

ENERGY CHALLENGE | TEACHER GUIDE



Activity Overview:

Students will teach a younger student about the importance of turning off the lights! They will color a “Lights Out” poster to give to the younger students in order to provide them with a visual reminder to conserve energy!

Prep Time: 15 minutes **Activity Duration:** poster: 20-30 min, student teaching: 10-15 min

STANDARDS ALIGNMENT

Common Core

- *RL.4.1b: Follow agreed-upon rules for discussions and carry out assigned roles.*
- *RL.4.1d: Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.*
- *RL.4.4: Report on a topic, text, procedure, or solution to a mathematical problem, tell a story, or recount an experience in an organized manner using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace and use appropriate vocabulary.*

NGSS

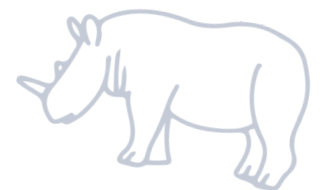
- *4.ESS3.1: Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.*

MA Comprehensive Health

- *3.7.CE.4: Describe ways that the community can impact the health of people within that community.*
- *3.7.CE.6: Use accurate information when discussing environmental health issues (e.g., littering, deforestation, recycling, climate change, clean water) that impact people’s health.*

MATERIALS NEEDED

- *“Lights Out” posters (one copy per student)*
- *Coloring materials*
- *Mini lesson plan (for students)*





BACKGROUND INFORMATION

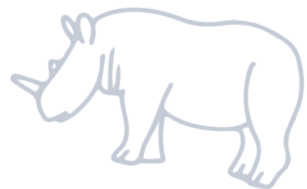
Generating electricity largely relies on the burning of fossil fuels. Though fossil fuels remain the primary source of electricity generation, the renewable energy industry is growing in all 50 states. Between 2010 and 2018, wind energy generation doubled and solar energy capacity has increased 31%. Fossil fuels are considered a finite resource, taking tens of million of years to form.

Energy use in America is doubling every 20 years. With our rate of energy consumption and our growing population, there will eventually be no available fossil fuels to generate electricity. Americans need to work together to conserve energy by using energy more efficiently. By being aware of and preventing phantom power, using energy efficient LED light bulbs, and using energy saving appliances, Americans could save a lot of wasted electricity. Heating systems use the most energy in a house, so setting a heater to run at a lower temperature is an efficient way to save energy. Plus, being conscious of when heaters are running and ensuring that they, along with other appliances, are only running when they need to be, can save a lot of energy as well!

INSTRUCTIONS



1. Put students in pairs or small groups. Groups will be working together on posters, answering questions, and presenting their work to other students.
2. Pass out the posters and coloring materials. Students should color their posters knowing they will be hanging them up in their classroom and around the school.
3. Pass out the student guide papers for the kids to write what they will be saying to the students they teach.
4. Go over some expectations for how to act when presenting to other students. Speaking voices, eye contact, general presentation skills, etc. (set up a time to practice)!
5. Inform the other teachers that your students will be dropping by with a poster and a short presentation about energy for their students. It should only last about five minutes. Make sure they remember to hang their "Lights Out" poster in the classroom by the light switch!
6. Try to visit every class in the school and hang extra posters in the hallway, cafeteria, gymnasium, library, office, etc.





ENERGY CHALLENGE | STUDENT GUIDE

Activity Overview:

It's your turn to be a teacher! You'll be teaching your school why it's important to conserve energy. Answer the questions on this page and use it as your "script" when teaching other students and teachers!

INSTRUCTIONS

1. Color the "Lights Out" poster
2. Teach a different grade about what you learned with Change is Simple and how turning off the lights saves energy! Answer the questions below and use it when teaching.
3. Give the class you visit the poster you colored so they can hang it up by their light switch and practice saving energy! Hang any extra posters in other classrooms or in the hallway!

Where does our electricity come from?



How is our electricity generated?

How does our use of electricity impact climate change?

How does turning off the lights help conserve energy?

LIGHTS OUT!

Remember: Lights out when...

- It's bright outside
- You leave the classroom
- It's quiet time

