

lights out world

Lesson Plan and Event Guide



"As the founder of a youth-run organization, I've been able to witness first hand the power of young people when they unite as one voice behind an issue facing our world. Lights Out Canada is a shining example of this power - proof positive of what young people can accomplish for our society and for the issues we care about. It began with one girl's passion and then became the passion of three and in turn the passion of sixty-five schools. The lights will be out even more often across Canada in the years to come, but hope is burning bright in our collective dream to solve the problems created by global warming and, indeed, all of the issues facing our world."

*- D. Simon Jackson
Founder and Executive Director, Spirit Bear Youth Coalition
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lights out world

*“Turn **off** the lights & switch **on** education about global warming”*

Lights Out World is an international event during which high schools around the world turn off their lights and spend the day learning about global warming. Through opening the blinds, and students' minds, we provide an opportunity for youth and educators to impact the negative affects of global warming.

Our goals are to:

- educate students and teachers about the dangers of climate change.
- show how easy it is to help turn off global warming with the flick of a switch.
- encourage schools to be aware of environmentally unfriendly practices, and revise them.

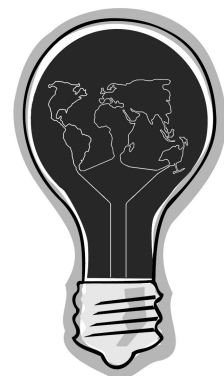
We provide comprehensive lesson plans, step-by-step participation guides, and visual aids (posters, light switch covers, etc.), in order to make Lights Out World a success in participating schools. By increasing awareness and encouraging discussion, active participants will make a conscious effort to curb their energy use, both at school, and at home.

Our lesson plans detail:

- What is global warming?
- Why is it occurring?
- Why is it a problem?
- **How can I make a difference?**

We want our peers to realize that global warming is not a far off concept, it is happening **now**, and its effects are being felt **today**. Ice in the arctic is melting. Ocean levels are on the rise, and changing climates have contributed to the extreme weather felt around the world.

The repercussions of growing greenhouse gas emissions will be one of the greatest (if not the most prominent) issues that our generation will face. It is our responsibility to put an end to this dangerous trend. It is no great inconvenience to turn off the lights during the daylight hours, or when we leave a room, and it is greatly beneficial to our health to walk or bike when that is a feasible option. Lights Out World will not stop global warming. It will, however, give students a quantity of tools they need to preserve our country, and our planet, for future generations.



www.lightsoutcanada.org
lightsoutcanada@gmail.com



Steps for Administrators

The Lights Out Team would like to thank you for taking an interest in our project. We are students who have a vision for our schools and our environment and who, with the help of forward thinking schools like yours, are now taking that same vision across the country.

In order to make it as easy as possible for you to participate, we have included the step-by-step instructions you need to follow in order to make Lights Out World a success at your school.

1. Read the Lights Out World “concept page”. If you haven’t been given a copy, visit www.lightsoutcanada.org. Click on “About” or “Download” to view the synopsis of the project.
2. If you have any questions about the project please email the Lights Out Team at: lightsoutcanada@gmail.com.
3. Hold meetings with administrators and other staff members to discuss any problems or difficulties you might encounter, how to market the idea within the student body, and any queries you or the staff may have.
4. Make sure that April 18, 2008 is not in conflict with any scheduled events at your school. Lights will be out in all participating schools simultaneously; however, we will not exclude any school if there is a conflict of timing and a leeway of several days is completely reasonable.
5. Contact other schools in your region and get them involved in a district-wide lights out day! NOTE: In our experience the media has taken an interest in Lights Out and a simple phone call to the local newspaper is often all it takes for their involvement.
6. Feel free to send us any questions or requests for additional materials to the Lights Out Team. Email us at: lightsoutcanada@gmail.com
7. Allow the “Lights Out Liaisons” (students) to present Lights Out World at the next staff meeting. Your support and enthusiasm will motivate the staff for the event. Allow the “Lights Out Liaisons” to advertise in the school and help make sure that the staff and student body are aware of the event and have ample notice to prepare.
8. When the day arrives, make announcements to further notify students of the event, and take pride in your role in combating and raising awareness about, global warming!





Steps for Students

Follow these steps to make Lights Out World a success at your school!

1. Read through the "concept page". Visit: www.lightsoutcanada.org for more information and downloads. If you have any further questions about the project, email the Lights Out Team at lightsoutcanada@gmail.com.
2. Give the "Steps for Teachers" and "Steps for Administrators" pages to your principal and a teacher who you think would be interested in helping you with the project (perhaps your Leadership or Student Council facilitator).
3. Once you have discussed the project with your principal (BE ENTHUSIASTIC!) and received permission to hold Lights Out World in your school, register your school on www.lightsoutcanada.org.
4. Take the project idea to your school's leadership class and student council. Although there is not much extra work involved, there will probably be other students willing to help you put up posters, etc...
5. Either present Lights Out World at the next staff meeting, or ask your teacher liaison or principal to let all of the teachers know about the project. We recommend reading from the concept page for presentations.
6. Check in with your teacher and principal each week leading up to the international Lights Out World day to make sure that any concerns they have are addressed. (Remember, email the Lights Out Team with any questions, any time!)
7. Two weeks prior to the Lights Out Day (April 18, 2008), put up the Lights Out posters. If you need more posters to plaster your school with, either ask permission from your teacher to use the school's photocopier or print them off from www.lightsoutcanada.org (under "Stuff For You").

If your school has morning announcements, let the rest of the school know about Lights Out World with a blurb such as:

"Lights Out World- On April 18, 2008, our school will be participating in the international event "Lights Out World". Get ready to turn off the lights and switch on education about climate change!"

Remember: The best advertising method is word of mouth. Tell all of your classmates and friends about the project. We've learned through experience that if you are enthusiastic and passionate about the project, your peers will be excited as well!

8. Ask permission from your liaison teacher to photocopy the lesson plans for your school at least three weeks before the Lights Out Day. Distribute the lesson plans at least two weeks in advance either directly to the teachers or in their boxes (if you do this you must also make announcements reminding the teachers that that is where they are located). NOTE: The lesson plans are to be run through at the beginning of the Lights Out Day, so save paper and only distribute them to teachers that will have classes that morning. Don't forget to photocopy on both sides and use recycled paper if possible.
9. Make sure teachers know that in dark areas of the school, half of the lights turned off are fine.
10. Inspire other youth and do presentations in local schools. We will provide you with copies of the presentations we use. Email us and spread the word amongst youth in your area!
11. On April 18, 2008, turn off the lights and be proud that you are doing your part to combat global warming!



Steps for Teachers

We rely heavily on your support as turning off the lights is just the medium through which we are conveying our message: that youth have the power to impact global warming and that small changes add up to make a big difference! Please take to heart that your participation will, literally, mean the world to your students!

1. Read the Concept Page and Lesson Plan

- If you have already read everything over ahead of the event it will make your job much easier on the actual day that Lights Out takes place.
- All of the documents within the lesson plans have accurate and extremely helpful information about the event and about global warming
- When reading the lesson plan, remember that they are just a guide. If you have a different idea of how you would like to present the information to you class please **BE CREATIVE!** We do, however, ask that you try your best to include all of the concepts in the original lesson plan.

2. Make sure that you have communicated to the students what will be happening on the day of the event.

- It is very important that students know what Lights Out World is and when it will be taking place in the school.
- Please give the students our contact information before the event so that they can contact us if they have any questions or comments.

Email us at: lightsoutcanada@gmail.com

3. Please Use the Contact Info We Have Provided!

- Any feedback given will be taken into account and will help us improve our future programming.
- You've probably been teaching for much longer than we have and know how to do it best. So, if you have an idea that would work with your class, by all means go for it, and tell us—maybe other teachers around the world can use it too. Our main objective is to inspire students to take on their own projects and make small changes that will add up to make a big difference—so everything helps.

4. BE ENTHUSIASTIC!

- We want every student participating in Lights Out World around the globe to be excited about it! Remember, if you are not excited, your class will not be either. **ENTHUSIAM** is Key!
- This is an international event and you are a part of a movement of thousands of teachers to help preserve our beautiful planet for future generations.

5. Spread the WORD!

- If you realize that one of your colleagues has not heard that your school will be participating in Lights Out World it would be a great help if you could take the time to tell them what is going on.
- Also, principals are key player in the smooth running of this project so please attend the meeting that will be set-up by your student liaison.

Finally and Most Importantly: HAVE FUN and be proud of the active role you are taking to combat global warming!



Teacher's Lesson Plan

Please go over these concepts and brainstorming activities with your class at the beginning of the Lights Out day, April 18, 2008.

Overview: Students will learn about global warming, its affects, and what they can do to make a difference. They will then share the ideas with their parents and start making small changes that will add up to make a big difference.

If you don't believe that global warming is a human-induced phenomenon, visit this page for the latest climate change news: www.climatewire.net or www.climatecrisis.net and watch the film "An Inconvenient Truth", to see if your doubts can't be addressed.

Subjects:

Sciences- Focus on the environmental affects of global warming.

For example you could discuss the impact of rising temperatures on:

- rising ocean levels
- the desalination of the ocean & effects on the Gulf Stream
- changing temperatures & effects on marine ecosystems and terrestrial wildlife
- the damaging effects on biodiversity
- the increase in the spread of such diseases as Malaria
- Visit www.bcsea.org/education/ for more great information

Humanities- Discuss the impact global warming will have on world economies and politics.

For example you could discuss how global warming and limited fossil fuels will impact:

- transportation (and therefore trade)
- developing nations and those that are dependant on oil/ oil profits
- stock markets-- in the oil sector, and the emergence of renewable energy technologies
- the economies of countries that are dependant on agriculture
- the Stern Report is an excellent source of the economic impacts of climate change.

NOTE: "It will cost 1% of world GDP to reduce our emissions to more sustainable level now, or 20% of world GDP in the next 100 years." –Stern Report

Suggested Grade Level: 8-12 (yet, these plans can easily be adapted for a younger audience)

Time: 15 minutes for "Global Warming Backgrounder" section, 30 minutes to continue with "In School Activities" section, and 45 minutes for "Energy Saving Tips" section. We realize that time is precious; however global warming will affect all of your students, regardless of the subject being studied.

Global Warming Backgrounder

Learning Objectives: (Discuss)

- What is Global Warming?
- Why is it happening?
- Why is it a problem?
- How can you make a difference?

Answers:

- **Global warming** is a gradual increase in temperature of the Earth's atmosphere. It is the primary cause of climate change today.
- **When fossil fuels** and pollutants are incinerated and released into the air they become trapped in Earth's atmosphere. The sun's light refracts into our atmosphere and turns Earth into a virtual greenhouse, increasing its average temperature.
- **It is a problem** because it is having negative affects on all life on earth; from microscopic organisms, to human life. This heating of the atmosphere causes:
 - ice at the polar caps to melt and ocean levels to rise – communities close to water are threatened
 - desalination of the ocean (dilution of salt water by melting fresh water) – ecosystems are threatened
 - change of ocean temperatures –a change as much as one degree can decimate entire ecosystems!
 - extreme weather patterns (hurricanes, more variation between winter and summer temperatures). The recent hurricanes and extreme weather patterns (felt around the world) are a result of this change.

No matter what your profession, or where you live, we will all be affected by global warming.

- **You CAN make a difference!** By getting rid of bad habits (like leaving on lights when you leave a room) and making small lifestyle changes, the savings will add up in so many ways: financial benefits that you will see right away, and more importantly, your changes will add to the efforts of many in the reduction of greenhouse gas emissions.



Did you know?: Replacing only one standard light bulb with a fluorescent light bulb will reduce the release of 260 lbs. of CO₂ per year. (WWF, <http://www.ibuydifferent.com/whatsthedeal/lightbulb.pdf>) Remember you can also take on your own projects! (See energy saving tips)

Global Affects: Global warming will affect all people, on every continent and in every country. However, in developing nations with dense populations, climate change will have even more fatal consequences. We have the responsibility to reduce the impact that our consumption will have on future generations.

Did you know? The average person in North America consumes more in **6 months** of their life than someone in the developing world does in their **entire lifetime**

The Arctic could be **ice-free** by **2050**.

Sea levels are projected to rise by **6m** in the next **100 years**. This will flood cities like Vancouver, New York, Shanghai, Calcutta, and Venice displacing **100 million people**. What about where you live? What will the impact be in your region?

Energy Saving Tips and Other In-School Initiatives

- Use common sense: turn off lights when you aren't using a room, or use occupancy sensors
- Use fluorescents instead of incandescent bulbs. They can last 6- 10 times longer and give off less heat (an added safety measure as well)
- When possible, learn in a naturally lit environment, artificial lighting had been proven to be detrimental to student learning processes
- Make your school an "idle-free" zone. Encourage parents, visitors, and school bus drivers to refrain from spending idle-time with their cars running
- Use refunds from bottle returns – they can be used as in-school fundraisers

- Make sure that the photocopy and fax machines are set in stand-by or “energy save” mode.
- Program your thermostats to lower the temperature when the school is empty. You can reduce your emissions by up to 99 kg just by turning down your heater by 3 degrees and putting on a sweater!
- If your school has locker rooms equipped with showers, make sure that low flow showerheads have been installed
- In your school’s Home Economics labs, check for the “energy star” ensuring that they are of superior energy efficiency
- Make sure computers are turned off at night and have timed screen saving methods in place when computers aren’t in use during the day. Turning off your computer every night saves \$50 on your electricity bill
- Have all windows and doors checked for leaks—heat may be lost during the winter months if entrances are not properly insulated.
- If your school is decorated with lights during the holiday season, make sure that they are the low consuming LED lights.
- If there is outdoor lighting (in places that receive large amounts of sunshine during the day), consider using solar powered lights
- Make sure that all facets are “drip-free”—every drop adds up!
- Set up “light monitors” (students) to make sure that when rooms are not in use, the lights are turned off

Energy Tips for at Home

- Be vigilant about turning off the lights and television when you leave a room
- Replace light bulbs with energy efficient halogens or fluorescents.
- Recycle all cans, bottles, plastics, and tetra-packs
- Compost organic food wastes
- Reduce your meat consumption—the transport of meat is a CO2 emitter, reduce the meat, and reduce the emissions!
- Recycle paper, clothes, and school materials—anything that is salvageable reduces the emissions from the manufacture and transport of materials
- Unplug appliances when not in use—even when turned off they still account for up to 5% of household electricity
- Wash your clothes in cold water, warm water usually isn’t needed and just uses more electricity

Sustainable Transportation

Transportation accounts for **48%** of **major air pollutants**. Reduce this number and take the bus, metro, or sky-train to get to your destination! Public transport is vital to reducing the number of cars on the road and consequently the emissions they produce. If you have to drive somewhere, make sure that your car: has fully inflated tires, isn’t carrying any unnecessary weight, and organize carpools to take as many people with as few cars to your destination. Equally important is to make your city “pedestrian friendly”. Ask your city to:

- Host car-free street markets
- Create bike paths
- Make sure that pedestrian crossings are easily accessible.
- Have walk to school/work events

Email the Lights Out Team for more initiative ideas from the Canadian Urban Transport Association (www.cutac.ca).

In-School Activities

- Have students brainstorm making lists of areas of consumption (in your school) that need to be improved (e.g. lights being left on, excessive garbage)
- Examine each “environmentally unfriendly” area and come up with a plausible solution
- This is most appropriate for younger ages; however, “walking school buses” can be a great manner of getting to school in a safe, green, and healthy way.
- Hold a mock environmental summit (similar to a model UN). Check out this site: <http://serc.carleton.edu/introgeo/roleplaying/examples/globwarm.html>
- Do something hands-on! There are global warming science experiments available on these websites:
<http://www.starhop.com/Middle/GlobJar-7.pdf>
<http://ku-prism.org/resources/polar/warminglessons.html>
<http://www.juliantrubin.com/fairprojects/environment/globalwarming.html>
http://72.32.11.171/resources/tdc02/sci/life/eco/lp_co2globalwarm/index.html
<http://www.all-science-fair-projects.com/category121.html>

Visit these awesome websites for more lesson plans and background information about climate change and global warming! :

www.climatecrisis.net

www.adventureecology.com

www.bcsea.org/education/

www.greenlearning.ca/

www.climatechange.gc.ca/

www.globalwarming.org/article.php?uid=123

<http://www.ase.org/section/audience/educators/lessons/high/>

Check out the **Adventure Ecology** website for more information about educating youth about climate change: www.adventureecology.com

“Lights Out is such a creative way to get young people thinking about, talking about and doing something about the biggest environmental threat facing our planet. Even without going to the lights out extreme everyone can help make a big difference on climate change through everyday decisions to reduce reliance on fossil fuels.”

- Julia Langer, Director of the Global Threats Program, WWF-Canada

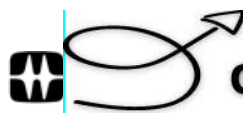


If you have any questions about this event or would like more information, please email the LIGHTS OUT WORLD Team at: lightsoutcanada@gmail.com

Visit us online at www.lightsoutcanada.org!

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