="checkbox"/> Lamps                      | <input type="checkbox"/> Appliances   |
| <input type="checkbox"/> Television/DVD             | <input type="checkbox"/> Chargers (e.g. cell phones, toothbrushes, batteries) |
| <input type="checkbox"/> Music (Stereo, iPod, etc.) |   |
| <input type="checkbox"/> Computer                   | <input type="checkbox"/> Other  |

Record the total number of items here: \_\_\_\_\_

Could any of these be unplugged when not in use? \_\_\_\_\_

If so, which ones? \_\_\_\_\_

Translated  
Materials

# II. Speak the language



## Gawaing Pambahay

Sa klase ay natutunan ninyo ang tungkol sa pagbago ng klima at atmospera. Pag-uwi sa bahay ay maaari ninyong ibahagi ang natutunan ninyo sa inyong pamilya.

### Tagubilin:

Pakiusapan ang isang miyembro ng pamilya samahan kayong magsiyasat sa inyong tahanan upang maragdagan ang nalalaman tungkol sa carbon footprint ng inyong pamilya. Itala rito ang inyong mga natuklasan.

**1** Bilangin ang mga bombilya ng ilaw sa inyong bahay.

Kusina  Mga banyo

Lugar ng kainan  Mga silid-tulugan

Lugar pampamilya/Salas  Iba pa

Itala ang kabuuang bilang dito \_\_\_\_\_

Iilan ang mga regular/makalumang bombilya \_\_\_\_\_

Iilan ang mga compact fluorescent bulb? (CFL)

Maaari bang mapalitan ng CFL ang ilan sa mga regular na bombilya? \_\_\_\_\_

**2** Bilangin ang mga kagamitang de-kuryente na inyong isinaksak.

Mga ilaw  Mga appliance

Telebisyon /DVD  Mga Charger  
( hal: cell phone,

Musika (Stereo, IPod, etc.) toothbrush, baterya)

Computadora  Iba pa

Ilista dito ang kabuuang bilang ng mga aytem: \_\_\_\_\_

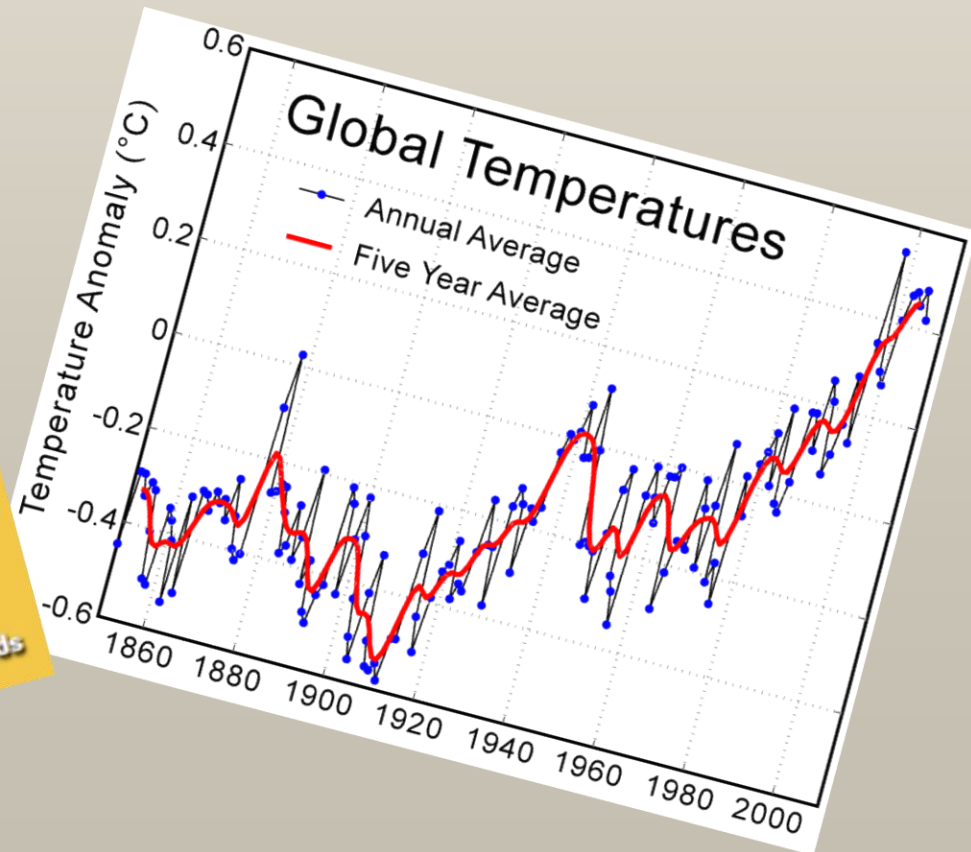
Maari baag tanggalin sa pagkasaksak sa kuryente ang ilan sa mga ito kapag hindi ginagamit? \_\_\_\_\_

Translated  
Materials



# II. Speak the language

VISUALS!



# III. Build a personal connection

Engage!



# III. Build a personal connection

**WHAT IF I TOLD YOU**

**CLIMATE CHANGE DOESN'T  
JUST EFFECT THE POLAR BEARS**

# III. Build a personal connection

## Fact or Fiction?

**Bellevue receives enough annual precipitation that even with some climate change, we will not have to worry about future drinking water shortages.**

Local  
Information

# III. Build a personal connection

## FICTION!

The watersheds that supply the City of Bellevue's drinking water rely heavily on snowmelt to supply the city during the dry summer months. Climate models predict warmer winters with less mountain snowpack. This, coupled with our growing population, could lead to future water shortages.

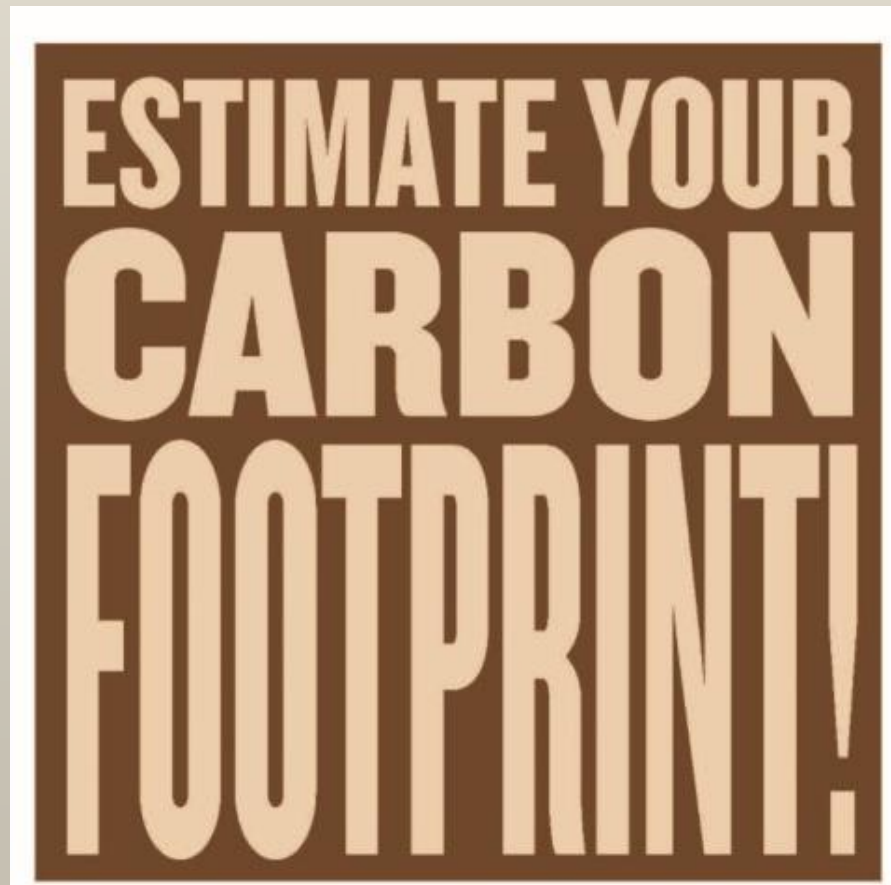
## FICTION!

Local  
Information

# III. Build a personal connection



# III. Build a personal connection



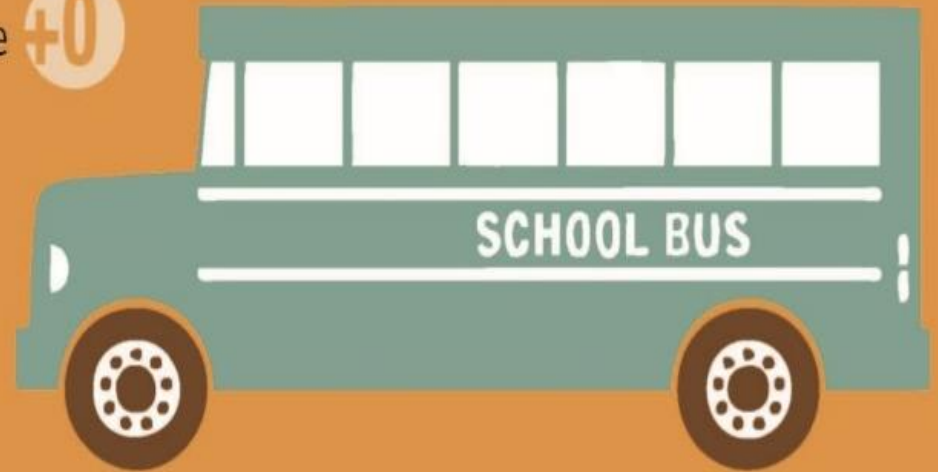
Most days, how do you get to school?

Large car/ SUV **+10** Compact car **+7**  
Hybrid car **+3** Bus **+3** Walk **+0** Bike **+0**

Most days, how do you travel to visit friends or get around town?

Large car/ SUV **+10** Compact car **+7** Hybrid car **+3** Bus **+3** Walk **+0** Bike **+0**

# TRANSPORTATION





# HOME



When you feel cold at home, what is the first thing you do?

Put on warmer layers **+1**      Turn up the heat **+5**

When you feel hot at home, what is the first thing you do?

Open windows **+1**      Use a fan to cool off **+3**

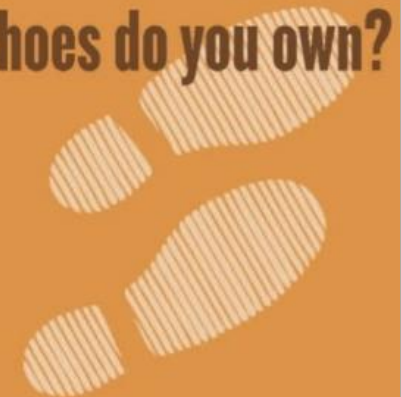
Turn on the air conditioning **+5**

# SHOPPING

How many pairs of shoes do you own?

One to five **+1**

More than five **+2**



# ELECTRONICS

## When you are done using a computer, do you:

Shut it off **+1**

Put it in "sleep" mode **+2**

Leave it on **+3**

## When finished charging electronics, do you:

Unplug the charger **+1**

Leave charger in the outlet **+2**

## How much screen time do you have per day:

*(Time spent using phones, tablets, computers, televisions, and game systems)*

Two hours or less **+2**

Three to five hours **+3**

More than five hours **+5**





# WATER

**How long is your typical shower?**

- 5-10 minutes **+2**
- 10-15 minutes **+3**
- More than 15 minutes **+5**



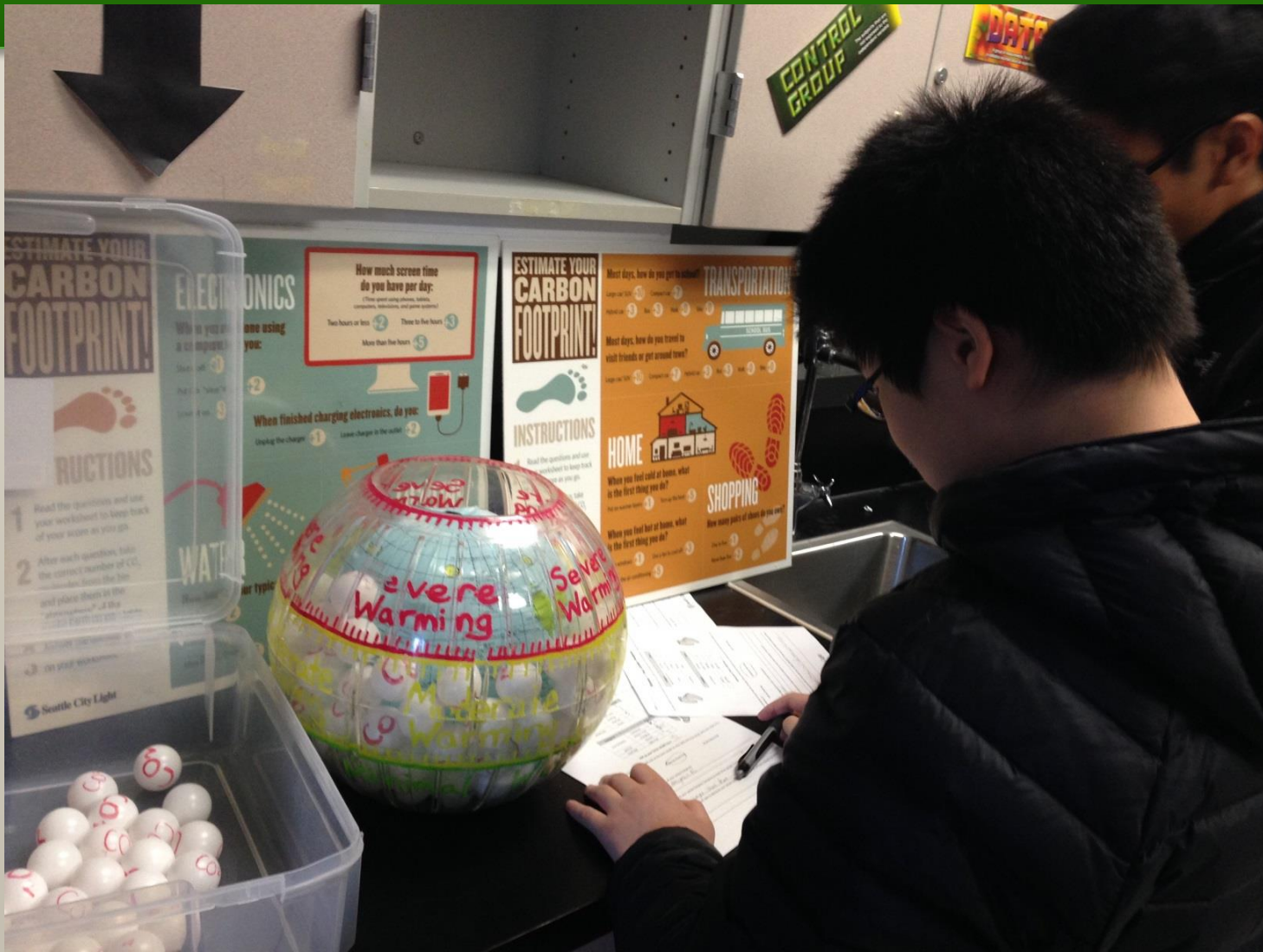
# LIGHTING

**How often do you turn the lights out when leaving a room?**

- Always **+1**
- Sometimes **+2**
- Hardly ever **+3**



# IV. Use Models



# IV. Use Models

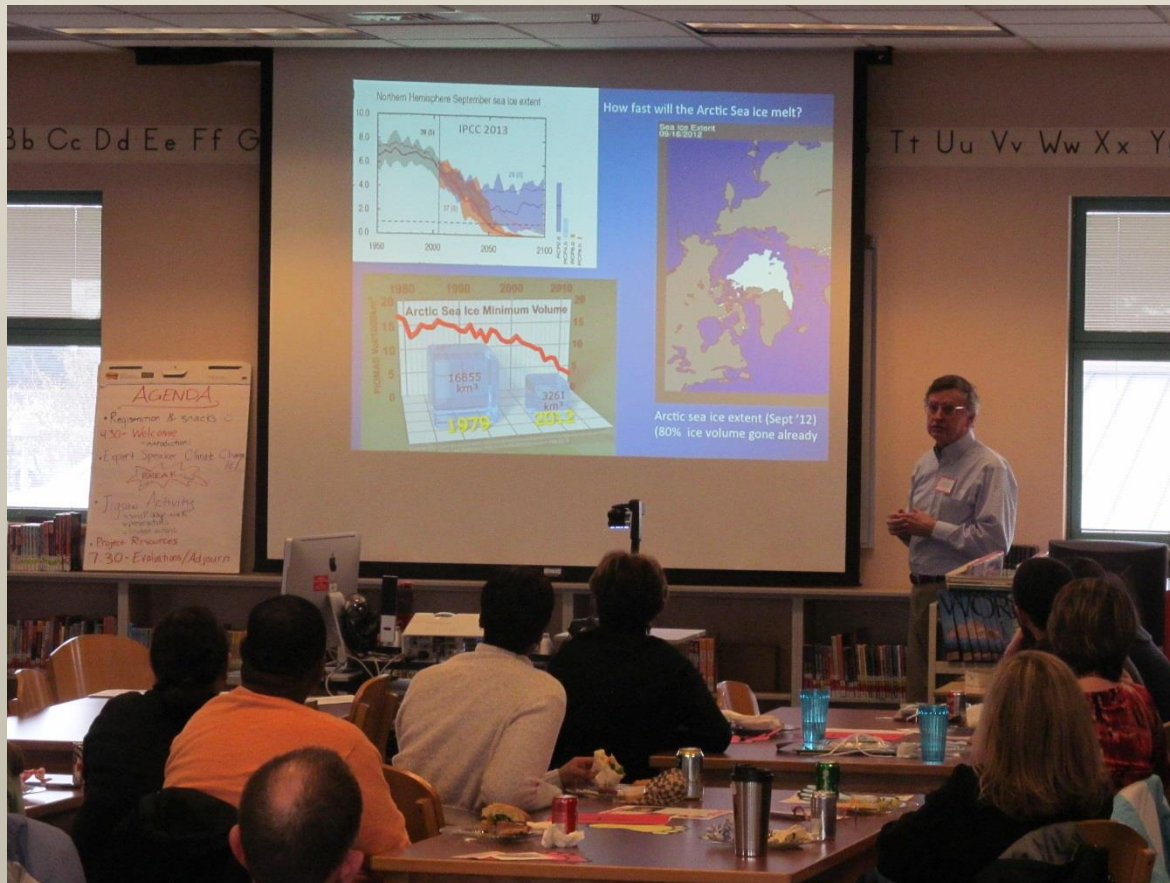


# V. Empower, don't discourage



Address “doom and gloom”

# V. Empower, don't discourage



Partner with Scientists

# V. Empower, don't discourage



Collaborate on Positive Messaging



# V. Empower, don't discourage

## Fact or Fiction?

With current technology,  
you could drive some  
cars from Washington to  
California to Maine  
without burning a single  
drop of gas, diesel, or  
other fossil fuels.

1

SCIENCE



## FACT!

In 2014, the Epic Electric  
American Roadtrip broke  
world records for longest  
distance traveled by an all-  
electric powered car. The  
car used for the trip (a Tesla  
model S sedan) drove about  
12,000 miles and was fueled  
entirely by electricity.

## FACT!

Show Progress is Possible

# V. Empower, don't discourage



Career Focus

# V. Empower, don't discourage



## Walking:

Sometimes walking somewhere is not an option. What are other ways you can get around while keeping your carbon footprint small?

Be Realistic

# V. Empower, don't discourage



Focus On Things Students Can Influence/ Control

# Conclusions

**We need investment** in equitable climate change education!

This education needs to be **developed with and for marginalized communities.**

What is **one idea or strategy** you will take home from today's workshop?



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**Questions?**