

LAUNCH for Long Beach Toolkit: Preserving Energy

Be an Earth Energy Hero by Preserving (or saving) Energy Every day!

When we talk about “Energy” it usually refers to the electricity or power used in homes, schools, offices, and really everywhere! Use this toolkit to discover how to help climate change and (bonus!) save money by saving energy every day.

Within this toolkit, you’ll find various downloadable resources. For your convenience, you can access them all in one place by scanning the Toolkit Resources QR code on the last page to view them in a Google Drive folder.

This toolkit was created in partnership with the City of Long Beach Utilities.



Have you registered?



NGSS

This toolkit address the following Science and Engineering Practices (SEPs) within the Performance Expectations of NGSS for Grades K-2 and 3-5:

- Asking Questions and Defining a Problem
- Planning and Carrying out Investigations
- Analyzing and Interpreting Data
- Using Mathematics and Computational Thinking
- Constructing Explanations and Designing Solutions
- Obtaining, Evaluating, and Communicating Information

Toolkit Details

LAUNCH Eco-Toolkit
Preserving Energy Everyday
Learn how you can preserve energy every single day at home and school!

<p>Skill Level</p> <p>Grades K-5, led by a teacher, parent or school administrator</p>	<p>Climate Crisis Topic</p> <p>Energy</p>	<p>Project Time</p> <p>2 weeks up to a full school year</p>	<p>What You'll Need</p> <p>Writing utensil & clipboard</p>
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Why It's Important

Using too much energy, especially energy created by coal and natural gas, not only harms our planet by fueling the climate crisis but also costs a lot of money. In places like schools and homes, where every dollar counts, this wasteful energy consumption becomes even more important.

Addressing this issue is important not only for environmental sustainability but also for redirecting limited resources toward programs that directly enhance students' educational experiences.

What You Will Accomplish

- Students will become more aware of where energy comes from and look out for energy drainers in their environment.
- Students will learn about renewable vs. non-renewable energy.
- Students will study ways to save energy every day.

How Preserving Energy Usage Will Benefit Long Beach

In the 1970s, there was a dangerous excavation (or digging) project in Culver City where people lost their lives when their project damaged a gas pipeline. The City of Long Beach wants to let everyone know of a safe and accessible option for any excavation project, whether at home or on public property. This service in California is called Dig Alert and is free to all residents and businesses in California. To use the service, simply call 811 before you start a dig project at your home or school.

Bonus! 811 is a nationwide program across the United States – make sure to let your out of state family and friends know about it!

Dig Alert:



Learning Objectives

Analysis

- Students will analyze a classroom/school building(s) for energy use

Project Management

- Students will practice collection, analysis, and presentation of data
- Students will create schedules to conduct audits
- Students will exercise effective communication and accountability

Evaluation and Assessment

- Students will track and evaluate the information they have collected

Educator Project Plan

Follow the steps below to set up a successful Preserve Energy Every Day Campaign at your school! Need help? Email us at info@gradesofgreen.org!

Track your metrics and submit your impact after implementing this toolkit. Your feedback helps keep our programs free for all across the globe.

Choose Participants

Use the Energy Preservation Campaign Sign-Up Sheet to the right!

Energy Preservation Campaign Sign-Up Sheet:

- A Student Group (such as a club or before/after school program)
- A whole class
- The whole school

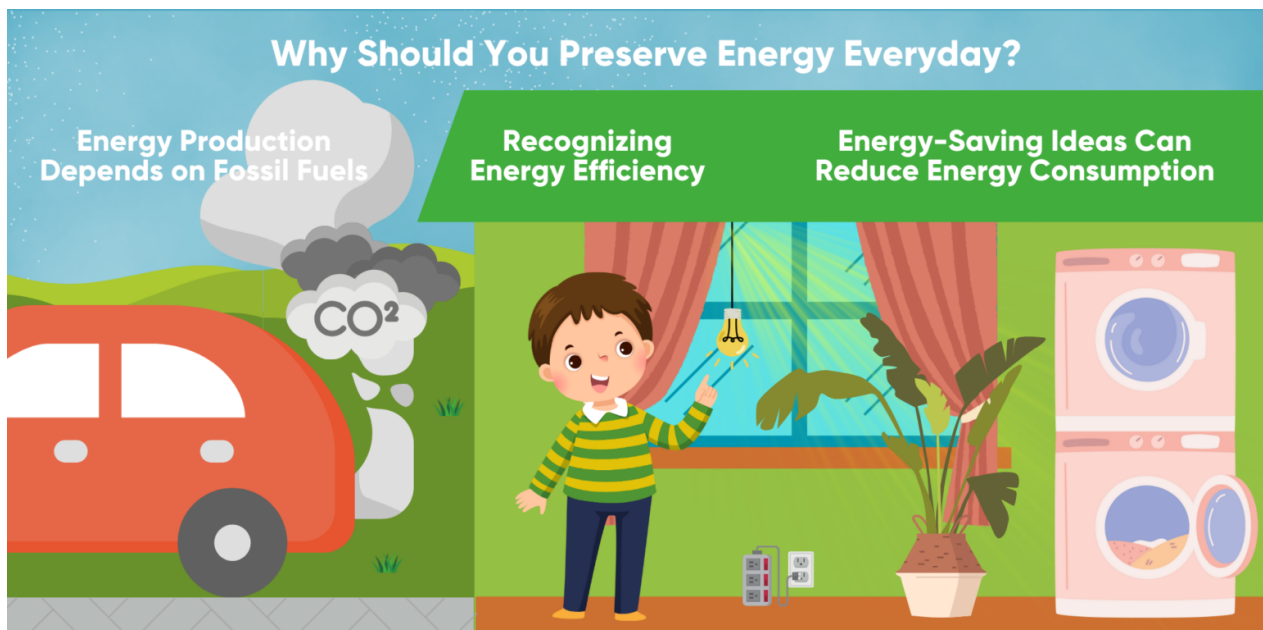


Pro Tips:

- Working with a small group of students (1-6 students)? Start with a single classroom audit.
- Working with a larger club/class (6-24 students)? Split up into teams to audit different classrooms OR create a schedule to audit the same classroom on a weekly basis.
- Is your whole school participating? Split up into teams by classroom or grade level and audit your entire campus.

Why Should You Preserve Energy Every Day?

The resources provided can be shown as a slideshow (see the QR code on the next page) or printed out as individual worksheets for students to learn.



Energy Production Currently Depends on Fossil Fuels

As California continues to grow its renewable energy infrastructure like solar panels and wind turbines, there is a fear that we cannot fully remove fossil fuels from our energy grid. If there is cloudy weather, solar panels cannot make energy and if there is no wind, then wind turbines cannot produce electricity either. To compensate for the loss of power, cities like Long Beach have to burn fossil fuels to meet the demands of people like you and me. [1]

Recognizing Energy Efficiency

Appliances are not all made the same. Some popular appliance labels can help save energy and money. One popular appliance label is the Energy Star, which uses less energy to do the same thing as a standard appliance. For example, an Energy Star washing machine can use ~25% less energy and ~33% less water compared to non-certified models.

Simple Energy-Saving Ideas Can Reduce Energy Consumption

It's easy to save energy and thereby reduce pollution from fossil fuels. Some simple changes include:

- Use windows to your advantage during the winter!
- Open draperies to let the sunshine in on bright days.
- Take shorter showers
- Shorter showers don't just save water – they save on electricity by using less energy to heat the water
- Wash clothes in cold water
- Help grown-ups with the laundry by washing clothes in cold water – it saves on energy and can be gentler on clothes

Check out other energy-saving tips from Long Beach Utilities for your home below!

Citations and Resources

Slideshow:



[1] – Long Beach Energy Efficient Infrastructure:



Long Beach Energy-Saving Tips:



Why Energy is a Social Justice Problem in Long Beach

Although energy-saving habits and upgrades to one's home are beneficial for the environment, they can often neglect financially disadvantaged communities. In many cities across the nation like Long Beach, there are issues with upgrading homes and buildings with renewable energy as low-income communities often spend a higher percentage of their income on energy bills, making them more vulnerable to fluctuations in energy prices. These disparities can lead to energy poverty, where households must make trade-offs between heating or cooling their homes and other essential expenses like food or healthcare. Additionally, access to energy efficiency programs and technologies, such as weatherization and energy-efficient appliances, can be limited for low-income households leaving vulnerable communities to miss out on the economic and environmental benefits of reduced energy consumption.

Watch These Two Short Videos to Learn Why It's Important to Reduce Energy Consumption!



'Renewable Energy 101'



'World Environment Day 2022 | Energy Saving Tips for Home'

Think About It!

Pre-Activity Questions

- How do you think using too much energy can impact the environment?
- Can you name some ways you use energy in your daily life? What are they?
- What do you think we can do to save energy at home and at school?
- Why do you think it's essential to save energy?

Take Action: How to LAUNCH Your Preserve Energy Every Day Campaign

Lead students through the “Energy Preservation” activity with guided instructions. Check out “Pro Tips” with each step for useful help.

1. Assign Roles

Determine who and how many students/staff are participating. Divide students into roles using the Energy Preservation Team Organizer:

- Researchers: Researchers will gather information from the campaign
- Student Educators: Educators will inform fellow students how and why they should preserve energy every day
- Marketers: Marketers will create content such as fliers about preserving energy
- Notetakers: Notetakers will record data from students

Energy Preservation Team Organizer:



2. Choose a Target Audience

Who do you want to reach with your Preserving Energy Everyday campaign?

- A Class
- A Grade Level
- The Whole School
- Your Community (this can include your school/ parents/other residents in your community)

3. Prepare Your Materials and Design Your Flyers

Before you start reducing your energy usage, you’ll need to start gathering your materials.

This can include the following:

- Pencils, markers, paper, tape
- Printable flyers
- Create your own flyers with actions to preserve energy everyday:
 - Turn off lights when not in use
 - Take shorter showers
 - Use fans indoors on hot days
 - Wash clothes with cold water in the washing machine
 - Hang dry clothes instead of using a dryer
 - Get creative and add your own ideas!

Pro Tip:

- You can use websites like Canva or Google Slides to create your flyers. Include information about the benefits of a healthy watershed and clean water habits.
- You can also use infographics and slides from this toolkit.
- Design your own posters – you can even hold an art competition!

- Have “marketer” students create flyers to post around campus announcing your preserving energy everyday campaign and suggested actions everyone can take.

4. Plan Your Campaign

- How many presentations will be held?
- Which team will conduct the outreach (if you have multiple teams)?
- When will the presentations be held?

5. LAUNCH Your Campaign to Educate Students, Teachers, and Parents

Educate and let your schoolmates know about your energy-saving project! You can do this by choosing a few student leaders who will present the provided Preserving Energy Every Day Walking Assembly Script to their classmates.

Preserving Energy Every Day Walking Assembly Script:



6. Record Your Results

At the end of your campaign, use the Energy Preservation Tracker to determine the number of energy saving actions you and your community took, including how many people you educated and how many pledged to preserve energy every day.

Energy Preservation Tracker:



Pro Tip:

- Pledges – Send these letters and pledges home with students informing parents/guardians about the campaign and encouraging them to change one habit to save energy!

Parents Preserving Energy Every Day Pledge:



Parents Preserving Energy Every Day Letter:



Teachers & Staff Preserving Energy Every Day Pledge:



Teachers & Staff Preserving Energy Every Day Letter:



- Print signs and post them around classrooms on campus.

Sample Energy Saving Sign:



- Students can also present their campaign at a PTA meeting, school board meeting, or principal's meeting.

Reflection Questions

How'd It Go?

Student Reflection

- What surprised you the most about this audit?
- Did you notice any changes in your behavior or habits related to energy use as a result of your project?
- How did your involvement in the project change your perspective on energy conservation and environmental responsibility?
- In what ways can you continue to be an advocate for energy conservation in your community, school, or at home?

Report Students' Impact

Congratulations!! You've implemented your Preserve Energy Campaign! Don't let all that hard work go unnoticed. **Submit your results by scanning the QR code below.**



Project ongoing? No problem! Let us know what you've done so far.

By reporting your impact, Grades of Green can:

- CELEBRATE and elevate your students' hard work and success.
- Offer our programs FREE for all students across the globe.
- AWARD stipends and certificates to hard-working educators and students.

Please take a few minutes to submit your results. Thank you!

Provided Resources

Preserve Energy Every Day Sign-up Sheet:



Preserve Energy Every Day Organizer:



Preserve Energy Every Day Tracker:



Preserve Energy Every Day Monitoring Schedule:



Preserve Energy Every Day Parent Pledge:



Preserve Energy Every Day Parent Letter:



Preserve Energy Every Day Teacher/Faculty Pledge:



Preserve Energy Every Day Teacher/Faculty Letter:



Preserve Energy Every Day Walking Assembly Script:



Preserve Energy Every Day Presentation Slides:



Preserve Energy Every Day Wrap Up Form:

Toolkit Resources – Google Drive Folder:



Congrats on completing the Preserving Energy Every Day Eco-Toolkit!

Did you enjoy this toolkit? Find your next project below!

