

GETTING STARTED WITH ENERGY - SUPPORT PACKAGE

Heating System Survey



Buildings are the centre of most of our lives because we spend so much time indoors. Our climate in Nova Scotia requires our buildings to be heated for much of the year. Heating comes at a financial cost. Moreover, it causes greenhouse gas emissions that drive climate change. It is important that we don't waste heat. Many school areas are heated beyond what is necessary. Often the heat is so excessive that classroom windows are opened while the heat is on. This is very wasteful. The costs of energy waste are rising and the impacts of climate change are more obvious. The people who control the temperature set points at your school may not be in that building so they may need help to find the right temperature for each area of the building. During the season when the heat is on, you can learn about how to be more energy efficient with heating systems at school. A Heating System Survey can help you learn to waste less energy every day!

Action Plan

Step 1- Learn about the school heating system. Talk to your school Custodian and/or Principal to learn about how temperature is controlled in your school. If they do not have a clear understanding, try inviting someone from your Education Centre Operations Department to explain your school's heating system and temperature controls. Explain your Heating System Survey plans and your hope to waste less energy at school.

Step 2- Educate students and staff. Ask each classroom to learn about their energy use, including why and how we need to save it. Invite your Green Schools NS Engagement Officer for a presentation to get your school started with a Heating System Survey. If you want to do student-to-student education, check out the great slideshows, videos, and books listed below. After the presentation, you could start a discussion with the temperature of the room. Is your classroom too warm? Do you ever open the window when the heat is on? Why do you feel the need to open the window? Too warm? Too stinky? Are students and staff prepared to dress appropriately for the season?

Announcement example: "(Your school name) is excited to waste less energy so we will be doing a heating system survey this week to find out if each classroom is too hot, too cold, or just right. We will also be looking to find out how many layers of clothing you are wearing to be comfortable. We want our school to be the perfect temperature for learning and keeping the Earth healthy too."

Step 3- Develop your survey. A sample Heating System Survey is included but please add or remove questions to make it work for your school. You can determine how often to conduct the survey. You could conduct the survey every day for a week to see how results vary. You could also do the survey in the morning, at lunch, and the end of the day in case the temperature varies throughout the day. Please contact your Engagement Officer if you need help making your survey.



Location:										
Date (Jan 4)	Time (9am)	Room Temp.	Outside Temp.	How does room temperature feel to you:			What are you wearing:			Are there any windows open?
				Hot	Perfect	Cold	Short Sleeve	Long Sleeve	Sweater	

Step 4- Conduct the survey. Who will conduct the survey? Depending on what works at your school, the survey team could be made up of student leaders or a teacher in each classroom. With each survey, note the date, time, room temperature, outdoor temperature, and how many windows are open. Ask the people in each room if they are hot, cold, or just right by a show of hands, and note the numbers on your survey. Next, count how many people are wearing short sleeves, long sleeves, or sweaters. An easy way to see if windows are left open is to look at the school from outside. You could walk around the building at lunch or at the end of the day and note what rooms have open windows. If windows are open, ask those classroom teachers why.

Step 5- Develop an action plan based on survey results. List all the issues that are found during the survey. Then, list several solutions to each issue. For each possible solution, consider the barriers, cost, and benefits. Pick the solution you think will work best and give it a try. For example, the issue may be that many windows are left open. Possible solutions could be:

SOLUTION	BARRIER	COST
Your team closes any open windows in the school daily.	It takes time, and takes students out of class.	Time.
Ask the teachers to close the windows.	An additional task for teachers to do.	Students are not being taught during that time.
Educate the students to make sure all the windows remain closed.	They may forget.	Time.

Some examples of issues you may find - with possible solutions.

- Rooms are too warm - note what students are wearing.
- Rooms are too cold - note what students are wearing.
- Rooms are too warm in the afternoon - may need to decrease the temperature set point.
- Windows are open for fresh air - may need to have air handling unit or vents serviced.
- One or more windows are left open - the classroom needs reminders.
- One or more windows are stuck open - let your custodian know.
- Windows are very drafty - let your custodian know.



Students wear short sleeves and the classroom is hot - dress for the weather and lower the temperature. Heating vents are blocked - need to talk about why it is important to keep vents clear.

Step 6- Host a Sweater Day. Have a school-wide initiative called Sweater Day to kick off changing your school's temperature. World Wildlife Fund Canada hosts a [National Sweater Day](#) every February to draw attention to the importance of energy conservation. Check out the [Green Schools NS Sweater Day Slideshow](#) and the [Sweater Day Support Package](#). Turn down the heat at school by two degrees for the day and wear sweaters as a way to reduce energy use. You could even ask the school to wear ugly sweaters or themed sweaters to make it fun. After Sweater Day ask each classroom if the change in temperature was noticeable. Ask if they would be willing to wear a sweater every day, or once a week, and turn down the heat more often. Celebrate your achievements and perhaps you could make this a recurring event!

Step 7- Follow-up with Classroom Checks. If you have an active Green Team or Environment Club, they may want to check on classroom progress to see if the windows stay closed and the vents stay clear. Keep your success going using the [Classroom Checks Support Package](#). Stay positive and focus on achievements!



Curriculum Links

The skills, outcomes, and indicators that this activity fulfills are highlighted below.

SCIENCE 6: Electricity		
Skills and Concepts	Outcomes	Performance/ Assessment Indicators
<p>Skills:</p> <ul style="list-style-type: none"> - Compare and contrast - Investigate and describe - Manipulate, construct, and test - Demonstrate <p>Outcome 1 Concepts:</p> <ul style="list-style-type: none"> - Static electricity: how and what it is - Electric current: how and what it is - Electricity may flow in series or parallel circuits - Electric currents have magnetic fields - Insulators and conductors <p>Outcome 2 Concepts:</p> <ul style="list-style-type: none"> - Various methods of generating electricity including non renewable and renewable sources - Steps to produce electrical energy - Electricity can be transformed into light, heat, sound, motion, magnetic energy - Different sources of energy can be transferred to produce electrical energy 	<p>Outcome 1: Students will explore series and parallel circuits</p> <p>Outcome 2: Students will explain how renewable and non renewable electricity is generated and its local and environmental impacts</p>	<p>Outcome 1 Indicators:</p> <ul style="list-style-type: none"> - Investigate materials that conduct energy - Investigate static energy, drawing conclusions based on evidence - Safely conduct series and parallel circuits - Represent results of constructed circuits - Investigate how series and parallel circuits are used <p>Outcome 2 Indicators:</p> <ul style="list-style-type: none"> - Explore different sources of renewable energy that can be transferred to produce electrical energy - Explore different sources of non renewable energy that can be transferred to produce electrical energy - Investigate actions that lead to reducing electrical energy consumption in the environment

Resources

- [Green Schools NS Energy Navigators Activity](#)
- [Green Schools NS Classroom Energy Checklist](#)
- [Green Schools NS Draft Snakes](#)
- [Green School Coldbrook and District Sweater Day Story](#)
- [Green School Berwick and District Sweater Day Story](#)
- [Green School Shelburne Regional High Sweater Day Story](#)
- [Green School Coldbrook and District Sweater Day 2016 Video](#)
- [Sweater Day at Dr JC Wickwire Academy 2018 Video](#)
- [National Sweater Day](#)
- [What Is Energy? Video](#)



[How To Save Energy Video](#)

[Energy, Let's Save It! Video](#)

Books

[Why Should I Save Energy? by - Jen Green](#)

[10 Things I Can Do to Help the World by - Melanie Walsh Scholastic curriculum links](#)

[How to Help the Earth-by the Lorax \(Dr. Seuss\) by - Tish Rabe](#)

[I Can Save the Earth!: One Little Monster Learns to Reduce, Reuse, and Recycle by - Alison Inches](#)

