



The Global Warming Express

Learn, Dream, Do, Inspire - Kids Change the World

THE GLOBAL WARMING EXPRESS CURRICULUM GUIDE

By Genie Stevens ©2018

The Global Warming Express 2018-19 Curriculum Guide

Learn – Dream – Do – kids change the world!

Teaching kids to:

- Believe in their voice
- Excel in their work
- Persist in their goals
- Dream for the world

A series of 1- 1 ½ hour sessions for kids ages 8-12, one session per week, throughout the school year.

Content:

Science, climate science, sustainable solutions, arts, activism and action for after school groups of six to fifteen children (3rd thru 6th graders)

Sessions include:

- Opening and closing ritual
- Circle time with snack
- Reading aloud and in group
- Discussion, creative drama, visual art, writing
- Exercise and experience in the out-of-doors
- Dance
- Singing
- Dancing & singing
- Creating and giving speeches
- Group goal setting
- Deciding to Act
- Creating goal to Act
- Making an action plan
- Carrying out the action plan
- Tracking the goal
- Succeeding in the goal

This is a story about the sun, some kids and a planet.

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This curriculum was created to introduce kids ages 8-12 to some basic science about the systems that sustain life on earth, the processes that humans have created to change or augment those systems, the problems that occur because of our innovations, the solutions to the problems and the kids' opportunity to help to create and drive those solutions.

The components are:

- Books about (and by) the Sun and how energy is created, how energy is sustained and how energy is changed, with good and bad results.
- The GWE book, about how animals and their environments are being affected by fossil fuel burning and extraction.
- The narrative, started 7 years ago, by the first GWE kids, and continuing today, is about how the kids feel about the problems and solutions and what they are doing to channel their feelings into action.

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Session 1: Greenhouse Effect

MATERIALS:	
<ul style="list-style-type: none">• Snack• Compost bag/bin• Container• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper• Photos of greenhouses	<ul style="list-style-type: none">• Markers• Crayons• GWE Banner• Globe• Small Blankets or Large Towels (one per two students)• Similar Size Cloth• <i>The Global Warming Express</i> book
NOTE: Each student should have a copy of <i>The Global Warming Express</i>	

1. **20 min.** **Introduce yourself to each child** as they come in the door or as you find them in the room.
 - a. Call the group together, sitting on the floor, around the GWE banner.
 - b. Snack. Explain ground rules. Ask for agreement
 - c. Explain clapping game. (I go first and then you go!! – Clap, clap, clapclapclap means everyone joins in until silence.
 - d. “All in favor – clap 3 times.”
 - e. Explain compost. Collect leftovers from snack.
2. **5 min.** Pass out paper name tags and place markers in the center. Everyone makes a name tag for themselves, first name only, with artwork, if wanted. Give 2 minutes as the goal, place plastic holders in the center. “As you are ready, put your name tag in the holder and put it on.”
3. **10 min.** Pass out copies of *The Global Warming Express* book. Mentor reads introduction; 5-10 min.
4. **15 min.** Discussion – So, why did Marina decide to write the book?
 - a. What makes the earth warm or hot?
 - b. What is different about the moon and the earth? Hotter and colder? Why? (no atmosphere)
 - c. What happens when you leave your car in the sun? We do that on purpose, in a greenhouse.
 - d. What is a greenhouse? Why do people use them? Show picture of greenhouse. Who here has seen a greenhouse?

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- e. So, what makes the earth hot, again? (not just the sun, but *trapped sunlight*)
- 5. **5 min.** Get out globe. Talk about the globe. Where is the equator, where is the North Pole? What is another name for that? What about the South Pole
- 6. **10 min.** Talk about the cloth and blankets. Dramatize cover on the earth (thin and thick cover). Practice with a volunteer (5 min).
- 7. **15 min.** Divide into pairs. Try the blanket game with each other. Return to group circle.
- 8. **3 min.** Discussion-? Write their responses on the white board.
 - a. What did it feel like when the blanket(towel) was over you?
 - b. What did it feel like when you took it off?
 - c. What did it feel like when you had a harder time getting it off?
 - d. If the earth was a Being, what do you think the earth would say about the cover it cannot take off?
 - e. Scientists, inventors and people who make and build things are actually really good at helping to cool down the blanket. **And they need your help.** More on that next week. ☺
- 9. **1 min.** Collect GWE books back
- 10. **1 min.** Close with Acknowledgements & Goodbyes

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Session 2: My Light part 1

MATERIALS:	
<ul style="list-style-type: none">• Snack• Compost bag/bin• Container• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper	<ul style="list-style-type: none">• Markers• Crayons• GWE Banner• Globe• Small Blanket or Large Towel• Similar Size Cloth• Books: <i>My Light</i> by Molly Bang
Optional: Creative Drama Activity	

1. **5 min** Greet each child, then in group, hand out name tags.

2. **15-20** Snack. Remind about ground rules. What did we do last week, again? Discuss (the GWE book, the globe, the blanket
Collect leftovers from Snack.

3. **15-20** Introduce the book, *My Light*. Read though the book with minor discussion. You read, children share books so that all can see the pictures.

4. **15 min** (optional) All go outside. Feel the sun on the building, the ground, on your skin. Breathe in all the sunlight and with the energy, do 10 jumping jacks!20! Lie on the ground of stand still. Close eyes. Feel you heart, your energy running through your body. This is the sun's energy in your body.

5. **10 min** Back inside. **Circle up. Discussion-**

-Just like that generator in the book, you become a generator of heat and movement.
You make energy. All from the sun.

-The sun will always shine with the same light, but the warmth from the sun is getting too hot. Why? Because of the blanket that traps the sun's rays.

-Can we turn down the sun?

-We need to turn down the blanket. How do you change the blanket and keep it from getting thicker? Hint- It involves choosing our energy sources (*what does that mean, again?*) wisely. **Those sources are what this book tells you about.**

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5 min. Take a paper and marker or crayons and draw or write something about your favorite form of energy generation

7. **5 min.** Give each student a folder and ask them to put their name on it. Artwork goes into folder and you collect all.

8. Close with Acknowledgements & Goodbyes

Vocabulary: generator, steam, dam, turbine, electrons, illuminates

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Session 3: My Light part 2

MATERIALS:	
<ul style="list-style-type: none">• Snack• Compost bag/bin• Container• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper	<ul style="list-style-type: none">• Markers• Crayons• GWE Banner• Similar Size Cloth• Books: <i>My Light</i> by Molly Bang• Turbine-building materials
Optional: Music Generator – CD Player, iPod/iPad, Phone with speakers, Electric Piano	
Optional: Creative Drama Activity	

1. **5 min Greet each child.** All put on name tags as volunteer students pass out snack.
2. **15 min** Go around circle: Remind me-what did we talk about and learn about last week?
3. **15 min** Pass out *My Light* books. Kids take turns reading it aloud. Cover any information and discussion that you did not get to last week. Bonus question: How does sunlight turning into electricity, make the problem of the blanket on the earth worse? Is electricity the problem? Discuss until you come to: HOW the electricity is made is the causing part of the problem.
4. **30 min** Make a Turbine! **See Turbine Exercise**
5. **15 min** Go outside with your turbines to imagine them as real wind turbines. Make a wind farm by planting them all in the ground. :)
6. Close with Goodbyes & Acknowledgements
7. **Assign to read first 4 chapters of GWE book?**

Vocabulary: water vapor, gravity, cell, molecule, transform, atom, photon

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****If this session is a field trip into nature, it will be a 3-hour GWE session for ABQ* field trip with the books- Mountain trip or Tree trip -need to leave school early for ABQ schools – for Sfe trip special time off**

If this is a field trip to the mountains, hike, examine, play, read and draw- 30 min there, 30 back, 45 min read Living Sunlight, Buried Sunlight, and GWE book, thru the Fire Chapter- read and talk

If this is not a nature field trip follow the lesson plan, below:

Session 4: Living Sunlight & Buried Sunlight-

MATERIALS:	
<ul style="list-style-type: none">• Snack (something with seeds, i.e. apples)• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper• Markers• Crayons	<ul style="list-style-type: none">• GWE Banner• Globe• GWE Books• Flowering Plant• Plant Cutting with Roots• Fossil(s)• Books: <i>Living Sunlight</i>, <i>Buried Sunlight</i> by Molly Bang, <i>The Global Warming Express</i>

1. **20 min** each child, name tags, pass out snack
2. Discuss what we did last time: **Bonus question:** How does sunlight turning into electricity, make the problem of the blanket on the earth worse? Or turbines work because of what process in nature? (wind and water)

Super bonus question- What happens when there is a day when the wind does not blow How can energy for electricity be created?

3, **10 min** Read through *Living Sunlight*. Discuss.

4. **30 min** Either bring children outside to where there are leaves and flowers, or pass around the flowering plant. Set up a Silent Session, to be respectful of the plant(s)- Ask the GWEers to *Silently*, touch the leaves and flowers.

Sit on the ground around or under the trees, etc. Read through *Buried Sunlight*, with discussion. Important points:

Discuss- A gas (CO₂) changes into solid plants and then plants get turned into Fossil Fuels- **how does Coal and Gas and Oil get formed, again? Use Molly's images**

There are 800 billion tons of plants on earth, pulling a LOT of CO₂ out of the air and creating a LOT of O₂

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There was pretty much always a balance of how plants and living beings lived on earth. UNTIL NOW. Now we have too much CO₂ in the earth's blanket and FEWER trees and plants to absorb CO₂ and make O₂.

5. Exercise- How would it feel to be a plant, even a very tall tree, that has too much CO₂ to breathe? Try breathing in a VERY BIG breath, and breathing out a very small breath. Do that 5 times. What does that feel like? Draw a picture, write a song or a poem about what it feels like. &/OR – **how would it feel to become Oil, Gas or Coal? (Do Creative drama of becoming a fossil fuel, being burned, and emitting CO₂)**

6. **20 min.** Mentor reads Chapter 1 & 2 of *The Global Warming Express* aloud. Discuss.

3. Close with Goodbyes & Acknowledgements

Vocabulary: glaciers, generated, chlorophyll, photosynthesis, bacteria, hydrogen, oxygen, carbon dioxide, H₂O, CO₂, O₂, carbon, sugars, evolved,

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Session 5: Buried Sunlight Part 2

MATERIALS:	
<ul style="list-style-type: none">• Snack (oranges)• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper• Markers• Crayons• GWE Banner• Globe	<ul style="list-style-type: none">• GWE Books• Stuffed Animal• Plant• Leaves• Dead Leaves• Sedimentary Rocks• Compost• Coal• (Jar with crude oil, jar with gasoline)• 4 Bricks
Optional: Optional: Creative Drama Activity	

1. Greet each child, name tags, pass out snack, put the plant and the stuffed animal in the center of the circle
2. Snack: Talk about what we did last time. Bonus questions:
3. What do plants breathe in? What do animals breathe in? penguins? Us?
4. What do plants breathe out? What do hamsters, salamanders and kangaroos breathe out?

Wait—What *IS* carbon, anyway? Is carbon ok? Yes! Carbon makes up a lot of the bodies of all living beings! Is CO₂ ok? Yes! Plants need to breathe CO₂ and it is a greenhouse gas that keeps us warm. Only now there is too much CO₂ in the atmosphere.

5. What happens when there is too much CO₂ in the air?
6. Read *Buried Sunlight* once more through (with help or on your own)
7. Go over the words, as you read:
8. **Fossils, fossil fuel, coal, oil, gas, carbon chains, bacteria, evolved, extinct, adjust, quantities**
9. Take out supplies (leaves, dead leaves, orange peels, rocks, coal, bricks)
10. Kids in groups of 2-4

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11. Give the kids the organic material with the instruction: make a clump of compost material. What if the clump was covered by more and more compost?
12. Give each group a brick. Now gently press the brick on to the clump of material. Take turns pressing for 5 minutes.
13. After 5 minutes: Now remove the brick. What do the orange peels look like now?
14. Leave experiment and read and watch (use gas, oil and coal samples)

From <https://c03.apogee.net/contentplayer/?coursetype=kids&utilityid=pseg&id=16200>

How Coal is Formed

Coal is a **non-renewable energy source** because it takes millions of years to form. That means what is in the ground now is all there is, and we can't realistically make more.

1. The energy in coal comes from energy that was stored in giant plants that lived hundreds of millions of years ago in swamp forests, even before the dinosaurs! When these giant plants and ferns died, they formed layers at the bottom of the swamps.
2. Water and dirt began to pile up on top of the dead plant remains.
3. Over thousands of years, pressure and heat would build up on top of the plant remains, undergoing chemical and physical changes and pushing out the oxygen, turning these remains into what we call **coal**.



From: <https://www.croftsystems.net/oil-gas-blog/what-is-oil-made-of>
How Oil and Gas are formed:

We all know what crude oil looks like.... a black thick liquid substance. We all know it comes from the ground. It is cool to think that you can drill a hole in the ground and Bam! You got oil. But how did it get there? In previous blogs, we have given [history](#) lessons on the first well

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drilled, the first discovery of oil and gas, etc. But never really went into depth about how the oil got there in the first place. So what is oil and how did it get in the ground?

The beginning of crude oil formation happened millions of years ago. Oil is a fossil fuel that has been formed from a large amount tiny plants and animals such as algae and zooplankton. These organisms fall to the bottom of the sea once they die and over time, get trapped under multiple layers of sand and mud.

As time goes by, heat and pressure began to rise as the organisms get buried deeper and deeper below the surface. Depending on the amount of pressure, heat and the type of organisms, determines if the organisms will become natural gas or oil. The more heat, the lighter the oil. If there is even more heat and the organisms were made up of mostly plants, then natural gas is formed.

Once the oil and natural gas is formed, it migrates through pores in the rock until it gets trapped under cap rock and clay where the oil can no longer get through.

Discuss:

- a. What would the orange peels look like in 1 year, 5 years? A million years? Millions of years?
- b. Now pass out a coal rock and a sedimentary rock around the classroom.
- c. Yes! The orange peels might like this.

15. Remember that in the book we saw that gas and oil and coal were all in sediments in the ground. Is that ok to have them there? Yes! They are fossilized life. But what are fossil fuels? Fossil fuels are the sediments which people decided to burn for energy. The coal, oil and gas are ok- it is the fact that we burn them that creates a problem.

17. Close with Goodbyes and Acknowledgements

16. Vocabulary- fossils, fossil fuel, coal, oil, gas, carbon chains, bacteria, evolved, extinct, adjust, quantities

Session 6: Buried Sunlight Part 3

MATERIALS:	
<ul style="list-style-type: none">• Snack• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper	<ul style="list-style-type: none">• GWE Banner• Globe• GWE Books• Sedimentary Rocks• Coal

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<ul style="list-style-type: none">• Markers• Crayons	<ul style="list-style-type: none">• GWE Timeline• Laptop and flash drive with GWE videos or internet access and projector
Optional: Creative Drama Activity- Buried Sunlight Play	

1. Greet each child, name tags, pass out snack.
2. During snack ask about what a fossil is? Fossil fuels? What is the atmosphere? More?
3. Discuss
4. **Choose either lesson, depending upon the kids' energy:**
5. (Assign readers or have children volunteer to read sections of *Buried Sunlight*.)
6. Throughout out the book, touch on the headlines in the back of the book:
7. Since the 19th century, burning fossil fuels was discovered. Question- what century are we in? The 21st? How many centuries have passed since then? What is 21 take away 19? 200 years or 2 centuries.
8. How old is the earth? Really, really old. It is about 4.5 billion years old, with life on earth starting 3.8 billion years ago. Apart from having a meteor hit it which killed all the dinosaurs, the earth has been doing pretty well, keeping all its processes going- until 200 years ago.
9. Compare 200 years and 3.8 billion years- look at Molly's chart. People started becoming people (we know from a fossil of Lucy, the first Hominid) about 3 million years ago, but the first actual Homo Sapiens evolved about 200,000 years ago.
10. Looking at Molly's graph, what does it remind you of? One thing I am thinking of is how your own temperature goes up and down. Your body's temperature is almost always at about 98 degrees. Do you remember a time when you were little and your temperature got pretty high? It went from 98 to 101 or even 102? 4 degrees higher does not seem like a lot, but it actually means that you are pretty sick. Likely, you went to a doctor or a medical person and you were given some medicine and your fever went down and you got better – right? Look at Molly's graph of the earth's temperature. If your temperature rose that high, that fast, would you be able to get better?
11. The earth's temperature is rising as fast as the amount of CO₂ and other greenhouse gases are rising. Scientists have a lot of information about this and they are working very hard to get new information, quickly. The information that they are discovering through their research is causing them to be pretty worried. They notice that the earth has never had to deal with this much before. People like Molly learned about the information and wanted to make this book to tell other people, like you, about it, so that we can all be part of the solution.)

OR

Read through *Buried Sunlight* and go back to the graph on the page 3 before the end:

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1. Looking at Molly's graph, what does it remind you of? One thing I am thinking of is how your own temperature goes up and down. Your body's temperature is almost always at about 98 degrees. Do you remember a time when you were little and your temperature got pretty high? It went from 98 to 101 or even 102? 4 degrees higher does not seem like a lot, but it actually means that you are pretty sick. Likely, you went to a doctor or a medical person and you were given some medicine and your fever went down and you got better – right? Look at Molly's graph of the earth's temperature. If your temperature rose that high, that fast, would you be able to get better?
2. The earth's temperature is rising as fast as the amount of CO₂ and other greenhouse gases are rising. Scientists have a lot of information about this and they are working very hard to get new information, quickly. The information that they are discovering through their research is causing them to be pretty worried. They notice that the earth has never had to deal with this much before. People like Molly learned about the information and wanted to make this book to tell other people, like you, about it, so that we can all be part of the solution.)
3. The Global Warming Express was started by kids your age who also studied the information and wanted to be part of the solution.
4. Show 3 min or 9 min video of The Global Warming Express:
<https://vimeo.com/136319729> (3 min)
<https://vimeo.com/132480220> (9 min)
5. Discuss other initiatives that the GWE kids have done – **See GWE Timeline**
- 6.
7. Close with Goodbyes and Acknowledgements

Vocabulary: Hominid, Homo Sapiens, graph

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Session 7 :Making a Plan

MATERIALS:	
<ul style="list-style-type: none">• Snack• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper• Markers• Crayons	<ul style="list-style-type: none">• GWE Banner• Globe• Books – The Global Warming Express

1. Greet each child, pass out name tags and snack.
2. Discuss last week's session.
3. Last week we how the sun makes fossils and fossil fuels can burn and about how too much burning is not ok. We also talked about why kids your exact age decided to do something about it.

4. Draw or write about the water we talked about. Mentor reads Chapter 4 of *The Global Warming Express*.
5. Close with Goodbyes and Acknowledgements

Vocabulary: teeming, vapor, cycles, evaporation, cocoon, envelops, aquifers, quadrillion, equator, eddies, frigid, plunge, colossal, artery, currents merge, plunge, plummet, conveyor belt, civilizations, waterworks, dilutes, canyons, glaciers, eons, gouge, replenish, sea levels, sparingly

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Session 8: Field Trip or Film

After all of this studying, it would be a terrific time to do a field trip.

If possible, walk to a nearby park or have an organized trip to another out-of-door location. I can assist in creating a lesson plan to accompany your trip.

A trip into nature will be a restful time after the thinking time put into the book study. The children will see and experience nature differently, after learning some of the way the natural world lives and breathes and connects to them. Take some time to share in the reading of *The Global Warming Express*, chapter 5.

If a field trip is not possible for this session:

MATERIALS:	
<ul style="list-style-type: none">• Snack• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper• Markers• Crayons	<ul style="list-style-type: none">• GWE Banner• Globe• Large world map• Books• Laptop and flash drive with movie <i>Chasing Ice</i> and projector
Optional: Music Generator – CD Player, iPod/iPad, Phone with speakers, Electric Piano	
Optional: Creative Drama Activity	

1. Greet each child. Pass out name tags and snacks.
2. Go outside for 20 minutes- free play
3. Show portion of film: Nova PBS <http://www.pbs.org/wgbh/nova/earth/decoding-weather-machine.html>
4. Discuss – stop and start throughout the films, follow-up with globe and map discussion
5. Finish with artwork about the film and reading of Chapter 5 of *The Global Warming Express*
6. Close with Goodbyes and Acknowledgements

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Session 9: Field Trip

If you went on a field trip into nature last week, show a film this week.

If you watched a film last week, try for a field trip this week.

MATERIALS:	
<ul style="list-style-type: none">• Snack• Folders with Scavenger Hunt forms inside	<ul style="list-style-type: none">• GWE Banner

Walk or drive to a nearby park or nature center (**it is best to visit the area, first, in order to know which clues to make for the Scavenger Hunt.**

20-minute Silent Scavenger Hunt:

1. Make a Silent Scavenger Hunt for them by visiting the park or area first, deciding on some flora that they can easily find, and then coming up with descriptions of the flora, one for each clue. For example: I am fairly tall and have spiky green needles. In the fall I make a delicious kind of nut. What am I? The children write an answer: Pinon Tree and then feel, smell, taste and see what they can about the tree. They then write down or draw what they noticed.
2. After 30 minutes, call the children together to have snack, sit around the banner and talk about what they saw, felt, smelled and drew.
3. After snack and the identification conversation, you may want to remind them about the processes and cycles that they just learned about and ask them if they saw examples of how the processes worked?
4. Ask each pair of children to find a tree or shrub or some fixed natural form (i.e. not a butterfly or bird) that they can “adopt”. With pencil and paper, let them draw the flora that they chose, as well as describe it, name it, guess how old it is, etc. The more story they can make up or define about the tree, etc., the better. Save their papers in their folders so that the next time they visit their adopted plant, they can compare its appearance.
5. Best to alternate quiet time with more active time. Let the children free play for at least 20 minutes. You may want to end with quiet or silent time before you head back.
6. Close with Acknowledgements and Goodbyes.

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Session 10: Film series!

MATERIALS:	
<ul style="list-style-type: none">• Snack• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper	<ul style="list-style-type: none">• Markers• Crayons• GWE Banner• Globe• Laptop and flash drive with videos, or internet access, and projector
Optional: Music Generator – CD Player, iPod/iPad, Phone with speakers, Electric Piano	

1. Greet each child. Pass out name tags and snacks.
2. Discuss what you did last week
3. Explain that we are going to watch 3 short films
4. After each film, discuss briefly
5. After Marina's film, discuss some of her points
6. Talk about setting a Small Goal and a Big Goal for the rest of the year
7. Videos:
 - a. Green World Rising: (9 min)
<https://duckduckgo.com/?q=green+world+rising&bext=msl&atb=v76-6&ia=videos&iax=1&iai=XKoch5z0B9Q>
 - b. And Green World Rising - Restoration (9 min):
<https://www.youtube.com/watch?v=BdZtuNbD0ok>
 - c. (If you have 1 ½ hours for the session and if you have older kids only:
Green World Rising: Last Hours (11 min)
<https://duckduckgo.com/?q=green+world+rising+youtube&bext=msl&atb=v76-6&ia=videos&iax=1&iai=2bRrg96UtMc>
 - d. Marina Weber Ted x talk (9 min):
<https://livestream.com/tedx/tedxyouth/videos/104546161>
Go to 1:11:28 to start her speech
8. Close with Goodbyes and Acknowledgements

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Session 11: Activism and Action!

MATERIALS:	
<ul style="list-style-type: none">• Snack• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper• Markers	<ul style="list-style-type: none">• Crayons• GWE Banner• Globe• Large world map• Laptop and flash drive with videos, or internet access, and projector
Optional: Music Generator – CD Player, iPod/iPad, Phone with speakers, Electric Piano	

1. Greet each child. Pass out name tags and snacks.
2. What does Activism mean? Is there a way to be an Activist if you are a Kid?
- 3.
4. Here are some examples of Activism:
 - a. People's Climate March in NYC: (2 min)
<https://www.usatoday.com/story/news/nation/2014/09/21/nyc-climate-change-march/16008009>
 - b. View 27 photos and Ban Ki Moon footage
 - c. Marina's story of the March: [http://theglobalwarmingexpress.org/peoples-climate-march/\(1](http://theglobalwarmingexpress.org/peoples-climate-march/(1) min)
 - d. The GWE goes to Denver to speak and perform for the EPA Hearings: (1 min)
<http://theglobalwarmingexpress.org/our-trip-to-the-epa-carbon-hearings/>
 - e. The GWE at Renewable Energy Day at NM Legislature: (3 min)
<https://duckduckgo.com/?q=You+tube+the+global+WArming+express&bext=msl&atb=v76-6&ia=videos&iax=1&iai=DaWbz7Vagd4>

“Now that **you** know a lot about science and climate science, and now that you know a lot about the solutions to the problem of global warming and climate change, it is time to learn to use your voices and move into action! Just like the GWEers in the film, you can make speeches and talk to your Mayor or to the people in charge of your town and you can write letters and use your voices to make changes happen!

When we get back, after winter break, we'll be learning about public speaking and performing to help you to bring your message to New Mexico about what you think needs to happen.

We will set a Small Goal and a Big Goal for ourselves for the rest of the year, and even into next year, for those of you who are coming back.”

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5. Discuss what other schools have done and what the group might want to do. Suggest that, over break, they think more about what they would like to do, as a GWE group.
6. Close with Acknowledgements and Goodbyes.

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Session 12: Party!

MATERIALS:	
<ul style="list-style-type: none">• Snack• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper• Markers• Crayons	<ul style="list-style-type: none">• GWE Banner• Globe• Compost Bag/Bin• Laptop and flash drive with videos, or internet access, and projector• Assessments• Party Supplies

1. Greet each child, then in group, hand out name tags and snack.
2. During snack, check in with students.

“You guys worked super hard this semester (or, over this fall)! It seems to me that you learned a lot. It also seems like you have a ton of fun. Let’s share about some of the best discoveries or funny things or cool things that happened.

Discuss.

Here is a short film about some of the kids in the earlier Global Warming Express programs. Let’s watch it and then talk about it.

3. Show 8 min film about the GWE: <https://vimeo.com/132480220>
4. “It seems to me that we all deserve a party-no? ☺ Well, I came prepared for that! Before we have our end of the semester party, we will fill out these papers.”
5. Pass out GWE 1st term assessments and have the students complete.
6. Affirmations for each student, during or after the party.
7. Complete!

Bring extra special snacks. Have a GWE party! Take photos and video of each other. Make an end of the year WISH for the Earth!

Note:

The GWE does not usually assign homework, but if the children can and want to complete reading *The Global Warming Express*, they can be encouraged to do so, over their winter break. If they cannot read it all themselves, you might suggest that they ask someone to read it to them.

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Session 13: Returning to the GWE

MATERIALS:	
<ul style="list-style-type: none">• Snack• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper• Markers	<ul style="list-style-type: none">• Crayons• GWE Banner• Globe• <i>The Global Warming Express</i> books• Speech handouts
Optional: Music Generator – CD Player, iPod/iPad, Phone with speakers, Electric Piano	

1. Greet each child. Pass out name tags and snacks.
2. What does the word Activism mean, again? Discuss.
3. There are lots of ways of being an Activist and helping to make a change for the best. In Marina's TED x talk, she mentioned the idea of getting involved in a small way first, like writing a letter to a newspaper or to someone in charge of something. She also mentioned attending a March or a Rally and we saw pictures of grownups and kids and GWE kids who did that.
4. Do you want to do those things?
5. Another cool thing to do is to write a book! Here is *The Global Warming Express* book that Marina wrote and her friend, Joanna, illustrated. The story of how she decided to write the book is in the introduction to the book. Let's read that.
6. If the kids need a movement break, go outside for 10 minutes or do some movement inside.
7. Discuss the Small goal and Big goal that the group wants to do. If they have reached a conclusion about Goals, be sure to write them in large print on a White Board or on a permanent, large piece of paper.
8. One way to make a goal come true is to tell people about it. Here is a paper that gives you one way to write a speech. (handout given to all)
9. Close your eyes (this would be a good time for some quiet music) and think about ALL the things that you have learned so far. Pick out one idea or one problem or one solution that you feel strongly about. When you open your eyes, write your name at the top of the paper and then write one sentence about what that idea is.
10. If time, draw a picture about that idea. If not, put handouts in folders and end.
11. Close with Acknowledgements and Goodbyes. Ask children to put their names in their GWE books and tell them that they can bring them home and read them as much as they want to.

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Vocabulary: Democracy: a form of government in which all people have an equal say in the decisions that affect their lives

Right: a legal or moral entitlement; that which complies with justice, law, or reason; not a guarantee

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Session 14: Speeches!

MATERIALS:	
<ul style="list-style-type: none">• Snack• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper• Markers	<ul style="list-style-type: none">• Crayons• GWE Banner• Globe• <i>The Global Warming Express</i> book• Speech handouts
Optional: Music Generator – CD Player, iPod/iPad, Phone with speakers, Electric Piano	

1. Greet each child. Pass out name tags and snacks.
2. While eating, read the 2nd chapter of the GWE to the children
3. After snack, get out folders and the speech papers
4. Who gives speeches? (make a list, as children give answers)
5. Great list! Who else gives speeches?
6. You do! Think of a time when you were really mad at someone or when you really wanted something. What did you do? You made a speech.
7. (10 min) Break into pairs and go to a part of the room away from others. Decide who is A and who is B. Now, if you are a B, think of a time when you gave a speech to someone and give a version of that speech to your partner. Now switch.
8. When we work on these speeches, it will be pretty much like the speeches you give to your parents or your family or your friend.
9. Go over the Speech Handout.
10. All children begin working on answering the questions on their speech forms.
11. Once all the children have completed section one, ask them to find new partners and to read their section to the other person.

OR

12. If time, sit in a circle and ask each child to read their section 1.
13. Close with Acknowledgements and Goodbyes.

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Session 15: Speeches completed

MATERIALS:	
<ul style="list-style-type: none">• Snack• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper• Markers	<ul style="list-style-type: none">• Crayons• GWE Banner• Globe• <i>The Global Warming Express</i> book• Laptop and flash drive with videos, or internet access, and projector
Optional: Music Generator – CD Player, iPod/iPad, Phone with speakers, Electric Piano	

1. Greet each child. Pass out name tags and snacks.
2. Ask who is reading *The Global Warming Express*, yet? Discuss.
3. 10-minute movement break
4. Back to the speeches- ½ an hour and we will be all done!
5. Encourage the children to complete their speeches.
6. Ask for a volunteer to read her/his speech.
7. Applause. (no feedback yet)
8. Close with Acknowledgements and Goodbyes.

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Session 16: Speeches practiced

MATERIALS:	
<ul style="list-style-type: none">• Snack• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper• Markers	<ul style="list-style-type: none">• Crayons• GWE Banner• Globe• <i>The Global Warming Express</i> book• Laptop and flash drive with videos, or internet access, and projector
Optional: Music Generator – CD Player, iPod/iPad, Phone with speakers, Electric Piano	

1. Greet each child. Pass out name tags and snacks.
2. During snack, read from The GWE or play audio of *The Girl Who Silenced the World for Five Minutes*. Discuss- how she uses repetition of words & phrases, her voice indicating emotion, volume. What else makes this a great speech?
<https://duckduckgo.com/?q=the+girl+who+silenced+the+world&bext=msl&atb=v76-6&ia=videos&iax=1&iai=XdK0uYjy85o>
3. Discuss.
4. Ask the children to read their speeches over to themselves, once.
5. Ask the children to read their speech to one other child.
6. Make copies of all the speeches.
7. Go outside or into a hallway and ask children to walk and read their speech aloud to themselves, walking and reading. Try to have them read over 5 times.
8. Assignment- bring your speech home and practice it 5 times this week. Practice it in front of your family, your cat, your dog, your mirror! Do your best to remember your speech. (keep copies of their speeches and give them a copy to bring home.
9. Close with Acknowledgements and Goodbyes.

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Session 17: Speeches ready

MATERIALS:	
<ul style="list-style-type: none">• Snack• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper• Markers	<ul style="list-style-type: none">• Crayons• GWE Banner• Globe• <i>The Global Warming Express</i> book• Laptop and flash drive with videos, or internet access, and projector
Optional: Music Generator – CD Player, iPod/iPad, Phone with speakers, Electric Piano	

1. Greet each child. Pass out name tags and snacks.
2. During snack, let children pair up to practice speeches.
3. Ask each child to time the speech of the other child and to write down the time on the speech paper.
4. Form half circle. One by one, let the children give their speeches. Everyone is applauded.
5. Once everyone has spoken, give them all feedback-
6. are you looking down more than looking up?
7. Important to look at the audience as much as possible.
8. Can we all hear the speakers?
9. Did their speech seem important to them?
10. Run the video of The Girl Who Silenced the World again.
<https://duckduckgo.com/?q=the+girl+who+silenced+the+world&bext=msl&atb=v76-6&ia=videos&iax=1&iai=XdK0uYjy85o>
11. In partners, work on your speeches to practice:
12. Volume
13. Eye Contact
14. Passion- make it important!
15. Slow down
16. Finish with a movement break inside or outside.
17. Assignment- practice your speeches until you have them memorized. ☺
18. Close with Acknowledgements and Goodbyes.

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By next session, the GWE Children will have given their speeches in a public venue.

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Session 18: Follow up to Event!

MATERIALS:	
<ul style="list-style-type: none">• Snack• Name Tags• Name Tag Holders• Folders• 8-½ x 11 Paper• Markers	<ul style="list-style-type: none">• Crayons• GWE Banner• Globe• <i>The Global Warming Express</i> book• Laptop and flash drive with videos, or internet access, and projector
Optional: Music Generator – CD Player, iPod/iPad, Phone with speakers, Electric Piano	

1. Greet each child. Pass out name tags and snacks.
2. How was the event? Discuss.
3. Show the children video and photos from the event.
4. Discuss, acknowledge.
5. Read one chapter from The GWE book.
6. Now, on to our goals! Help the children to come up with strategies and a step by step plan to reach one or both goals.
7. Close with Acknowledgements and Goodbyes.

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Session 19 - End of Year

The rest of the GWE sessions are up to you and your group. What they decide to do is what the GWE Executive team will support you to do. There are field trips which can be taken and research done. Whatever the children decide to do will be supported.

Over the next 2 ½ months, the GWE administration, the Sierra Club Rio Grande Chapter, and the GWE Board of Directors will be available to assist you in helping the GWE after school program to be successful and fulfilling for you and for the children.

I will personally assist you in planning and executing your school's personalized final 10 or so weeks of the GWE program. Remember that there are no goals too big or too small, as long as they are generated by the children, themselves.

One suggestion is to read *The Global Warming Express* book with the children every week, until you have completed it. The book's science information will refresh what the children have learned and the book's plot will underscore the children's activism and action.

Thank you!
Kids Change the World

NOTES: