

Workshop Objectives

- Develop a basic understanding of what energy is, how it is transformed and used to make our lives easier, and the environmental impacts of our energy consumption.
- Become familiar with energy forms and sources, energy transformation, energy efficiency, and conservation in the home and at school.
- Illustrate methods to integrate energy education into lessons in the library, using the NEF materials.
- Learn how librarians can empower students to bring lessons in energy efficiency home to their families.
- Become familiar with the services offered by NYSERDA.

Agenda (5 Hours)

Welcome & Introduction

This agenda includes a number of lessons we have selected to share with you today. We will discuss all of them and spend as much time as possible completing the hands-on activities. Should you have questions on any activities we were unable to complete please contact the National Education Foundation at 1-800-616-8326 from 10:00 am to 7:00 pm EST. NEF's curriculum specialists can answer any questions you have. We also encourage you to explore the materials on your own and determine which lessons may be appropriate for your students. At the end of the day, we will discuss ways you can integrate these materials into your existing curriculum.

Framing the Day

- Ice Breaker Activity – quiz attendees; ask for energy savings ideas for the library.
- Discussion of the role libraries can play in providing energy information throughout communities.
- Description of NYSERDA's role and services.
- The need for energy education.
- Energy Literacy PowerPoint presentation. Note that the entire presentation is on our website for you to download and/or review at your convenience. Go to www.GetEnergySmart.org, and click on 'Energy Education.' Select 'Workshops,' and then select 'Workshop Presentations.'

Energy Topics

The workshop is divided into four major areas:

- Group 1 -- **Energy Efficiency & Conservation**
 - Why is it important to save? How can we conserve at home and at school?
- Group 2 -- **Energy Basics – Uses & Applications**
 - What is energy? What do we use it for? What is electricity? Kinetic vs. potential
- Group 3 -- **Energy Sources**
 - Renewable vs. non-renewable
 - Energy limits, Energy Transformation
- Group 4 -- **Energy and Our Environment**
 - Environmental advantages/disadvantages of each energy source
 - Climate change, Recycling, Anti-idling

Introducing the Materials

- These materials have been designed for teachers and correlate with the New York State Learning Standards in these subject areas: Math, Science, Technology, English/Language Arts, Global Studies, and Family & Consumer Science.
- These activities can be adapted for use in library programs. The demonstrated programs presented today are not meant to be comprehensive but are intended to encourage you to host energy-themed programs at the library.
- The activities have been paired with annotated bibliography to make them more suitable for library programs.

Help us make the energy bibliography even better! We invite you to send information on additional printed or web resources to the following address: info@nyess.org

Library Program Activities

Group 1 -- Energy Efficiency & Conservation - Suggested Theme: "Be an Energy Detective"

- Introduction of topic
- **Energy Fun** - Activities that tie-in with program theme:
 - Eagle Eye – The Energy Waste Spotter*—pg. 91
 - Save or Waste?* -- Pg. 73
 - Save Energy With Power Bear* – pg. 77
- **Energy Action** - Activities that tie-in with program theme:
 - When Not in Use, Turn Off the Juice*—pg. 31 (about 10 minutes)
 - Energy Audit* – pg. 47-50 (about 10 minutes)
- Review NYSERDA booklets, brochures, and web resources, including www.getenergysmart.org
- Review titles that have been highlighted as being useful resources for this topic
- Other web resources:
 - Energy Information Administration – Kids Page: <http://www.eia.doe.gov/kids/index.html>
 - ENERGYSTAR.GOV website—new kids page:
http://www.energystar.gov/index.cfm?c=kids.kids_index
 - Energy Hog: <http://www.energyhog.org>

Group 2 -- Energy Basics – Uses & Applications - Suggested Theme: "Get Energized at the Library"

- **Energy Fun** - Activities that tie-in with program theme:
 - Power Bear's Electrical Safety Tips* – pg. 31
 - Energy, Work, and Movement*— pg. 41
 - Food Chains* – pg. 49
- **Energy Action** - Activities that tie-in with program theme:
 - Let Energy Do It!* – pg. 19 (Energy Fundamentals)
 - Get Your Motor Running* – pg. 20 (EAT)
- Review titles that have been highlighted as being useful resources for this topic
- Activities on the CD
- Web resources:
 - Energy Information Administration website:
http://www.eia.doe.gov/kids/energy_facts/science/formsofenergy.html

BREAK FOR LUNCH

Group 3 -- Energy Sources – Suggested Themes:

- “Let the Sun Shine: hands-on solar energy activities @ your library” (can be modified for use with K-6)
- “What’s Up with Wind?: hands-on wind energy activities” (can be modified for use with K-8)
- “Playing with Energy: exploring the ways energy is transformed (can be used with K-8)
- **Energy Fun** - Activities that tie-in with program theme:
 - Energy Mobile* – on CD
 - Stuffed Suns* – pg. 5
 - Pinwheel activity* – on CD
 - On or be Gone* – pg. 68
- Review titles that have been highlighted as being useful resources for this topic
- Examine the posters and *Energists*—discuss the activities that would make good library program choices

Group 4 -- Energy and Our Environment – Suggested Themes:

- “Climate Change and Our Planet”: exploring various aspects of climate change and reducing personal carbon footprint (upper elementary-middle school)
- “The 4 R’s: Reduce, Reuse, Recycle, Re-Buy”: hands-on activities develop an understanding of the sources of waste and pollution, how the waste we discard adds up
- **Energy Fundamentals** - Activities that tie-in with program theme:
 - The Three R’s*—pg. 75
 - Reduce, Reuse, Recycle* – pg. 77
- **Energy Action** - Activities that tie-in with program theme:
 - Waste Not, Want Not* – pg. 76
- Web resources on climate change / recycling
- Preview video “The Story of Stuff” www.storyofstuff.com/
- Great websites:
 - Environmental, Monitoring, Evaluation, and Protection (EMEP) – NYSERDA R & D program: http://www.nyserda.org/Programs/Environment/EMEP/teachers_&_students.asp
 - Clean School Bus Program – US EPA: <http://www.epa.gov/cleanschoolbus/>
 - Extension activities can be done and teachers can order free supplies: <http://www.epa.gov/cleanschoolbus/antiidling.htm#irk>
 - Science – more science activities and games: <http://www.scholastic.com/magicschoolbus/travel/index.htm>
 - English/Language Arts _ *The Magic School Bus Gets Cleaned Up*: <http://www.epa.gov/cleanschoolbus/msb-book.htm>

Pulling It All Together

- How can you integrate some or all of these activities in your library?
- How can you inspire your students to make behavioral changes at home and at school?
- What can you do to prepare your students for green careers?

Incentive and Competition Opportunities

- Igniting Creative Energy (ICE) – national K-12 student competition, sponsored by NEF
- \$500 mini-grants for educators (Visit our website www.GetEnergySmart.org for details.)

Final Housekeeping Issues

- Survey, sign out, professional development certificate, explain sub stipend process (if necessary)

**Please become an Energy Ambassador! Tell others about what you learned here today.
Recommend to others that they attend Energy Smart Students workshops.**

www.GetEnergySmart.org info@nyess.org 1-877-NY-SMART – Option 6