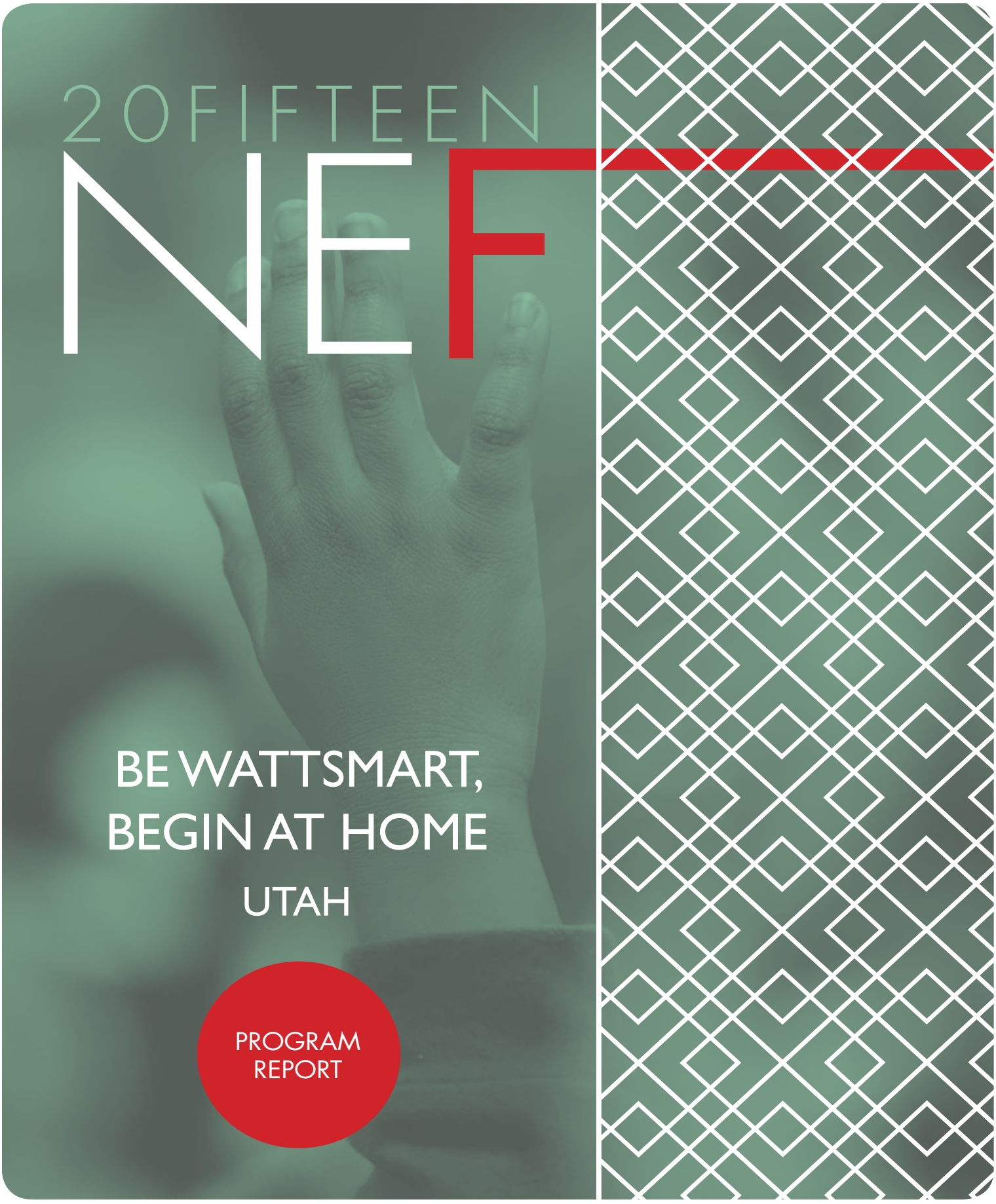

20FIFTEEN NEF

BE WATTSMART, BEGIN AT HOME

UTAH

PROGRAM REPORT

Prepared for:

Michael S. Snow, Manager, Regulatory Projects

Barbara Modey, Customer and Community Communications

Rocky Mountain Power

201 South Main, Suite 2300

Salt Lake City, UT 84111

Prepared by:

Marilyn Clark

Program Director

National Energy Foundation

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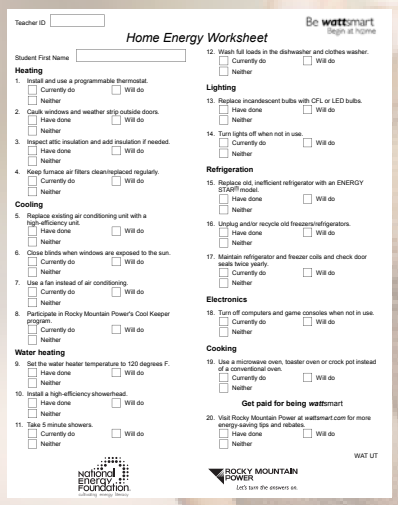
Salt Lake City, UT 84107

February 17, 2016

Savings



Teacher ID

Be wattsmart Begin at home

Home Energy Worksheet

Student First Name

Heating

1. Install and use a programmable thermostat.
   Currently do Will do Neither
2. Caulk windows and weather strip outside doors.
   Have done Will do Neither
3. Inspect attic insulation and add insulation if needed.
   Have done Will do Neither
4. Keep furnace air filters clean/replaced regularly.
   Currently do Will do Neither

Cooling

5. Replace existing air conditioning unit with a high-efficiency unit.
   Have done Will do Neither
6. Close blinds when windows are exposed to the sun.
   Currently do Will do Neither
7. Use a fan instead of air conditioning.
   Currently do Will do Neither
8. Participate in Rocky Mountain Power's Cool Keeper program.
   Currently do Will do Neither

Water heating

9. Set the water heater temperature to 120 degrees F.
   Have done Will do Neither
10. Install a high-efficiency showerhead.
    Have done Will do Neither
11. Take 5 minute showers.
    Currently do Will do Neither
12. Wash full loads in the dishwasher and clothes washer.
    Currently do Will do Neither

Lighting

13. Replace incandescent bulbs with CFL or LED bulbs.
    Have done Will do Neither
14. Turn lights off when not in use.
    Currently do Will do Neither

Refrigeration

15. Replace old, inefficient refrigerator with an ENERGY STAR® model.
    Have done Will do Neither
16. Unplug and/or recycle old freezers/refrigerators.
    Have done Will do Neither
17. Maintain refrigerator and freezer coils and check door seals twice yearly.
    Currently do Will do Neither

Electronics

18. Turn off computers and game consoles when not in use.
    Currently do Will do Neither

Cooking

19. Use a microwave oven, toaster oven or crock pot instead of a conventional oven.
    Currently do Will do Neither

Get paid for being wattsmart

20. Visit Rocky Mountain Power at *wattsmart.com* for more energy-saving tips and rebates.
    Have done Will do Neither

WAT UT

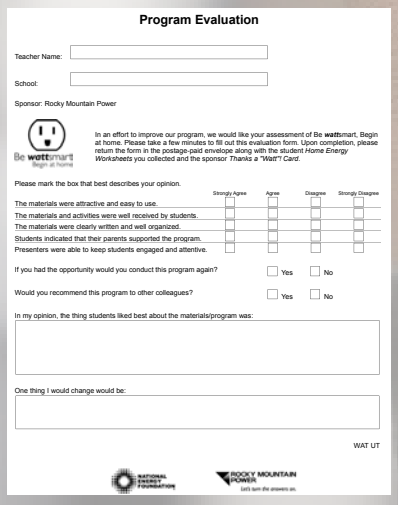
national energy foundation

ROCKY MOUNTAIN POWER
Let's turn the answers on.

Home Energy Worksheets

– Returned: 8,350 –

– 70.5% –



Program Evaluation

Teacher Name:

School:

Sponsor: Rocky Mountain Power

Be wattsmart Begin at home

In an effort to improve our program, we would like your assessment of Be *watt*smart, Begin at home. Please take a few minutes to fill out this evaluation form. Upon completion, please return the form in the postage-paid envelope along with the student *Home Energy Worksheets* you collected and the sponsor *Thanks a "Watt"! Card.*

Please mark the box that best describes your opinion.

	Strongly Agree	Agree	Disagree	Strongly Disagree
The materials were attractive and easy to use.	☐	☐	☐	☐
The materials and activities were well received by students.	☐	☐	☐	☐
The materials were clearly written and well organized.	☐	☐	☐	☐
Students indicated that their parents supported the program.	☐	☐	☐	☐
Presenters were able to keep students engaged and attentive.	☐	☐	☐	☐

If you had the opportunity would you conduct this program again? ☐ Yes ☐ No

Would you recommend this program to other colleagues? ☐ Yes ☐ No

In my opinion, the thing students liked best about the materials/program was:

One thing I would change would be:

WAT UT

NATIONAL ENERGY FOUNDATION

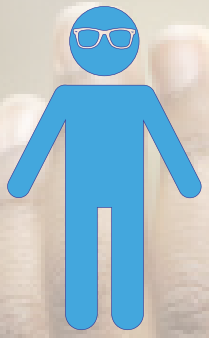
ROCKY MOUNTAIN POWER
Let's turn the answers on.

Teacher Packets

– Returned: 356 –

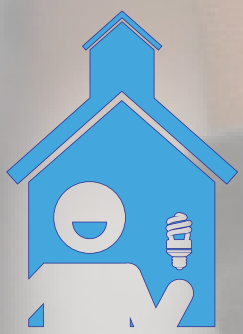
– 79.64% –

Participants



Students
– 11,843 –

Teachers
– 447 –



Schools
– 130 –

Table of Contents

Program Overview

Program Administration

National Energy Foundation (NEF) is pleased to report on activities of the Be wattsmart, Begin at home energy efficiency education program conducted during the 2015– 2016 school year. Our mission remains constant, to cultivate and promote an energy literate society. The objective is to provide Utah teachers and students with a quality educational experience and materials to support them in teaching and learning this valuable message. NEF acknowledges that through the support of Rocky Mountain Power, the Foundation has been able to move the mission forward. Thank you for your commitment to this very important task.

Be wattsmart, Begin at home is administered by National Energy Foundation, a non-profit organization (established in 1976) dedicated to the development, dissemination, and implementation of supplementary educational materials, programs and services relating primarily to energy, water, natural resources, science, math, technology, conservation, energy efficiency and the environment.

Anne Lowe, Vice President - Operations, oversees program organization. Gary Swan, Vice President - Development, oversees contract accounting. Marilyn Clark, Program Director, is responsible for the implementation of the scope of work and the program reporting. Patti Clark, Program Coordinator, oversees school enrollment and communication with teachers. Diane Baum, Program Scheduler, is responsible for scheduling presentations and teacher communication. A team of trained and seasoned presenters brought the interactive, hands-on program to Utah schools.

Program Summary

The fall 2015 Be wattsmart, Begin at home program provided quality energy education to schools in the Rocky Mountain Power Service territory. The program consisted of a 60-minute education presentation given to groups of fifth grade students and their teachers. Two professional presenters from National Energy Foundation were involved in the implementation of each interactive program. Important energy concepts learned through these presentations were then communicated to Rocky Mountain Power households through the *Student Guide* and implementation of the *Home Energy Worksheet.*

Building Collaborations

The Utah State Office of Education's Core Curriculum for fifth grade correlate well to the content of Be wattsmart, Begin at home. Teachers appreciated the collaborative efforts to align program components to their core curriculum. Curriculum correlations were provided to teacher participants in their *Teacher Materials Folder* and also on the program registration website wattsmart.com/begin.

Promotional Materials (Implementation)

During the month of May 2015 an invitation to register for the fall 2015 program was sent via email to all schools that had participated in 2014. In August a reminder to register email was sent to all unregistered past participating schools, and a promotional flier was sent to all qualified and unregistered teachers within the Utah Rocky Mountain service territory.

Program Registration

Be *watt*smart, Begin at home was completely filled in September with 130 schools and a waitlist of 18 Utah schools.

Registration for the program was online at wattsmart.com/begin. Each registered school was checked against the qualified school list before email and phone communication was made with teachers to determine optimum presentation dates and other pertinent information.

Registration for the program was followed by a series of email communications with teachers, sent automatically by the program registration website. The website calculated *Home Energy Worksheet* returns as well as earned

gift card levels and communicated this information to the participant. Later communications were customized through programming to be sent only to teachers needing a reminder to return their program documents. Automatic email also contained live links to vital program documents such as the *Spanish Home Energy Worksheet* and *Spanish Student Booklet.*

Be wattsmart, Begin at home Presentation

Be wattsmart, Begin at home presentations were given during the period of September 21st through November 12th, 2015. The presentation featured a custom Keynote slideshow that brought energy concepts to the forefront of Utah education. The presentation focused on important concepts, such as natural resources, electrical generation, the energy mix used by Rocky Mountain Power to generate electricity and tips for energy efficiency in the home.

The presentation provided interactive activities that involved and engaged the audience. Students participated in making a human electrical circuit, during which they learned key core curriculum concepts such as insulators and conductors of electricity and electrical generation. Student volunteers used props to demonstrate the process of electrical generation for their classmates. All students reviewed material learned with an "Energy Lingo" review activity at designated points throughout the presentation. To help students remember energy efficiency tips, participants watched Slim the Lineman energy efficiency video vignettes. At the end of each short video, students completed a rhyme about Slim's wise energy choice.

The last portion of the presentation communicated the importance of the program take home pieces. These documents enabled households to participate in energy education along with students.

Student and Teacher Materials

A *Parent Letter* was provided to explain the importance of Be wattsmart, Begin at home. In addition, students took home a *Student Guide* and *Home Energy Worksheet* to share with their families. Students who returned their worksheet received a special reward, an Energy Star© rated nightlight featuring the Rocky Mountain Power Logo.

Educators were also given helpful energy educational materials. Each teacher participant was provided with a custom Be wattsmart, Begin at home folder. It contained a custom *Teacher Guide* with additional information and activities to supplement and continue energy education in the classroom. Also in the folder were the NEF instructional posters, *Electrical Generation* and *Bright Ways to Save Energy*.

A program *Implementation Steps Flier* assisted teachers in carrying out the program. It also gave simple steps for successfully returning the *Home Energy Worksheets,* the *Program Evaluation*, and the sponsor *Thanks a "Watt" Card* in the postage paid envelope provided in the *Teacher Materials Folder*. A *Rewarding Results Flier* gave information concerning the Visa® gift card that teacher participants could receive for returning their student surveys. Educators received a $50 gift card for an 80% return, or a $25 gift card for a 50 – 79% return by the December 4, 2015 deadline.

Program Accomplishments – Fall 2015

- 141 Be wattsmart, Begin at home presentations completed at 130 Schools
- 18 schools waitlisted
- 11,843 students and families reached
- 447 Utah teachers reached
- 70.51% *Home Energy Worksheet* survey return
- $50 Visa gift cards delivered to 327 Utah teachers
- $25 Visa gift cards delivered to 26 Utah teachers

Summary and Attachments

National Energy Foundation is pleased to participate with Rocky Mountain Power in bringing this informative program to Utah teachers, students and families. The partnership between the organizations has been successful in developing and continually enhancing program deliverables. Be wattsmart, Begin at home is now an established part of the Utah educational community culture. It is also an important resource for bringing energy literacy to the forefront of fifth grade student education. Thank you for your continued commitment to Utah Schools.

- Fall 2015 Participating Schools
- Program Promotions
- Program Documents
    - Keynote Presentation
    - *Teacher Implementation Steps Flier*
    - *Rewarding Results Flier*
    - *Student Guide*
    - *Teacher Guide*
    - Lingo Card
    - Utah Core Curriculum Correlations
    - *Parent Letter*
- *Teacher Evaluation*
- *Teacher Evaluation* Compilation
- *Home Energy Worksheet* (English)
- *Home Energy Worksheet* (Spanish)
- Wise Energy Behaviors in Rocky Mountain Power Utah Homes
- *Home Energy Worksheet* Summary – Rocky Mountain Power
- Sampling of *Thanks a "Watt" Cards*

ATTACHMENTS

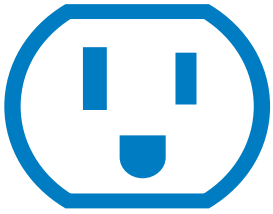
Fall 2015 Participating Schools

School Name	School Address	School City	State
Altara Elementary	800 E 11000 S	Sandy	UT
Antelope Elementary	1810 South Main	Clearfield	UT
Arcadia Elementary	3461 West 4850 South	Taylorsville	UT
Aspen Elementary	945 West 2000 North	Orem	UT
Backman Elementary	601 N. 1500 W.	Salt Lake	UT
Blackridge	14131 Rosecrest Road	Herriman	UT
Bluffdale Elementary School	14323 S. 2700 West	Bluffdale	UT
Buffalo Point Elementary	1924 Doral Drive	Syracuse	UT
Butler Elementary	7000 S 2700 E	Cottonwood Heights	UT
Butterfield Canyon Elementary	6860 Mary Leizan Ln	Herriman	UT
Cedar Ridge Elementary	4501 W Cedar Hills Drive	Cedar Hills	UT
Cedar South Elementary	499 W 400 S	Cedar City	UT
Century Elementary	5820 North 4800 West	Bear River City	UT
Channing Hall	13515 South 150 East	Draper	UT
Cook Elementary	1175 S 1350 W	Syracuse	UT
Copper Canyon	8917 Copperwood	West Jordan	UT
Copper Hills Elementary	7635 West 3715 South	Magna	UT
Cottonwood Elementary	5205 South Holladay Blvd.	Holladay	UT
Crescent Elementary	11100 S. 230 E.	Sandy	UT
Crestview Elementary	185 West Golden Avenue	Layton	UT
Crestview Elementary School	2100 E Lincoln Lane	Holladay City	UT
D.T. Orchard Elementary	6744 West 3800 South	West Valley City	UT
Diamond Ridge	6034 6365 South Mill Valley Ln	West Valley City	UT
Eagle Bay Elementary	1933 West Clark Lane	Farmington	UT
Early Light Academy	11709 So Vadania Dr	South Jordan	UT
East Elementary	255 E.College Ave	Cedar	UT
East Layton Elementary	2470 E Cherry Ln	Layton	UT
EastLake Elementary	4389 Isla Daybreak Rd	South Jordan	UT
Eastwood	3305 South Wasatch Blvd.	Salt Lake City	UT
Elk Meadows Elementary	3448 W. 9800 S.	South Jordan	UT
Elk Run	3550 S. Helen Dr.	Magna	UT
Emerson Elementary	1017 East Harrison Ave.	Salt Lake City	UT
Enoch Elementary	4701 N WAGON WHEEL DR	Enoch	UT
Falcon Ridge	6111 W 7000 S	West Jordan	UT
Fielding Elementary	50 West Main Street	Fielding	UT
Fox Hollow Elementary	6020 W. 8200 S.	West Jordan	UT
Foxboro Elementary	587 Foxboro Drive	North Salt Lake	UT
Freedom Elementary	10326 N 6800 W	Highland	UT
Gateway Preparatory Academy	201 E. Thoroughbred Way	Enoch	UT
Geneva Elementary	665 West 400 North	Orem	UT
Goshen Elementary	60 North Center	Goshen	UT
Granite Elementary	9760 S. 3100 E.	Sandy	UT
Grantsville Elementary School	50 South Park Street	Grantsville	UT
Green Acres Elementary School	640 East 1900 North	Ogden	UT
Gunnison Elem	550 So. 300 W.	Gunnison	UT
Harvest Elementary	2105 N Providence Drive	Saratoga Springs	UT
Hawthorne	1675 South 600 East	Salt Lake City	UT
Heritage Elementary	1354 W Weaver ln	Layton	UT

School Name	School Address	School City	State
Heritage Elementary	925 W 3200 S	Nibley	UT
Herriman Elementary	13170 South 6000 West	Herriman	UT
Hill Field Elementary	389 S. 1000 E.	Clearfield	UT
Hillside Elementary	4283 S 6000 W	West Valley City	UT
Howard R. Driggs Elementary	4340 S. 2700 E.	Holladay	UT
JC Fremont	4249 Atherton Dr.	Taylorsville	UT
Jim Bridger Elementary	5368 West Cyclamen Way	West Jordan	UT
John Hancock	125 N 100 E	Pleasant Grove	UT
Jordan Ridge Elementary	2636 West 9800 South	South Jordan, UT	UT
Kearns-Saint Ann School	430 East 2100 South	Salt Lake City	UT
King Elementary	601 E 1000 N	Layton	UT
Knowlton Elementary	801 Shepard Lane	Farmington	UT
Lakeside Elementary	2941 West 800 North	West Point	UT
Lakeview Elementary	2025 West 5000 South	Roy	UT
Lincoln Academy	1582 W 3300 N	Pleasant Grove	UT
Lincoln Elementary I	591 W Antelope	Layton	UT
Lincoln Elementary II	550 E. Canfield Drive	Ogden	UT
Lomond View Elementary	3644 North 900 West	Pleasant View	UT
Lone Peak Elementary	11515 So. High Mesa Dr.	Sandy	UT
Mapleton Elementary	120 West Maple	Mapleton	UT
MarLon Hills	4500 Madison Ave	Ogden	UT
McKinley Elementary School	120 West 500 South	Tremonton	UT
Monte Vista	11121 S. 2700 W.	South Jordan	UT
Mountainville Academy	195 N Main St	Alpine	UT
North Park Elementary	50 East 700 North	Tremonton	UT
Oakridge Elementary	4325 South Jupiter Drive	SLC	UT
Odyssey Charter	738 East Quality Drive (700 South)	American Fork	UT
Odyssey Elementary	375 Goddard St	Ogden	UT
Oquirrh Hills Elementary	5241 s. 4280 w.	Kearns	UT
Orchard Hills Elementary	168 E 610 S	Santaquin	UT
Our Lady of Lourdes	1065 E 700 S	Salt Lake City	UT
Overlake Elementary	2052 North 170 West	Tooele	UT
Park Lane	9955 South 2300 East	Sandy	UT
Peruvian Park Elementary	1545 E 8425 S	Sandy	UT
Philo T Farnsworth	3751 S Sunnyvale Drive	West Valley City	UT
Plymouth Elementary	5220 S. 1470 W.	Taylorsville	UT
Providence Hall Elementary	4795 W. Patriot Drive	Herriman	UT
Quest Academy	4862 W 4000 S	West Haven	UT
Ridgecrest Elementary	7200 S 1800 E	Cottonwood Heights	UT
Riverside	8737 S. 1220 W.	West Jordan	UT
Rolling Meadows Elementary	2950 Whitehall Drive	West Valley City	UT
Rose Creek Elementary	12812 S 3600 W	Riverton	UT
Rosecrest	2420 Fisher Lane	Salt Lake City	UT
Roy	2888 W. 5600 S.	Roy	UT
Sand Springs Elementary	242 N 3200 W	Layton	UT
Sandy Elementary	8725 South 280 East	Sandy	UT
Scera Park Elementary	450 South 400 East	Orem	UT
Settlement Canyon Elementary	935 W Timpie Rd	Tooele	UT

School Name	School Address	School City	State
Silver Crest Elementary	12937 South Elementary Drive	Herriman	UT
Silver Hills Elementary	5770 West 5100 South	SLC	UT
South Clearfield	990 E 700 S	Clearfield	UT
South Weber Elementary	1285 E. Lester Dr.	South Weber	UT
Spectrum Academy	575 N. Cutler Drive	North Salt lake	UT
St Francis Xavier Catholic School	4501 West 5215 South	Kearns	UT
Stansbury Elementary	3050 S. 2700 W.	West Valley City	UT
Summit Academy Bluffdale	15327 S. 1000 W.	Bluffdale	UT
Summit Academy Draper Campus	1285 EAST 13200 SOUTH	DRAPER	UT
Summit School	80 West Center	Smithfield	UT
Sunrise Elementary	1520 E. 11265 S.	Sandy	UT
Sunset Elementary	2014 N 250 W	Sunset	UT
Taylor Canyon Elementary	2130 Taylor Ave	Ogden	UT
Taylorsville Elementary	2010 Mantle Ave.	Taylorsville	UT
Three Mile Creek Elementary	2625 s 1050 w	Perry	UT
Upland Terrace	3700 Sunnydale Drive	Salt Lake City	UT
Vae View Elementary	1750 W 1600 North	Layton	UT
Valley View Elementary	941 Orchard Drive	Pleasant Grove	UT
Voyage Academy	1891 North 1500 West	Clinton	UT
Washington Elementary	420 N 200 W	Salt Lake City	UT
Wellsville Elementary	90 East 100 South	Wellsville	UT
West Clinton Elemetary	2826 W 1800 N	Clinton	UT
West Jordan Elementary	7220 South 2370 West	West Jordan	UT
West Kearns Elementary	4900 South 4620 West	Kearns	UT
West Point Elementary	3788 W. 300 N.	West Point	UT
West Valley Elementary	6049 W. Brud Dr.	WVC	UT
Westbrook Elementary	3451 West 6200 South	Taylorsville	UT
Westland Elementary	2925 West 7180 South	West Jordan	UT
Westmore Elementary	1150 S. Main Street	Orem	UT
Whittier Elementary	3585 S 6000 W	West Valley	UT
Windsor	1315 North Main	Orem	UT
Woodrow Wilson	2567 south main	South Salt Lake City	UT
Woods Cross elementary	745 W 1100 South	Woods Cross	UT
Woodstock	6015 S 1300 E	Salt Lake City	UT

Be *watt*smart
Begin at home



Be wattsmart, Begin at home is an energy education program sponsored by Rocky Mountain Power that is available to you in the fall of 2015. This program focuses on the Utah State Office of Education fifth-grade core curriculum for electricity while showing students and teachers how wise energy actions make a difference. Here is what local teachers have to say about the program:

> **"The students enjoyed this program and it fits perfectly with our unit on electricity."**

> **"The circuit demonstration taught important electrical concepts and engaged students."**

Please join us in this important effort. You may qualify to receive a **Visa® gift card of up to $50** depending upon participation.

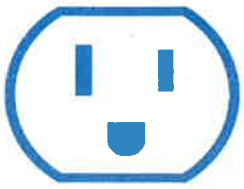
What:	A 60-minute educational presentation with FREE wattsmart energy education posters, activities and student materials.
When:	September 21 - November 13, 2015
Where:	Your school
Who:	Fifth-grade students and their teachers
How:	Enroll at your earliest convenience to ensure a spot at: **wattsmart.com/begin** or email **patti@nef1.org**.

National Energy Foundation
cultivating energy literacy

ROCKY MOUNTAIN POWER

wattsmart.com

Be *watt*smart
Begin at home



Dear Be *watt*smart, Begin at home program participant:

Thank you for participating in the Be *watt*smart, Begin at home program. Rocky Mountain Power is once again sponsoring this energy education program for the 2015-16 school year.

As a former program participant, you have the opportunity to enroll your fifth-grade class in advance for the fall 2015 Be *watt*smart, Begin at home program.

The 60-minute school presentations include **FREE** wattsmart energy education posters, activities and student materials. They will be scheduled during the weeks of **September 21 - November 13, 2015**. Teachers may qualify to receive a mini-grant of up to $50 depending upon participation.

Register soon at: wattsmart.com/begin to ensure your 2015 participation or email patti@nef1.org.

Thank you,

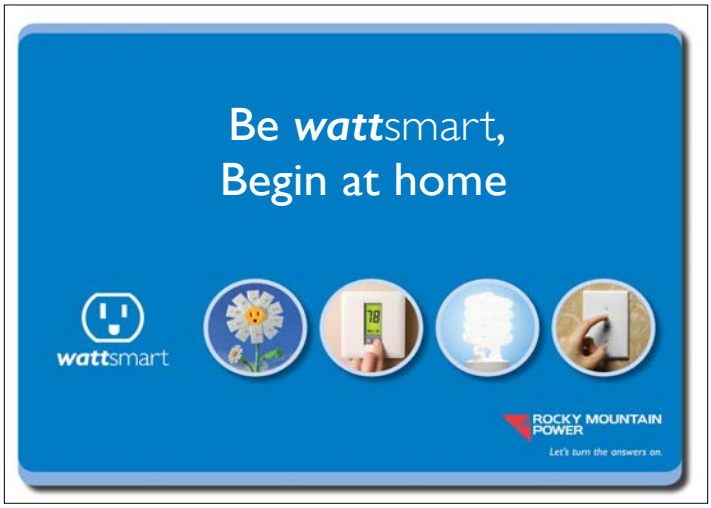
National Energy Foundation.

ROCKY MOUNTAIN POWER

wattsmart.com

Program Documents

Keynote Presentation



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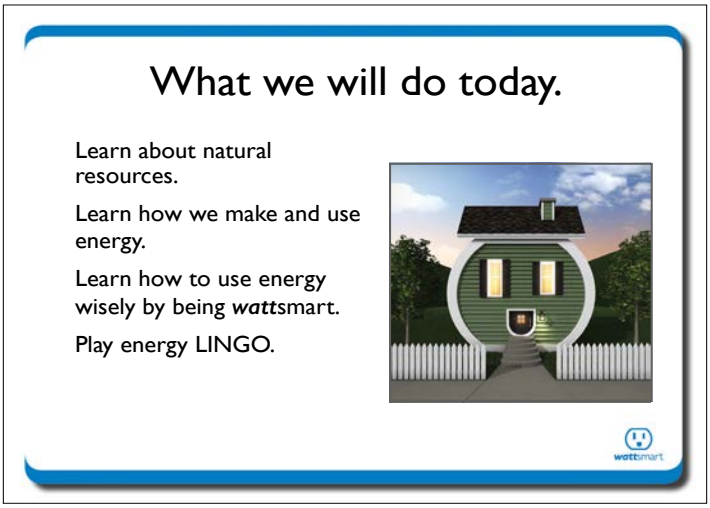

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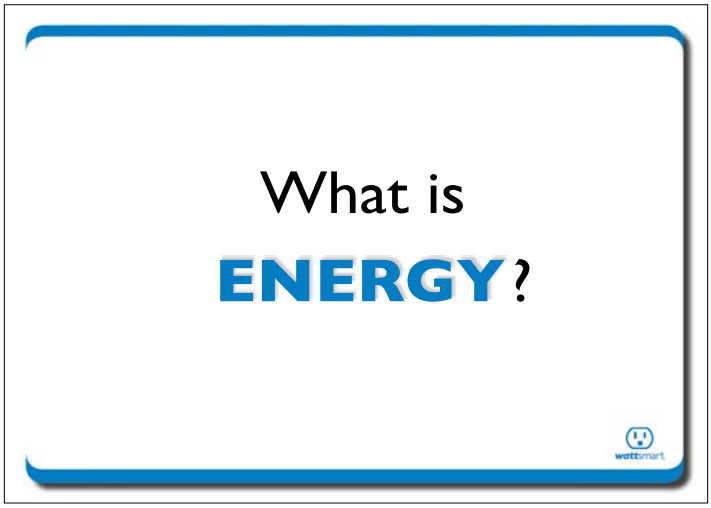

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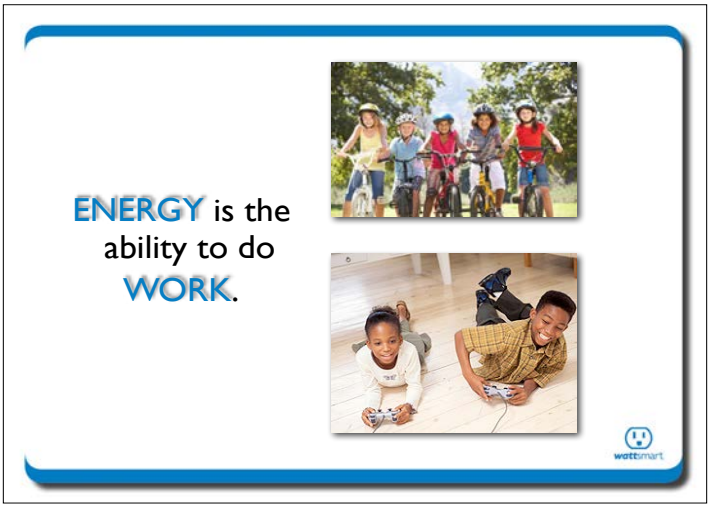

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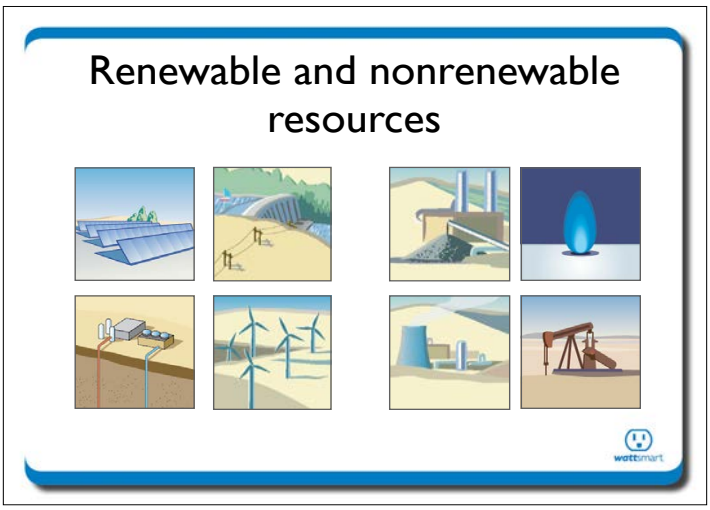
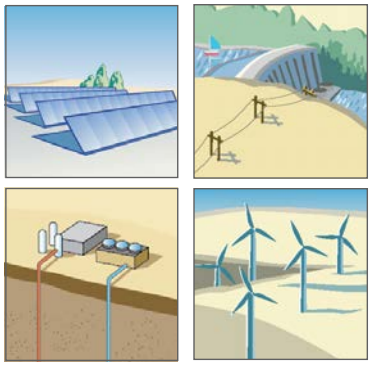


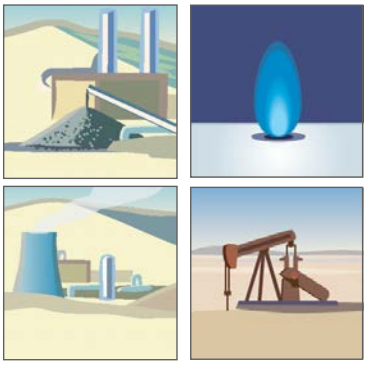
6

Renewable resources



7

Nonrenewable resources



8

Electricity

- The electricity we use is not a natural resource.
- It is made from natural resources.
- Since electricity is made from natural resources, it is called a **secondary energy source**.
- Power lines carry the electricity from where it is generated to where it is used.

9

Let's LINGO

Find the words on your LINGO board that match these definitions:

- The ability to do work. **Energy**
- A resource often found with oil. **Natural gas**
- A secondary energy source. **Electricity**
- Something useful from the earth or the sun. **Natural resource**

10

Rocky Mountain Power

Electric generation by energy source

Coal 62%

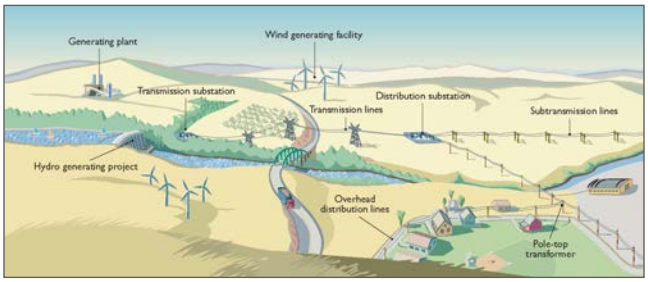
Renewables 15.32%

Natural gas 17.35%

Other sources 5.33%

11

Electric generation



12

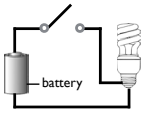
What is a circuit?

13

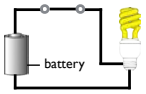
Let's make a circuit.

What things do we need to make an electrical circuit?

- An **energy source**, such as a battery.
- A **conductor** to carry electrical energy, such as wire.
- A **load** to use the energy, such as a light bulb.



Open circuit:
No electricity can flow



Closed circuit:
Electricity can flow

14

Energy efficiency

Energy efficiency

- Using less energy to accomplish the same amount of work.

Technology

- Install energy-efficient products, appliances and devices.

Behavior

- Use less energy through wise behaviors that conserve energy.

15

Know what you want before you open the refrigerator.

16

Refrigerators and freezers

What can you do to be ***watt***smart?

Decide what you want to eat quickly!

17

Use a fan to stay cool.

18

Home heating and cooling

What can you do to be ***watt***smart?

- Use a fan instead of an air conditioner.
- Install a programmable thermostat.
- Look for the ENERGY STAR® label.
- Change furnace filters at least every 3 months.
- Insulate your home and seal air leaks.

19

Turn off the TV when you leave the room.

20

Electronics

What can you do to be ***watt***smart?

- Unplug the thug. Beware of **phantom loads**.
- Turn off TVs, computers and game consoles when not in use.

- Use power strips to reduce phantom load.

21

Turn off the lights when you leave the room.

22

Lighting

What can you do to be ***watt***smart?

Turn off the lights when you leave a room.

Replace standard bulbs with **CFLs** (compact fluorescent light) bulbs or LEDs (light-emitting diode) light bulbs.

Let daylight shine in.

23

Let's LINGO

Find the words on your LINGO board that match these definitions:

- Using less energy to accomplish the same amount of work. **Energy efficiency**
- An energy resource that is capable of being renewed or is replaceable. **Renewable**
- Fossil fuels – such as coal, natural gas and oil – are considered **Nonrenewable** resources.
- A resource used to produce gasoline. **Oil**

24

Water heating

What can you do to be ***watt***smart?

- Install a water-efficient showerhead.
- Take shorter showers.
- Turn off the water when brushing teeth.
- Tell your parents that your **water heater** should be set to 120°F.

25

Dishwashers

What can you do to be ***watt***smart?

- Only run dishwashers when full.
- Use the "air dry" or "no heat dry" settings.

26

Laundry

What can you do to be ***watt***smart?

- Wash clothes in cold water.
- Clean the lint filter in the dryer with each load.
- Use a clothesline whenever possible.

27

Cooking

What can you do to be ***watt***smart?

- Use a microwave oven when possible.

- Use lids to shorten **cooking** time.

28

The 3 Rs

What can you do to be ***watt***smart?

- **Reduce**
  – use less of something.
- **Reuse**
  – use something again.
- **Recycle**
  – make something into another new thing.

29

Let's LINGO

Find the words on your LINGO board that match these definitions:

- A light that lasts 10 times longer than an incandescent. **CFL**
- Electricity consumed by an electronic device while it is turned off or in standby mode. **Phantom load**
- Using a toaster oven or microwave for **Cooking** is more energy-efficient than using the oven.
- Set this to 120°F for a comfortable shower. **Water heater**
- To use less of something. **Reduce**

30

What have we done today?

- **Learned** why energy is important.
- **Discussed** energy and where it comes from.

31

Engage

Review your **Be *watt*smart, Begin at home** booklet with your parent(s).

Complete the *Home Energy Worksheet* and return it to receive an energy-efficient nightlight.

Sign the *Thanks A "Watt" Card* and your teacher will mail it along with your worksheet and the teacher's *Program Evaluation*.

32

***YOU** can make a difference when you are **watt**smart!*

Visit **wattsmart.com**
for more energy-saving ideas.

33

Be ***watt***smart
Begin at home

Teacher Program Implementation Steps

1. Verify that you have received each of the following:
   - *Teacher Materials Folder*
     - Your **Be wattsmart, Begin at home** student booklet
     - Your **Be wattsmart, Begin at home** teacher guide
     - *Program Evaluation*
     - Sponsor *Thanks a "Watt!" Card*
     - Teacher Visa® gift card announcement
     - Self-addressed postage-paid return envelope
     - Instructional posters
   - *Home Energy Worksheets* for you and your students
   - **Be wattsmart, Begin at home** student booklets
   - Set of *Parent Letters*
   - wattsmart nightlights (student incentive for returning the *Home Energy Worksheets*)

2. Distribute to each student a:
   - **Be wattsmart, Begin at home** student booklet
   - *Home Energy Worksheet*
   - *Parent Letter*

3. Reward each student who returns a completed *Home Energy Worksheet* with a wattsmart nightlight.

4. Complete the *Program Evaluation* form.

5. Have each student sign the *Thanks a "Watt!" Card* to Rocky Mountain Power.

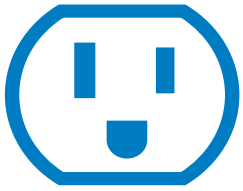
6. Mail in the self-addressed, postage-paid envelope:
   - All completed *Home Energy Worksheets*
   - The *Thanks a "Watt!" Card*
   - The *Program Evaluation* form

To thank you for postmarking your envelope by December 4, 2015, you will receive a Visa gift card for classroom use.
80% return of registered students' *Home Energy Worksheets* **= $50**
50 – 79% return of registered students' *Home Energy Worksheets* **= $25**

For questions or additional information, please email Patti Clark at **patti@nef1.org**.

ATTENTION TEACHERS!

Be **watt**smart
Begin at home



Help us out by mailing your student *Home Energy Worksheets* and receive a **$25 - $50** Visa® gift card for classroom use, depending upon participation:

80% return of registered students' *Home Energy Worksheets* = $50
50 - 79% return of registered students' *Home Energy Worksheets* = $25

Postmark due date:
December 4, 2015

Offer open only to teachers participating in Be wattsmart, Begin at home. Certain restrictions may apply. Good while grant funding is in place. *Home Energy Worksheets* must be completed for eligibility. For more information, contact Patti at patti@nef1.org.

ROCKY MOUNTAIN POWER

wattsmart.com

National Energy Foundation
cultivating energy literacy

Dear Parent(s):

The **Be wattsmart, Begin at home** program assists teachers and students to learn about energy, discuss important energy topics and engage in energy efficiency actions now. Your child has participated in a presentation addressing natural resources, energy basics and energy efficiency. Your participation in this program will help you be wattsmart, enhance energy efficiency in your home and help save money on your utility bills. Here are three simple ways that you can help:

- Review this **Be wattsmart, Begin at home** booklet with your child.
- Assist your child with completing the activities on Page 7.
- Have your child return the **Home Energy Worksheet** to their teacher.

Thank you for being wattsmart and for your participation!

What's inside?

This booklet is divided into three sections that will help you:

1. Learn about sources of energy, how they get to your home and why they are important in your life.
2. Discuss wattsmart energy efficiency tips that will help you use energy wisely and save money.
3. Engage in energy efficiency by determining how energy can be saved in your home through a simple audit activity and the *Home Energy Worksheet*.

About Rocky Mountain Power

Rocky Mountain Power is a leading electric utility in the western United States. One of the lowest-cost producers of electricity in the U.S., Rocky Mountain Power provides more than 1 million customers in Utah, Wyoming and Idaho with safe, reliable, efficient energy. In addition, it is the second-largest rate-regulated utility owner of renewable, wind-generated electricity in the U.S.

About National Energy Foundation

National Energy Foundation is a unique 501(c)3 nonprofit educational organization dedicated to the development, dissemination and implementation of supplementary educational materials and programs. These resources for education relate primarily to energy, water, natural resources, science, math, technology, conservation, energy efficiency and the environment.

What does it mean to be ***watt***smart?

- Being wattsmart is all about taking steps to save energy – which in turn can help you save money.
- Rocky Mountain Power's wattsmart programs and incentives can help customers become more energy efficient in their homes and businesses, and that's good for their wallets and the environment.

The importance of energy:

Energy is the ability to do work or produce change. Virtually everything we do or use at work and home uses energy.

- Heating and cooling systems
- Computers
- Electronic equipment such as gaming and entertainment systems and TVs
- Charging electronic tablets, music players and cell phones
- Appliances
- Lights
- Manufacturing
- Food storage and preparation
- Security systems

Where does energy come from?

Our energy comes from natural resources. There are two general categories of natural resources – nonrenewable and renewable. A nonrenewable resource is not capable of being renewed, replaced or takes a very long time to replace. A renewable resource is capable of being renewed or replaced.

PRIMARY NATURAL RESOURCES are used to convert energy into electricity. They can be either nonrenewable or renewable.

Nonrenewable examples are:

Coal is the most abundant nonrenewable energy source in the world. There is an estimated 129 year supply remaining.

Oil can be both refined and unrefined. Refined oil is transformed into petroleum products and unrefined oil remains as crude oil.

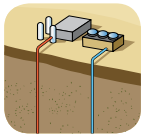
Natural Gas is usually captured alongside oil deposits and is a major source for electrical generation.

Uranium is the fuel most widely used by nuclear plants. Nuclear energy is the energy inside the nucleus (core) of the atom of uranium.

Renewable examples are:

Solar is energy from the sun.

Wind is energy from the wind captured by a group of wind turbines (generators).



Geothermal is energy derived from the heat of the earth.

Hydropower is energy from water that generates electricity.

SECONDARY ENERGY RESOURCES are created by using nonrenewable and renewable resources of energy.

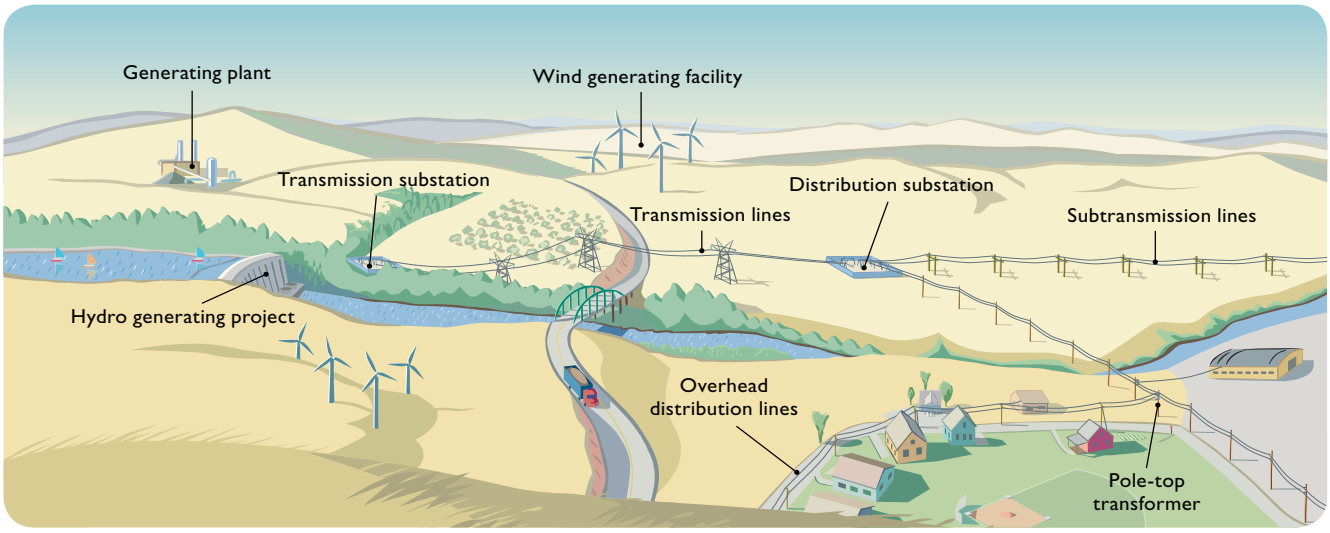
Electricity is the most abundant **secondary energy resource** used. It is the flow of electrical power or charge. It occurs in nature as lightning and static electricity. A generator uses energy resources to create mechanical energy that is then converted into electrical energy.

Energy efficiency

Energy efficiency is using less energy to accomplish the same amount of work – we call it being wattsmart. There are many technologies we can use today that decrease the amount of energy needed to do work. Good examples are ENERGY STAR® products and LED lighting.

You can save even more money if you start thinking about using energy wisely. Try turning off the lights when you leave the room, take shorter showers or turn off your electronics when you are not using them.

Using electricity



For more than 100 years, electricity has made our homes more comfortable and industries more productive. Today electricity is powering a world of electronics.

How is electricity generated? It begins with a fuel that heats water and turns it to steam. The steam drives the turbine that turns the generator motor to produce electricity.

How is electricity transmitted? Once the electricity is produced, the current flows from the generator to the power plant transformer where the voltage is increased to boost the flow of the electric current through the transmission lines. The transmission lines transport the electricity to Rocky Mountain Power's substations where the voltage is decreased. Power lines then carry the electricity from the substations to be used in our homes and businesses.

ELECTRICAL GENERATION

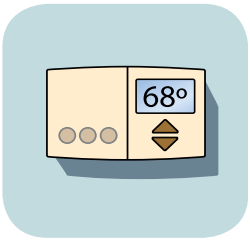
Energy resource	Rocky Mountain Power (2014 basic fuel mix)*	United States (U.S. EPA, 2013 data)
Coal	62.00%	39%
Natural gas	17.35%	27%
Renewables	15.32%	12%
Hydroelectric	6.33%	7%
Wind	8.09%	4%
Biomass	0.48%	1%
Geothermal	0.39%	--
Solar	0.03%	0%
Nuclear	0.00%	19%
Other/misc.	5.33%	3%
Total*	100%	100%

**This information is based on Federal Energy Regulatory Commission Form 1 data. The Rocky Mountain Power "basic fuel mix" is based on energy production and not resource capability, capacity or delivered energy. All or some of the renewable energy attributes associated with wind, biomass, geothermal and qualifying hydro facilities in Rocky Mountain Power's basic fuel mix may be: (a) used in future years to comply with renewable portfolio standards or other regulatory requirements, (b) sold to third parties in the form of renewable energy credits and/or other environmental commodities or (c) excluded from energy purchased. Rocky Mountain Power's basic fuel mix includes owned resources and purchases from third parties.*

wattsmart tips to lower your energy use and help save money

Saving energy happens in two ways. First, you can use less energy through wise behaviors that conserve energy. Second, you can install energy-efficient products, appliances and devices that use less energy to accomplish the same task. Let's talk about the following areas of your home that have the largest potential to save energy.

Home heating and cooling



- Install a programmable thermostat. Set your thermostat to 78°F or higher in the summer and 68°F or lower in the winter.
- Make sure your house is properly insulated. If you have less than 6 inches of insulation in your attic, you would benefit from adding more.
- You can save 10 percent or more on your energy bill by reducing the air leaks in your home with caulking and weather stripping.

- To help your furnace run more efficiently and cost-effectively, keep your air filters clean.
- For windows with direct sunlight, close your blinds in the summer to keep the heat out. Open them on winter days to let the warmth in.
- Small room fans are an energy-efficient alternative to air conditioning.
- Inspect and replace weather stripping and caulking in your home.
- For information about energy-saving programs and cash incentives, visit **wattsmart.com**.

Water and water heating

- Check your faucets for leaks that can cost you hundreds of dollars each year.
- Install a water-efficient showerhead and save as much as $50 a year.
- Set the water heater at 120°F.
- Install faucet aerators to decrease water use.

Lighting

- Let the sun shine in. Use daylight and turn off lights near windows when possible.

- Replace your most used incandescent bulbs with CFLs (compact fluorescent light) or LEDs (light-emitting diodes) and save $5 to $8 per year per bulb. These bulbs use at least 75 percent less than incandescent bulbs and last much longer.
- Use lighting controls such as motion detectors and timers.
- Turn off lights when you leave the room.
- Always use the lowest wattage bulb that still gives you the light you need.
- Keep your light bulbs clean. It increases the amount of light from the bulb and reduces the need to turn on more lights.

Safety note: Burned out CFLs, which contain a small amount of mercury, should be disposed of properly. To locate a collection site in your area, or to learn what to do if a CFL breaks, visit **www.getenergysmart.org**.

Electronics

- Turn off your computer and game consoles when not in use.
- Home electronics are made to turn on and off many times. Always turn them off to save energy.
- Electronics with the ENERGY STAR® label use as much as 60 percent less energy while providing the same performance.
- Beware of phantom loads which continue to draw electricity when they are plugged in but not in use. Examples are telephone chargers, electronic games and television sets. Use power strips for household electronics. One button will turn off multiple appliances, which conserves electricity.

Refrigerators and freezers

- When looking to replace your old refrigerator, do so with an ENERGY STAR® model, which requires 40 percent less energy than conventional models and provides energy savings without sacrificing the features you want.
- The coils in the back or bottom of your refrigerator and freezer should be kept as clean as possible.
- Recycle old freezers and refrigerators. Rocky Mountain Power's *See ya later, refrigerator*® program will pick them up and give you $30. Call toll-free 866-899-5539 to schedule a pickup.

Dishwashers

- Only run dishwashers when full and use the "air dry" or "no heat dry" settings.
- ENERGY STAR® dishwashers use at least 41 percent less energy than the federal minimum standard for energy consumption.

Laundry

- Buy a moisture-sensitive dryer that automatically shuts off when clothes are dry.
- Use a clothesline whenever possible.

Cooking

- Use a microwave oven, toaster oven or crock pot instead of a conventional oven.
- Use the right-sized pan for the stove top element.
- Cover pans with lids to keep heat from escaping.

Reduce

- Use less.
- Purchase products with little packaging.

Reuse

- Use something again.
- Reuse a box or a grocery bag.

Recycle

- Make something into another new item.
- Participate in the recycling programs in your community.

Parents, be wattsmart and watch the energy savings add up.

An individual with a combined electric and heating fuel bill of $2,500 per year could save 20 percent or $42/month by using these and other energy efficiency tips. That is like getting a pay raise without having to work harder or longer.

The cost of lighting your home

Take a walk around your home with your family to learn about your lighting.

1. Count the types of bulbs in each room and record in Table 1; then total each column.
2. Transfer the total for each type of lighting into Column A on Table 2.

TABLE 1

Location	Incandescent	CFL	LED
Bedroom 1			
Bedroom 2			
Kitchen			
Dining room			
Living room			
Hallway			
Laundry room			
Family room			
Front porch			
Other			
TOTAL			

3. In Table 2, multiply the numbers in Column A by the given amounts in Column B. Place the answers in Column C.
4. Add the numbers in Column C to get the total approximate cost of electricity for lighting your home.
5. Discover how much money you will save if all the bulbs in your home were CFLs or LEDs. Add the numbers in Column A to get the total number of bulbs in your home. Transfer the total to both rows in Table 3, Column E as indicated by the arrows.

TABLE 2

	A	B	C
	Number of bulbs from Table 1	Annual cost of electricity for one bulb	Annual cost of electricity for lighting
Incandescent		× $4.68	
CFL		× $0.96	
LED		× $0.60	
TOTAL			

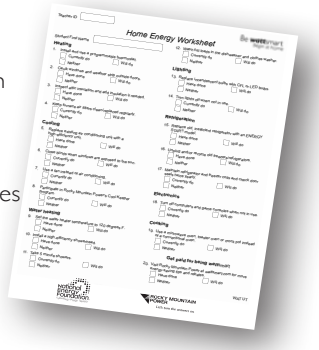
6. Multiply the total number of CFLs by the annual cost of electricity for one CFL provided in Column F and put your answer in Column G.
7. In the last row of Table 3, multiply the total number of LEDs in Column E by the annual cost of electricity for one LED bulb provided in Column F and put your answer in Column G.
   How do the amounts in Column G compare with your current total cost for lighting in Column C above?

TABLE 3

	E	F	G
All CFLs		× $0.96	Annual cost of electricity with only CFLs
All LEDs		× $0.60	Annual cost of electricity with only LEDs

Cost figures are for an individual bulb (60-Watt incandescent), the lumens equivalent CFL (13-Watts) and LED (7-Watts) each used for 2 hours each day for 30 days. EEI Typical Bills and Rates Report, Winter 2015 (12 months ending 2014).

Be ***watt***smart – it's up to you



Together with your parent(s), complete the separate *Home Energy Worksheet*. Return it to your classroom teacher and receive your wattsmart nightlight. You may find you are already practicing ways to be energy efficient, but there is always room to do more.

Challenge yourself and your family to commit to practice energy efficiency by making wise energy choices and being wattsmart. You will not only help extend the life of our natural resources, but save money, too!

For other energy-saving ideas and incentives, visit **wattsmart.com**. Congratulations to you and your family for making a difference.

Be *watt*smart

Begin at home

National Energy Foundation
cultivating energy literacy

*watt*smart.com

ROCKY MOUNTAIN POWER
Let's turn the answers on.

wattsmart is registered in U.S. Patent and Trademark Office.

Be *watt*smart
Begin at home

TEACHER GUIDE

National Energy Foundation
cultivating energy literacy

ROCKY MOUNTAIN POWER
Let's turn the answers on.

Welcome to Be ***watt***smart, Begin at home

This program teaches the importance of energy and assists students and their families in saving energy in their homes. For teachers, **Be *watt*smart, Begin at home** reinforces important electrical concepts from your curriculum.

This Teacher Guide was designed to supplement program instruction. A variety of tools have been provided to allow you to format **Be *watt*smart, Begin at home** to meet your instructional needs. These tools include:

- General guidelines and activity suggestions
- Classroom activities to further the impact of lessons
- Additional fun and interesting activities for students
- Activities containing STEM-related curriculum for your classroom

Table of Contents

About Rocky Mountain Power

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STEM Correlations

STEM education is an approach to teaching and learning that integrates the content and skills of science, technology, engineering and mathematics. Some of the skills include: problem-solving, innovation, invention, inquiry, logical reasoning, critical thinking, technological literacy, communication tools, research tools, design and modeling, data analysis and probability, collaboration, and real world connection. This chart correlates *Teacher Guide* activities to STEM skills and behaviors.

	Science				**Technology**				**Engineering**					**Math**			
Activity	Science as Inquiry	Energy Sources, Forms and Transformations	Science and Technology	Personal and Social Perspectives	Productivity Tools	Communication Tools	Research Tools	Problem-Solving and Decision-Making Tools	Historical Perspective	Design and Modeling	Invention and Innovation	Test Design and Troubleshooting	Use and Maintain	Numbers and Operations	Measurement	Data Analysis and Probability	Connection to the Real World
Conservation Cookie	X			X										X	X	X	X
Pass the Sack	X	X		X													
Energy Ticket	X	X		X				X						X	X	X	X
The Search for Energy	X	X	X	X										X		X	X
Where do Fossil Fuels Come From?	X	X	X					X						X	X		
Energy for Electricity	X	X	X	X			X										
Insulation Tests	X	X	X	X			X	X		X	X	X	X	X	X	X	X
How Bright Is Your Light?	X	X	X				X		X					X		X	X
Energy in Math														X		X	X

Section One:
Energy Efficiency

Objectives: Identify and explain types of natural resources, conservation and energy efficiency.

Vocabulary:

Natural resource: A material source of wealth, such as timber, fresh water or a mineral deposit that occurs in a natural state and has economic value.

Renewable resource: A natural resource that is capable of being renewed or is replaceable such as energy from the sun or wind.

Nonrenewable resource: A natural resource that is not capable of being renewed, replaced or takes a very long time to replace, such as fossil fuels.

Fossil fuel: A combustible material created naturally beneath the earth's surface over a long period of time, from the remains of plants and animals. Examples include coal, natural gas and oil.

Conservation: The protection, preservation, management, or restoration of wildlife and of natural resources such as forests, soil and water.

Energy efficiency: Managing the consumption of energy through the use of technologies and wise behaviors.

Classroom Activities:

- "Conservation Cookie"
- "Pass the Sack"
- "Energy Tickets"
- "The Search for Energy"

Energy Challenge

Discussion idea: Embodied energy in a glass of milk

Objective: Trace the energy and resources needed to make a common product.

Review the steps that it takes to produce a glass of milk and bring it to the consumer.

- Feeding and raising a cow
- Milking a cow
- Packaging
- Refrigeration
- Transportation of milk (dairy to warehouses to store to home)

Discuss with your class:

1. What natural resources go into making and transporting a glass of milk?
2. The energy used to make and transport a product is called **embodied energy**.
3. What embodied energy sources are involved in producing and transporting milk?
4. How can understanding embodied energy in our daily lives encourage us to be energy efficient?

Conservation Cookie

Objective:
To demonstrate the results of conservation of a resource.

Pre-activity discussion:
- What is conservation?
- Why is conservation so important?

Materials:
- Two cookies (or other food item) for each person
- One watch or clock with a second hand for timing
- Computer or graph paper to graph results

STEM Connection
Science
- Science as Inquiry
- Personal and Social Perspectives

Math
- Numbers and Operations
- Measurement
- Data Analysis and Probability
- Connection to the Real World

Procedure:
1. Tell students that this is the first of two rounds. In each round, they will be eating a cookie, which represents our natural resources. They are to stand at their desk and you say to eat the cookie as they normally would, then when the cookie has been completely swallowed, sit down. The activity will work better if you ask students NOT to put the entire cookie in their mouth at one time, to take at least two bites!
2. Give each student a cookie, with instructions not to eat it until you say. Start the watch and tell the students to eat the cookie as they would normally eat it. At 30 second intervals, count the number of students standing and record this data.
3. Individually or as a class, graph this data using a line graph.
4. Tell students they will now practice conservation with a second cookie. To represent conservation, students will only take a bite from their cookie when you say "BITE." Just as before, they will stand, take bites the same size they took last time, and sit after the entire cookie has been swallowed.
5. Pass out a second cookie to each student.
6. Start the watch and have everyone take a "BITE" and then wait 30 seconds. Record the number of students standing and again say "BITE." Repeat this procedure until almost everyone has finished his or her second cookie.
7. On the same graph used for the first cookie, add a second line graph for the conservation cookie.

Discussion:
- Compare the two graphs. If desired, have students calculate the slope of each graph from 0 to 30 seconds and from 30 seconds to 1 minute. How do the slopes vary over time and between graphs? What does a change in slope represent?
- Discuss the term "conservation" and its effects on our natural resources. Can we control how rapidly we use water or energy by conserving it? Water and energy are some of the most important things we use in our lives. If they are used up quickly, and all at once, we will not have enough left for the future.

Pass the Sack

Objective:
To demonstrate the difference between renewable and nonrenewable resources and the need for conservation of resources.

Materials:
- Two different kinds of candy or other objects students find desirable
- Sack to hold candy, such as a gallon size plastic bag

STEM Connection
Science
- Science as Inquiry
- Energy Sources, Forms and Transformations
- Personal and Social Perspectives

Procedure:
1. Count out enough candy so that there is one piece per student (some of each type of candy – perhaps less of one so it will run out faster). Put it in the sack or bag. Save the remaining candy. If you have a very polite class, count enough candy for half of the class. You want the candy to run out before everyone gets some!
2. Tell students you will be demonstrating how resources get used over time by playing "Pass the Sack." Show students the sack and tell them when they get the sack, they should take some energy and pass the sack to the person next to them.
3. Before passing the sack to the first student, review renewable and nonrenewable resources. Have students give examples of each as you hand the sack to a student.
4. While this discussion is taking place, allow students to pass around the bag of candy without any rules about how many pieces students may take. Occasionally, add four or five pieces of one of the types of candy you are using. (This will be your renewable resource.) The sack will be empty before it reaches all the students.
5. Ask students that did not get any candy how they might obtain energy from other students. What if each student represented a country? How do countries obtain resources? Trade? Barter (trade for goods)? Buy (trade for currency)? Invade and take (go to war)? What effect did the availability of candy have on relationships between students? What effect might the availability of natural resources have on the relationship among nations, provinces, states, people, standards of living and quality of life?
6. Explain how our resources are like the candy. Which type was the nonrenewable? How could you tell? (No more was added to the bag once it was being passed around.) Which type was renewable? How could you tell? (It was added to the bag periodically.)
7. Point out that resources have limits just like the candy. Emphasize that many resources, such as fossil fuels, are nonrenewable and are being consumed faster than they are being replaced by nature. Discuss the fact that it would be more difficult for students to eat the candy if they had to search the room to find it instead of just taking it from the sack. Energy companies must seek resource deposits and obtain rights to drill or mine for them, they do not just magically appear. Point out that natural gas, coal and oil companies are looking harder for more resources as supplies dwindle.
8. Now plan to pass out the remaining candy. Should rules be established? Do oil, coal, and natural gas companies have rules (regulations) that they must follow to find resources? Should there be rules and regulations on how much oil, coal and natural gas people use? How would students get resources if they could not leave their desks? How do the class' social decisions influence the availability of candy?

Energy Tickets

Objective:
See how energy decisions affect our standard of living and our quality of life. This will help students realize how important it is to use energy efficiently.

Materials needed:
- Energy Tickets – 25 per student
- Box to collect tickets (toll box)

STEM Connection
Science
- Science as Inquiry
- Energy Sources, Forms and Transformations
- Personal and Social Perspectives

Technology
- Problem-Solving and Decision-Making Tools

Math
- Numbers and Operations
- Measurement
- Data Analysis and Probability
- Connection to the Real World

Procedure:
1. Before class begins, copy a page of tickets from the master on Page 8 for each student. Alternatively, you may use preprinted tickets available from retail stores.
2. Introduce the game to the students by listing several places the students use energy in the school, for example, in the classroom: lights, computers and heaters.
3. Provide each student with 25 Energy Tickets, and instruct them to write their name on all of their Energy Tickets.
4. Every time a student uses energy, have them write how the Energy Ticket was used on the back and put the ticket in the toll box. If they use heated water, it will cost two tickets, because they are using both energy and water. It also costs two tickets if they waste energy unnecessarily. For example, leaving lights or a computer on when not in use wastes energy.
5. Keep a record of how many tickets the students have left each day.
6. Optional: look at how the tickets were used, and create a graph of tickets used for different categories (sharpening pencils or using computers, for example) out of the tickets deposited in the box.

Discussion:
- What would happen if there was a real energy shortage in the community and families were issued a certain number of Energy Tickets?
- What if after they used them, all of their electricity and gas were shut off?
- What would they do to adjust their use of energy?
- What are other alternate sources of energy?

Language Arts Connection:
- Quick write – Describe one thing you could do to reduce your personal energy usage.
- Creative writing – Write a story about life after our nonrenewable energy sources are gone.

ENERGY TICKET
This ticket allows one energy use.
____
student name

ENERGY TICKET
This ticket allows one energy use.
____
student name

ENERGY TICKET
This ticket allows one energy use.
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ENERGY TICKET
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student name

ENERGY TICKET
This ticket allows one energy use.
____
student name

ENERGY TICKET
This ticket allows one energy use.
____
student name

The Search for Energy

Objective:
To learn the difference between renewable and nonrenewable resources.

Materials needed:
- About 1/4 cup seed beads (solar energy)
- Colored beads in the following proportions: 84 percent black beads (about 250 beads) for coal; 16 percent red (about 50 beads) for uranium; 2 percent white (about 7 beads) for natural gas; 1 percent blue (about 4 beads) for oil. These proportions approximately reflect the nonrenewable energy reserves in the U.S.
- Optional: large bed sheet or tarp to place beads on for easy cleanup

STEM Connection
Science
- Science as Inquiry
- Energy Sources, Forms and Transformations
- Science and Technology
- Personal and Social Perspectives

Math
- Numbers and Operations
- Data Analysis and Probability
- Connection to the Real World

Procedure:
1. Divide the class into five equal groups. Each group will be a company going after a particular resource. The beads represent reserves of the various energy resources. Have students gather in a large circle around the sheet or other area where you will place the beads.
2. Scatter the large beads plus a spoonful of "solar" beads on the sheet so they are well spread out. Explain that this exercise shows how the amount of available resources changes over time. You may want to designate certain places as protected areas, where the resources are off limits to protect the environment.
3. Tell students you will do several trials, and look to see how the types of available resources change after each trial. Tell each group that they will have 30 seconds to pick up as many beads possible of their color, then you will stop and look at how things are changing. It is NOT a race! After checking for understanding, start timing.
4. After 30 seconds, have the groups stop and count the beads they have gathered. Record the results in a data table. If some groups have collected all of their available resource, point out that the resource is now depleted and they are unemployed. You can allow the students to join another group. Collect the beads students picked up in the first trial.
5. Scatter another spoonful of solar energy, helping students realize that since solar is a renewable resource, there is the same amount of it each time you look, whereas the fossil fuels are being depleted. Repeat the search period so students can get more beads.
6. Stop after 30 seconds and have the group count and record the beads collected again. Note that there are fewer fossil fuels found in the second round. Students have to look harder to find what is left. The solar count is slowly but surely catching up with the fossil fuels. Repeat with additional trials as needed.
7. Create a multi-line graph of the number of beads collected each trial. This can be done by individual students or as a class. Note that the nonrenewable resources decrease until they are depleted but the solar increases steadily.

Discussion:
- Why does the solar line differ from the others? Why does it go up rather than down?
- How do improvements in technology affect the extraction of resources from the earth?
- How do improvements in technology affect our usage of renewable resources?
- In the real world, can we extract ALL of one resource? Why do some deposits go unused?

Section Two:
Resources You Can Use Efficiently

Objectives:
To discuss and identify various resources students use every day.

Vocabulary:
Electricity: The flow of electric charge used as power.

Green energy: Electricity produced by renewable energy sources that are nonpolluting, or that pollute very little.

Natural gas: A fossil fuel that is a mixture of gases occurring in underground deposits.

Classroom activities:
- "Where do Fossil Fuels Come From?"
- "Energy for Electricity"
- *Electrical Generation Poster*

Energy challenge

Discussion idea:
What natural resources can you save by recycling?

Optional activity:
1. Have students keep track of each paper product that they use during 1 day with tally marks.
2. Compare amounts of paper used by students in the class. Ask students if they were surprised by the amount of paper they used.
3. Based on their usage of paper in 1 day, have students estimate how much paper they would use in a week, a month and a year.
4. Discuss the difference between reducing, reusing and recycling
   - Reduce – to use less of something
   - Reuse – using something again
   - Recycle – making something into another new item
5. Brainstorm several ways that paper use can be reduced, that paper can be reused, and how paper can be recycled in your community.
6. Tell students that recycling 1 ton of paper saves:
   - Enough energy to power the average American home for 6 months.
   - 7,000 gallons of water
   - 3.3 cubic yards of landfill space
   - 1 metric ton of carbon equivalent (MTCE).

   (EPA, 2014)

Where Do Fossil Fuels Come From?

Objective:
This activity investigates the production of natural gas and oil from ancient life. This activity models this process.

Materials per Student Group:
- A clear container to represent the ocean
- Sand or dirt
- Baking soda "plankton"
- Vinegar (20%) and water (80%) "ocean" mixture
- Cup or scoop
- Safety goggles

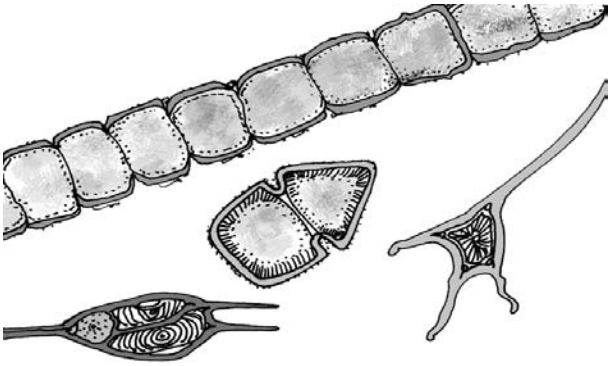
NOTE: You may do this as a demonstration, or have students do it in small groups.

STEM Connection
Science
- Science as Inquiry
- Energy Sources, Forms and Transformations
- Science and Technology

Technology
- Problem-Solving and Decision-Making Tools

Math
- Numbers and Operations
- Measurement

Procedure:
1. Explain to students that you will be showing them a model of how oil and natural gas form in the ocean. A very similar process takes place on land with plants to form coal.
2. Have students wear safety goggles to avoid splashing vinegar water in their eyes. It is harmless, but uncomfortable.
3. Have students sprinkle a small amount of sand to cover the bottom of the container. The ocean floor is covered with sediments, and the sand represents these sediments.
4. Next, have students sprinkle "plankton" over the sand, liberally covering the bottom of the container. This represents plankton (microscopic life plant and animal-like creatures called protists) that have died and settled down to the bottom of the ocean.
5. Explain that over time, sediments are deposited on the ocean floor. Students should completely cover the plankton with sand. (You can gently push the sand around with your hands to simulate the pressure and weight the overlaying sediments have on the plankton.)
6. The ocean has water in it, so pour some of the vinegar/water ("ocean" mixture) into the container. Bubbles and foam begin to appear. You can see the bubbles bursting and can hear the gas being released to the air. Point out that this is a sign of a chemical change.



Discussion:
- Discuss with students that natural gas in the ocean is produced much in the same way as you have modeled, but that the process takes MANY years. In the ocean the plankton is buried under miles and miles of sediments which caused the weight of those sediments to "cook" the plankton under high temperature and pressure. The heat and pressure changes the plankton into oil and natural gas. Natural gas floats on top of the oil produced.
- Discuss how this model is different from real life. The gas produced in the experiment is carbon dioxide rather than natural gas, and since our container is open, the gas escapes into the air. In the ocean, there are usually impermeable layers that keep natural gas and oil trapped beneath the surface until we drill down and release it.

Energy for Electricity

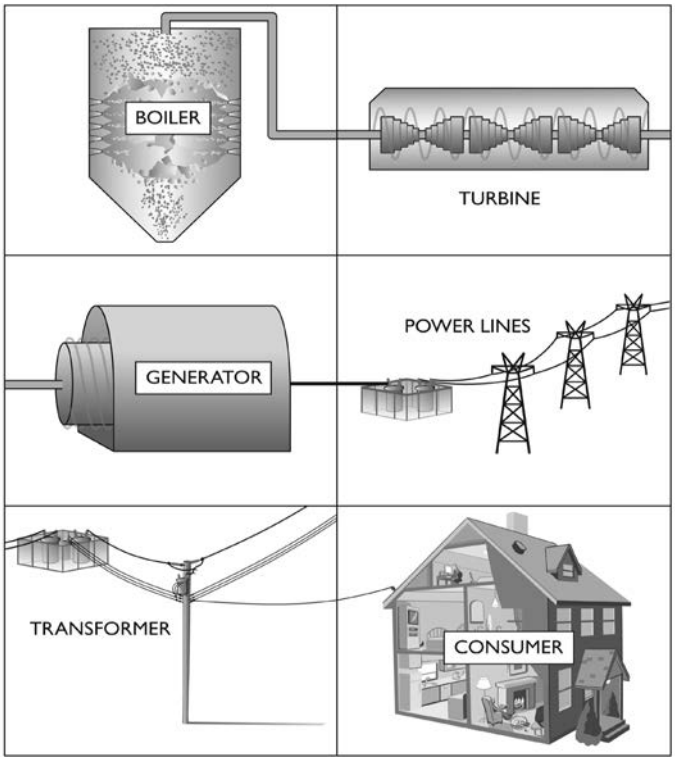
Objective:
Trace the flow of energy from a natural resource to electricity in our homes.

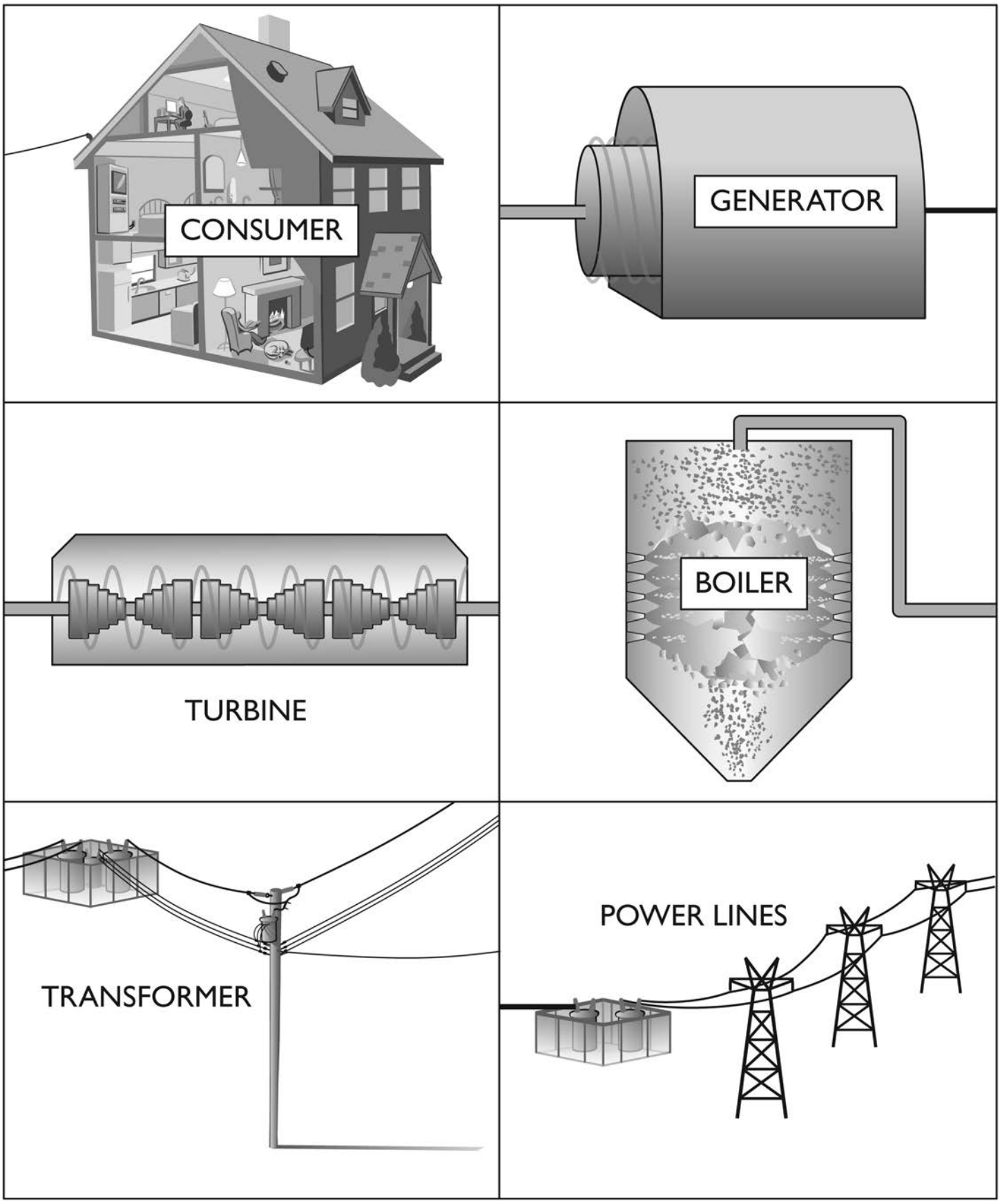
STEM Connection
Science
- Science as Inquiry
- Energy Sources, Forms and Transformations
- Science and Technology
- Personal and Social Perspectives

Technology
- Research Tools

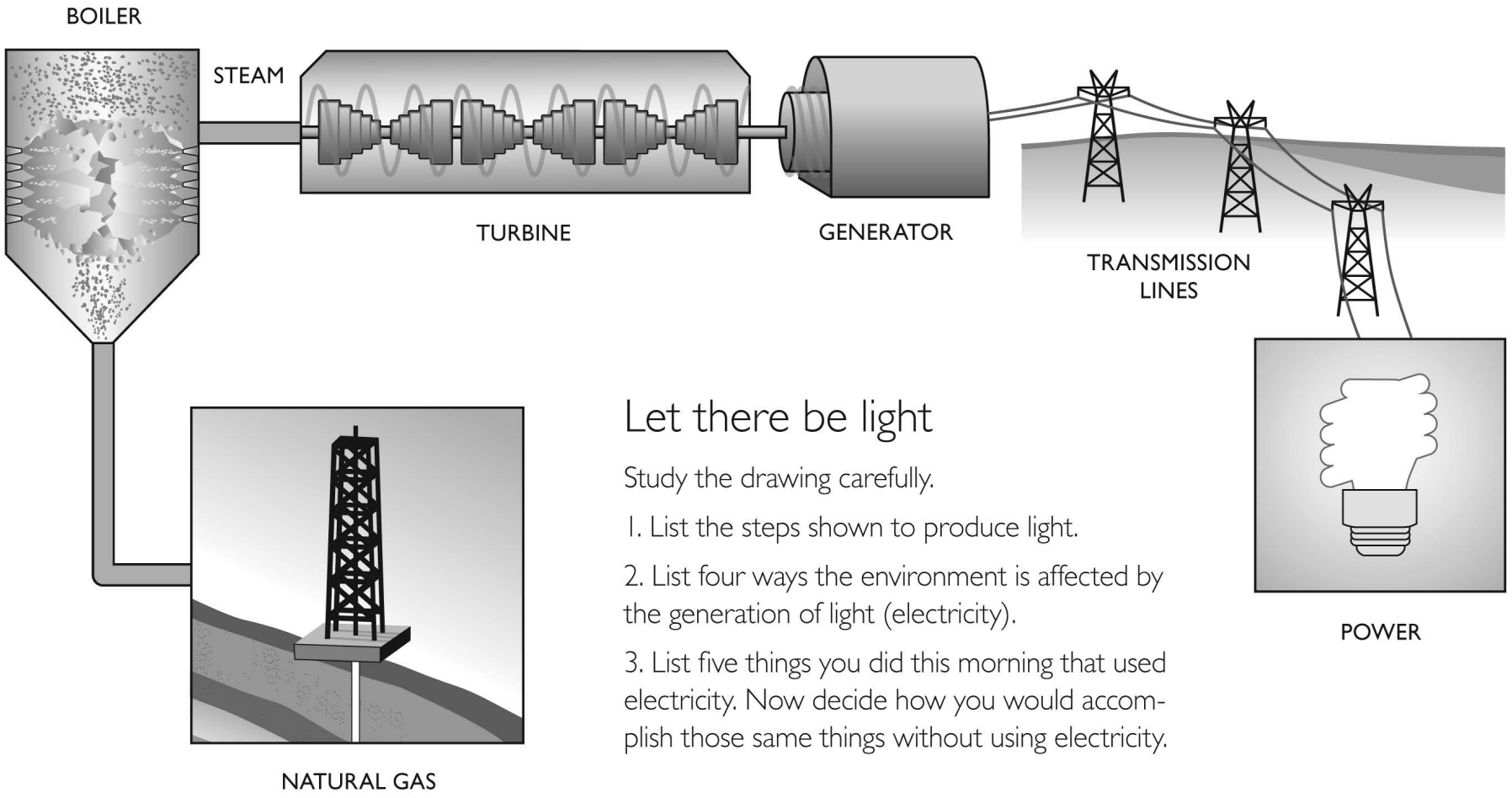
Procedure:
1. Ask students how their lives would be different without electricity. Where does electricity come from?
2. Pass out a copy of the "Electrical Generation Puzzle" found on the following page. Have students cut each part of the puzzle (transformer, turbine, generator, boiler, power lines and consumer) into separate pieces. Then, have them take a few minutes to put the puzzle pieces in order from the first to the last step of the process of electrical generation.
3. Go through each puzzle piece, explaining the process of each step:
   - Boiler – converts chemical energy from fuel (fossil fuels, biomass, hydrogen) to thermal energy, changing water to steam
   - Turbine – turned by steam, converting thermal energy to mechanical energy
   - Generator – turned by turbine, rotating coil of wire in a magnetic field, converts mechanical energy to electrical energy
   - Power lines – transmit electrical energy at several thousand volts
   - Transformer – step-up transformers along the power lines increase voltage periodically; step-down transformers on poles or in yards reduce the voltage to a safe level for use
   - Consumer – converts electrical energy into many forms to run lighting and appliances

Completed puzzle for teacher reference





Electrical Generation



Let there be light

Study the drawing carefully.

1. List the steps shown to produce light.

2. List four ways the environment is affected by the generation of light (electricity).

3. List five things you did this morning that used electricity. Now decide how you would accomplish those same things without using electricity.

Section Three:
Be ***watt***smart, Begin at home

Objective:
To apply the principles of energy efficiency at home by changing habits.

Vocabulary:
Shell: The floors, windows, doors, walls and roof of a building that form a barrier between the indoor and outdoor environment.

Convection: Heat transfer in a gas or liquid by currents that circulate from one region to another. Convection works because heated fluids or gases expand, and since they are less dense, rise through the cooler materials around them.

Conduction: Heat transfer in a solid or liquid without any motion or flow of matter in the material. Heat is transferred by the motion of molecules and electrons. Higher speed particles from the warmer areas collide with slower ones from the cooler areas, causing a transfer of energy to the slower particles.

Radiation: Heat transfer between objects via electromagnetic waves. Photons traveling at the speed of light transfer the heat energy, so the objects do not have to be in contact with each other for heat to be transferred. Radiation can travel through space.

Insulation: A barrier that minimizes the transfer of heat energy from one material to another by reducing the effects of conduction, convection and/or radiation.

Classroom activities:
- "Insulation Tests"
- "How Bright Is Your Light?"
- "Energy in Math"
- *Be wattsmart, Begin at home Poster*

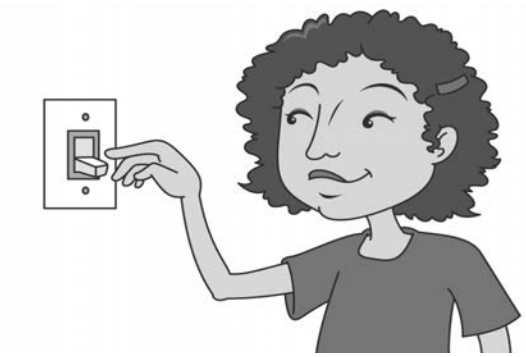
Energy challenge

Discussion:
- What changes does your school need to make to be energy efficient?

Optional activity:
- Have students tour the school building to fill out the following checklist:

	Yes	No
1. Are outside doors weather stripped?	____	____
2. Are windows caulked to prevent air leaks?	____	____
3. Are lights turned off when no one needs them?	____	____
4. Is electrical equipment turned off when not in use?	____	____
5. Are faucets in bathrooms and kitchen areas free of leaks?	____	____

Discussion idea:
- In which of the five areas does your school need the most improvement? How could students assist in making a change?



Insulation Tests

Objective:
To demonstrate the different types of materials that can be used for insulation.

Materials:
- Thermometer
- Graduated cylinder or measuring cup
- Large jug of water
- Large board or tray
- Baby food jars with lids (one for each material being tested)
- Insulation materials to test: gloves, socks of different materials, other types of clothing, plastic foam, paper, aluminum foil, leaves, etc.

STEM Connection
Science
- Science as Inquiry
- Energy Sources, Forms and Transformations
- Science and Technology
- Personal and Social Perspectives

Technology
- Research Tools
- Problem-Solving and Decision-Making Tools

Engineering
- Design and Modeling
- Invention and Innovation
- Test Design and Troubleshooting
- Use and Maintain

Math
- Numbers and Operations
- Measurement
- Data Analysis and Probability
- Connection to the Real World

Procedure:
1. On a piece of paper, list all of the materials being tested.
2. Using the jug of water, fill each jar with 120 mL (1/2 cup) of water.
3. Measure the temperature of the water in each jar to make sure they are the same, then put on the lids.
4. Wrap all but one of the jars with the materials being tested. Label the unwrapped jar "control."
5. Place each jar on the large board or tray.
6. Carry the board or tray outside and leave it there.
7. Create a data table to record the beginning and ending temperature of the water in each jar.
8. After a pre-determined amount of time has passed, measure the new temperature of each jar and record the ending temperatures in the data table.
9. Calculate the change in temperature for each jar and add it to the data table. Graph the temperature change for each jar in a bar graph.

Discussion:
- What materials made the best/worst insulators?
- Could you use these to keep your home warm in the winter or cool in the summer?
- What materials are used in homes for insulation? (Fiberglass, blown-in insulation, polyurethane foam, etc.)
- What do good insulating materials have in common? How does insulation work? (They have large pore spaces that block conduction of heat through surfaces.)

Language arts connection:
Quick write – Based on the information in your data table, give recommendations for insulating a tree house.

How Bright Is Your Light?

Objective:
To demonstrate which lighting sources are the most energy efficient.

Materials:
- Various light bulbs (incandescent, CFL and LED)
- Lamp or light socket
- Thermometer

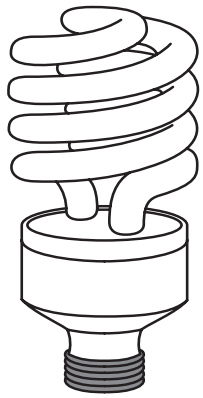
STEM Connection
Science
- Science as Inquiry
- Energy Sources, Forms and Transformations
- Science and Technology

Technology
- Research Tools

Engineering
- Historical Perspective

Math
- Numbers and Operations
- Data Analysis and Probability
- Connection to the Real World

Procedure:
1. Ask students what electrical item is used most often in any building and can also account for a lot of wasted energy (Lights).
2. Put each light bulb in the lamp and leave it on for 5 minutes. Hold a thermometer at a distance from, not touching, the bulbs. Record the temperatures. Which bulb produces the most heat?



3. Not all light sources are created equal. Some are much more energy efficient than others. The least efficient light bulbs are incandescents. These bulbs were invented by Thomas Edison and have changed very little in the last 100 years. Incandescent bulbs get very hot when they are turned on because about 90 percent of the energy that goes into an incandescent bulb is given off as heat instead of light.

By contrast, the compact fluorescent light, or CFL, uses 75 percent less energy because it gives off less heat. A CFL can last up to 10 times longer. LED bulbs are even more efficient, using 75 – 85 percent less energy than traditional incandescent bulbs and can last as much as 25 times longer.

Discussion:
- Does your family use energy-efficient CFLs or LEDs? How can heat from an incandescent bulb cause further energy waste during the summer?

Energy in Math

STEM Connection

Math

- Numbers and Operations
- Data Analysis and Probability
- Connection to the Real World

1. Jessie saved more energy than Michael. Michael saved more energy than Maggie. Maggie saved less energy than Jessie. Karen saved more energy than Jessie. List the kids' names in order of how much energy they saved, least to most:

   ☐ Jessie, Karen, Maggie, Michael
   ☐ Maggie, Michael, Jessie, Karen
   ☐ Michael, Jessie, Maggie, Karen
   ☐ Maggie, Karen, Michael, Jessie

2. The Maher family used 57,000 gallons of water a year, costing them $525 to heat it. Estimate how much money they would save in a year if they cut their hot water use by 30,820 gallons.

   ☐ $100
   ☐ $240
   ☐ $284
   ☐ $525

3. If each person in a house uses a 60-Watt bulb in their bedroom 4 hours a day, and there are three people living there, how many Watts will be used a day to light their room?

   ☐ 20 Watts
   ☐ 240 Watts
   ☐ 650 Watts
   ☐ 720 Watts

4. For every 10 degrees the water heater setting is turned down, you can save 6 percent of the energy used. If Charles turns his water heater down by 15 degrees, about what percent savings in energy will he save?

   ☐ 6%
   ☐ 9%
   ☐ 12%
   ☐ 15%

Energy in Math - Answer key

1. Jessie saved more energy than Michael. Michael saved more energy than Maggie. Maggie saved less energy than Jessie. Karen saved more energy than Jessie. List the kids' names in order of how much energy they saved, least to most:

   ☐ Jessie, Karen, Maggie, Michael
   ■ Maggie, Michael, Jessie, Karen
   ☐ Michael, Jessie, Maggie, Karen
   ☐ Maggie, Karen, Michael, Jessie

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   ☐ $100
   ☐ $240
   ■ $284
   ☐ $525

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   ☐ 240 Watts
   ☐ 650 Watts
   ■ 720 Watts

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   ☐ 6%
   ■ 9%
   ☐ 12%
   ☐ 15%

Be ***watt***smart, Begin at home Poster

Materials:

1. House poster found on the following page
2. Colored markers or pens

Instructions:

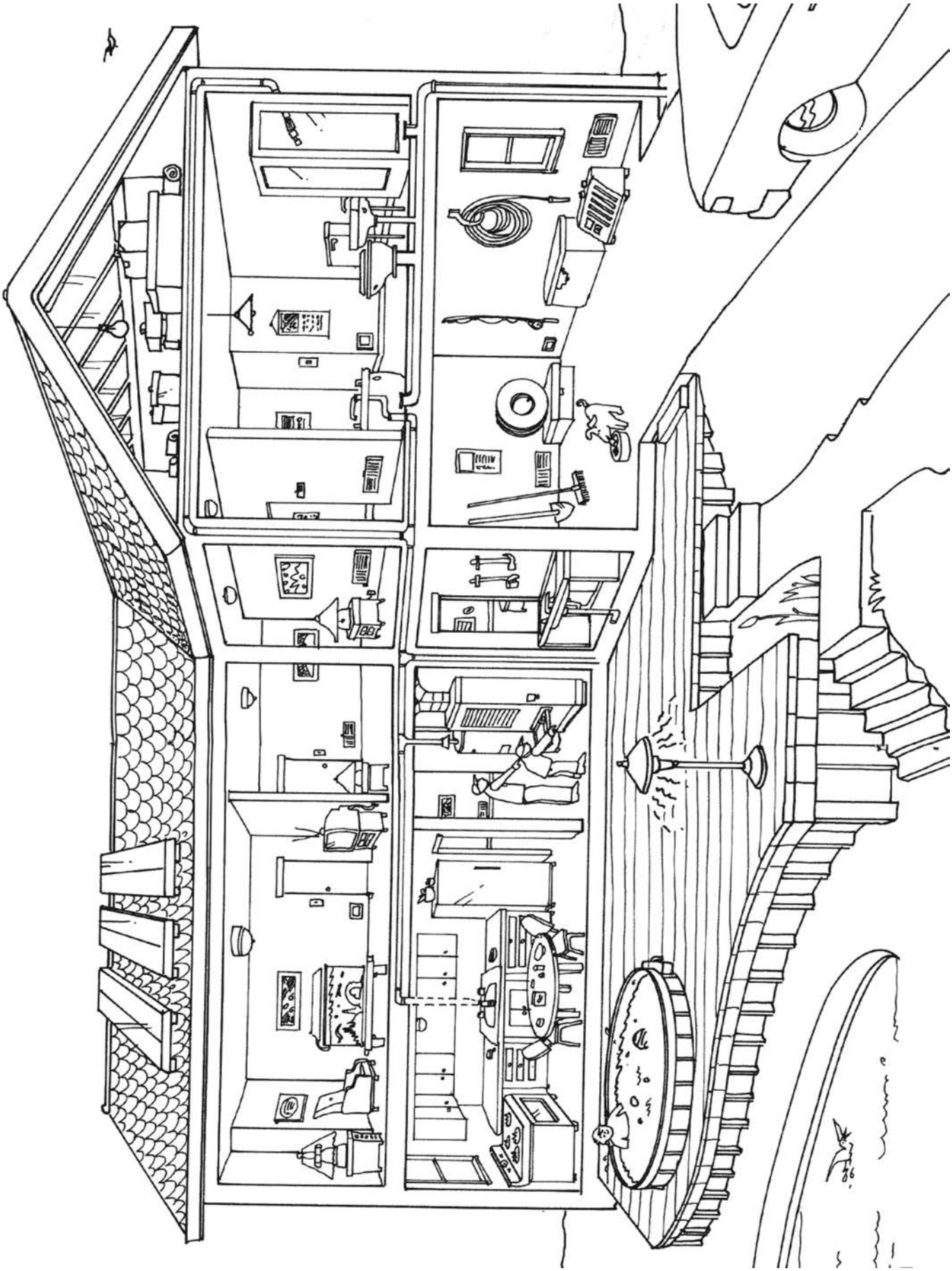
- Add or color the items below. You may want to do different items each day as you cover different topics: electricity, natural gas, water, etc.
- Add a bicycle.
- Add some recycling bins in the garage.
- Add some trees to shade the house.
- Add a ceiling or floor fan to the home for cooling.
- Put a blue star (for ENERGY STAR® products) on the refrigerator, television and furnace.
- Color the energy-efficient shower head.
- Color all items that use electricity, yellow.
- Color the thermostat brown.
- Color the furnace filter that is being changed, orange.
- Draw a purple water drop next to all items in the house that use water.

Language Arts Connection:

Quick write – Write a brief description of the things your family has done to improve the energy efficiency of your home. Add items that you will encourage your family to do in the future.

Social Studies Connection:

- Choose one natural resource used for energy and create a T-chart or Venn diagram comparing the positive and negative effects of the use of this resource on the physical environment.
- The more efficient your home is, the smaller your carbon footprint. Your carbon footprint is the total amount of carbon dioxide (CO_2) and other greenhouse gases you generate annually. The lower your footprint, the better!



Be *watt*smart

Begin at home

National Energy Foundation
cultivating energy literacy

wattsmart.com

ROCKY MOUNTAIN POWER
Let's turn the answers on.

Lingo Card

L	I	N	G	O
Water Heater	Natural Gas	Natural Resource	Incandescent	Reduce
Reuse	Phantom Load	Oil	Coal	ENERGY STAR®
Renewable	Energy	Be ***watt***smart Begin at home	Turn It Off!	Uranium
Energy Efficiency	CFL	Recycle	68 Degrees	Embodied Energy
Cooking	78 Degrees	Solar	Thermostat	Electricity

http://print-bingo.com

L	I	N	G	O
Reuse	Natural Gas	Phantom Load	CFL	78 Degrees
Cooking	Electricity	Renewable	Recycle	68 Degrees
Natural Resource	Water Heater	Be ***watt***smart Begin at home	ENERGY STAR®	Nonrenewable
Embodied Energy	Coal	Energy Efficiency	Heating	Incandescent
Thermostat	Reduce	Oil	Solar	Uranium

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L	I	N	G	O
Coal	Natural Gas	Solar	Turn It Off!	Renewable
Water Heater	Nonrenewable	Phantom Load	Electricity	Reuse
Energy	Oil	Be ***watt***smart Begin at home	68 Degrees	Cooking
Thermostat	Incandescent	Recycle	Uranium	Natural Resource
Reduce	78 Degrees	Embodied Energy	CFL	Energy Efficiency

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L	I	N	G	O
Natural Resource	Water Heater	Natural Gas	Thermostat	78 Degrees
Turn It Off!	Reduce	Oil	Embodied Energy	Cooking
Phantom Load	ENERGY STAR®	Be ***watt***smart Begin at home	Uranium	Recycle
Energy	CFL	68 Degrees	Energy Efficiency	Heating
Electricity	Renewable	Incandescent	Reuse	Solar

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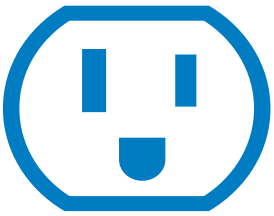
Be ***watt***smart, Begin at home		Teacher Guide Activities							
Essential Academic Learning Requirements	**Utah 5th Grade Correlations**	Energy Challenge - Embodied Energy	Conservation Cookie	Pass the Sack	Energy Ticket	The Search for Energy	Energy Challenge- Recycling	Where do Fossil Fuels Come From?	Energy for Electricity
Science	**Topic**	p.3	p.4	p.5	p.6	p.8	p.9	p.10	p.11
Intended Learning Outcomes (ILO): 1 - 6	Scientific process, experimentation, measurements, observations, conclusions, communication, how science affects life	1a,b,d; 5a	1a,b,d,f,h,i; 2a,c,e; 3a,b; 4a-c,e; 5a	1a,b,d,f,h,i; 2a,c,e; 3a,b; 4a-c,e; 5a	1a,b,d,f,h,i; 2a,c,e; 3a,b; 4a-c,e; 5a	1a,b,d,f,h,i; 2a,c,e; 3a,b; 4a-c,e; 5a	1a,b,d,f,h,i; 2a,c,e; 3a,b; 4a-c,e; 5a	1a,b,d,f,h,i; 2a,c,e; 3a,b; 4a-c,e; 5a	1a,b,d,f,h,i; 2a,c,e; 3a,b; 4a-c,e; 5a
Standard 1: Chemical Change	Evidence of a chemical reaction, daily life example, compare to physical change							3,c,d	
Standard 4: Electricity	**Objective 2:** Behavior of current electricity								
Earth Day Every Day	Classroom and community projects improve local environment	X	X	X	X	X	X		
Social Studies									
Standard 5: US Role as a World Power	**Objective 3:** Current world issue and how US can be part of the solution		3b	3b	3b	3b	3b		
Math (Common Core)									
Number and Operations in Base Ten	Operations with multi-digit whole number and with decimals to hundredths		5.G.A.2		5.G.A.2	5.G.A.2			
Language Arts (Common Core)									
Reading	Reading for information, speaking and listening	SL.5.1	SL.5.1	SL.5.1	SL.5.1	SL.5.1	SL.5.1	SL.5.1	SL.5.1
Writing	Writing for effective communication				W.4.3				W.4.3

Be ***watt***smart, Begin at home		Teacher Guide Activities					Student Activities		Posters	
Essential Academic Learning Requirements	**Utah 5th Grade Correlations**	Energy Challenge-Energy Efficient	Insulation Tests	How Bright Is Your Light?	Energy in Math	Be ***watt***smart, Begin at home Poster	Presentation Information	Student Booklet	*Bright Ways to Save Energy* Poster	*Electrical Generation* Poster
Science	**Topic**	p.14	p.15	p.16	p. 17	p. 19				
Intended Learning Outcomes (ILO): 1 - 6	Scientific process, experimentation, measurements, observations, conclusions, communication, how science affects life	1a,b,d; 5a	1a-d,f,h,i; 2a,c,e; 3a,b; 4a-c,e; 5a	1a-d,f,h,i; 2a,c,e; 3a,b; 4a-c,e; 5a	1a,b,d; 5a	1a,b,d; 5a	1a,d,f,h,i; 2a,c,e; 3a-c; 4b; 5a	1a,b,d,f,h,i; 2a,c,e;3a-c; 4a-c,e; 5a; 6c	1a,b,d; 2a,e; 3a,b; 4a-e; 5a	1a,b,d,f,h,i; 2a,c,e; 3a,b; 4a-c,e; 5a
Standard 1: Chemical Change	Evidence of a chemical reaction, daily life example, compare to physical change									
Standard 4: Electricity	**Objective 2:** Behavior of current electricity						2a,c-e			2a,c-e
Earth Day Every Day	Classroom and community projects improve local environment	X	X	X		X	X	X	X	X
Social Studies										
Standard 5: US Role as a World Power	**Objective 3:** Current world issue and how US can be part of the solution					3b	3b	3b	3b	
Math (Common Core)										
Number and Operations in Base Ten	Operations with multi-digit whole number and with decimals to hundredths	5.G.A.2	5.G.A.2	5.G.A.2	5.NBT.B.5			5.NBT.B.5		
Language Arts (Common Core)										
Reading	Reading for information, speaking and listening	SL.5.1	SL.5.1	SL.5.1			RI.5.6	RI.5.6	RI.5.6	RI.5.6
Writing	Writing for effective communication		W.4.3			W.4.3				

Be wattsmart Begin at home



Dear Parent(s),

Today your child participated in the **Be wattsmart, Begin at home** program sponsored by Rocky Mountain Power. In this engaging presentation, your student learned key concepts of his or her science curriculum as well as important ways to be more efficient with energy use at home.

As part of the **Be wattsmart, Begin at home** program, your child received a:

- **Be wattsmart, Begin at home** booklet
- *Home Energy Worksheet*

Please take a moment to read through this informative booklet with your student. Then, fill out the *Home Energy Worksheet* and return it to your child's teacher. To thank you, Rocky Mountain Power will provide your student with a wattsmart nightlight.

We appreciate your efforts to reinforce important **Be wattsmart, Begin at home** energy knowledge and efficiency actions in your home!

ROCKY MOUNTAIN POWER

wattsmart.com

National Energy Foundation
cultivating energy literacy

Program Evaluation

Teacher Name: _____

School: _____

Sponsor: Rocky Mountain Power

Be ***watt***smart
Begin at home

In an effort to improve our program, we would like your assessment of Be ***watt***smart, Begin at home. Please take a few minutes to fill out this evaluation form. Upon completion, please return the form in the postage-paid envelope along with the student *Home Energy Worksheets* you collected and the sponsor *Thanks a "Watt"! Card*.

Please mark the box that best describes your opinion.

	Strongly Agree	Agree	Disagree	Strongly Disagree
The materials were attractive and easy to use.	☐	☐	☐	☐
The materials and activities were well received by students.	☐	☐	☐	☐
The materials were clearly written and well organized.	☐	☐	☐	☐
Students indicated that their parents supported the program.	☐	☐	☐	☐
Presenters were able to keep students engaged and attentive.	☐	☐	☐	☐

If you had the opportunity would you conduct this program again? ☐ Yes ☐ No

Would you recommend this program to other colleagues? ☐ Yes ☐ No

In my opinion, the thing students liked best about the materials/program was:

One thing I would change would be:

WAT UT

NATIONAL ENERGY FOUNDATION

ROCKY MOUNTAIN POWER
Let's turn the answers on.

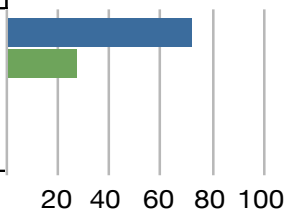
Wattsmart Rocky Mountain program
Program Evaluation Summary Report

ROCKY MOUNTAIN POWER

wattsmart.com

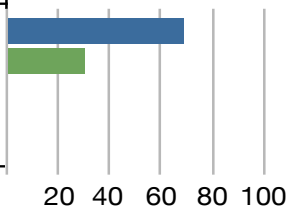
Materials were attractive and easy to use.

Response	Frequency	Percent
Strongly agree	226	72.0%
Agree	87	27.7%
Disagree	0	0.0%
Strongly disagree	0	0.0%
No response	1	0.3%



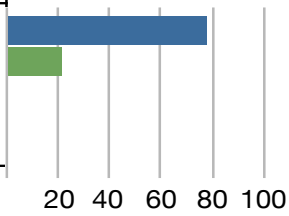
Materials and activities were well received by students.

Response	Frequency	Percent
Strongly agree	217	69.1%
Agree	96	30.6%
Disagree	1	0.3%
Strongly disagree	0	0.0%
No response	0	0.0%



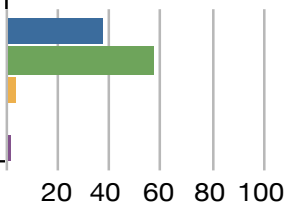
Materials were clearly written and well organized.

Response	Frequency	Percent
Strongly agree	246	78.3%
Agree	67	21.3%
Disagree	1	0.3%
Strongly disagree	0	0.0%
No response	0	0.0%



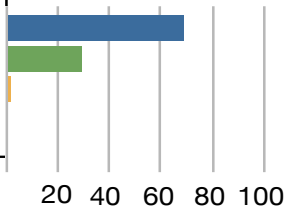
Students indicated that their parents supported the program.

Response	Frequency	Percent
Strongly agree	118	37.6%
Agree	180	57.3%
Disagree	11	3.5%
Strongly disagree	0	0.0%
No response	5	1.6%



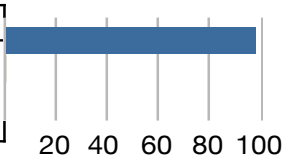
Presenters were able to keep students engaged and attentive.

Response	Frequency	Percent
Strongly agree	218	69.4%
Agree	91	29.0%
Disagree	4	1.3%
Strongly disagree	0	0.0%
No response	1	0.3%



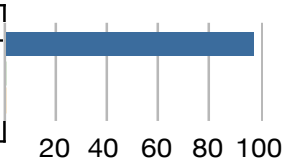
If you had the opportunity, would you conduct this program again?

Response	Frequency	Percent
Yes	307	97.8%
No	4	1.3%
No response	3	1.0%



Would you recommend this program to other colleagues?

Response	Frequency	Percent
Yes	306	97.5%
No	4	1.3%
No response	4	1.3%



In my opinion, the thing the students liked best about the materials/program was:

Hands on activities with the LINGO and energy stick.
Being able to participate in the Lingo game and being able to volunteer to help out. They also loved the night lights.
-Lingo game with information from presentation. -Doing the Home Energy Worksheet and the conversation with parents. -Night lights
"Lingo" and the lights.
Activity of conductor and insulator.
All of the hand-on opportunities and the Lingo game.
All of the hands on activities and choral answers.
Being able to interact with the circuit demonstration.
Being active and participating.
Being involved in the presentation.
Being involved with the presentation!
Bingo! Favorite thing was the energy stick for making a complete circuit.
By far the activity the students liked most was creating the pathway with students and the "object" that lit up.
By far the human circuit! the Lingo and slide show! Is it possible to buy one of those circuits you had? I want one of those so bad! It is amazing!
Clear illustrations, videos, Lingo.
Completing circuit with the light! Presenters were great with kids. Topic of energy sources. Lingo was fun.
Completing the circuits
Creating a circuit.
Demonstrations such as the one done with the energy stick.
During conferences the kids talked the most about electricity, making circuits with the circuit sticks, and conserving electricity.
Fast paced and engaging. Lingo.
Fun characters.
Getting to play the bingo game and participate in the activities.
Great information. The students loved the circuit activity and the video.
Hands on activites, filling out the survey, and getting their own night light.
Hands on activities and interactive presenters.
Hands on activities during the presentation.
Hands on activities.
Hands on experiments
Hands-on activities during presentation.
How interactive everything was.
I feel they were surprised at the ideas given to save money. They also loved the closed/open circuit demonstration and game.
I like how the program was developmentally appropriate and motivational for the students.
I love the electric circuit.
I love this program.
I love this program. The kids liked playing Lingo and the videos that were shown.
I loved that it helped them learn the science core and helped prepare them for SAGE.
I really enjoyed when the presenters brought up the students and created the circuit. I think having them do it really helped them understand the circuit.
I really liked the connection to different energy sources. I was able to use it as a curriculum tie-in to the physical and chemical changes. And my students enjoyed the experiments associated with the presentation.
I think the students enjoy what is presented and I like how it fits with our core.
I think they enjoyed the hands on activities and demonstrations.
Interactive activities, like the energy stick. It helped keep the students interest.
Interactive presentation and the night light reward.
It is such a good idea to have the Lingo activity so the students are actively engaged in listening to learn. They thought the night lights were awesome!
It taught what is required for us to teach.
It was entertaining. They love the night light.
It was great! The students loved being involved!
It was hands-on. Enjoyed the light and conductors.

In my opinion, the thing the students liked best about the materials/program was:

It was interactive. They liked the Lingo game.
It was presented in a way that the students were actively engaged!
It was very informative, great presenters, fun activities, and the kids loved the night light.
Keeping the interest of the kids during the presentation. The Lingo game is great!
Keeping them engaged.
Learning about circuits was very exciting and engaging for them. I'm also excited to be able to refer back to this experience when we learn about circuits in our science later in the year.
Learning new things about conserving energy. They loved the game, it game them motivation and a purpose to focus.
Learning so much about energy usage and participating through the "Lingo" game and the human-energy path it goes through. They liked the Watt nightlight too. Good job!
Learning things that weren't so obvious. The charger information still pulls electricity even when not charging.
Learning ways to save money for their family.
Lingo
Lingo
Lingo
Lingo
Lingo
Lingo
Lingo and holding hands in the circle circuit.
Lingo and receiving a nightlight. They also liked the hands on visual of the conductor turning the light on and off by touching their fingers to one another.
Lingo and the human circuit.
Lingo cards. Conducting electricity through their bodies.
Lingo is always fun.
Lingo kept them listening. They liked getting the night lights.
Lingo, the energy stick, and the night lights.
Lingo, the human electricty circuit, and the night lights.
Loved it!
Making a circuit using the students.
Making the human circuit.
My students enjoy seeing facts and how it relates to real life. They like the statistics.
My students enjoyed learning about renewable energy.
My students liked the interactive activities the best. Having said that they seemed to receive everything well. Oh, and of course they enjoyed playing Lingo. The posters really add to the energy unit! Thank you!
My students seemed to enjoy the videos and the Lingo game.
Night lights.
Nightlight
Nightlights!
Or course the electricity rod. The presenters were great. And the detailed posters.
Participating in the demonstrations.
Passing the current through them when they were the conductor.
Playing lingo. This motivated them to pay attention to the information. Being involved in the presentation, i.e., demonstrating how electricity works and travels.
Playing the game "lingo" and the video.
Playing the game and earning the lightbulb nightlight.
Presenters were very engaging. Technology used was very good as well.
Receiving the night lights for doing the survey.
Relating electricity to the students every day lives.
Some of the kids were very interested in energy and excited about helping their families use it more wisely. They all loved the nightlights.
Student participation.
Students enjoyed the "Lingo" activity, as well as, making the human circuit.
Students enjoyed the presentation and information. They also enjoyed receiving the night light.
Students were very engaged. Presented in a great way!
Super program.
Taking part it in the Lingo activity!
Teaching about the different energy sources.
The "connection" to complete the circuit and make the thing flash.
The "flow" of electricity-conductor demonstration.

In my opinion, the thing the students liked best about the materials/program was:

The activites demonstrating open and closed circuits.
The activities that allowed them to get up and get going.
The activities!
The circuit and electricity connections to the core.
The circuit ball!
The circuit circle.
The circuit they made with students and the light tube.
The closed circuit/open circuit with the energy stick activity was our favorite.
The closed/open circuit and Lingo game.
The conductor experiment.
The connection to our core objectives.
The correlation between the material and the state curriculum.
The current electricity demonstration-open hands/open circuit.
The cute powerpoint pictures and the Lingo game.
The demonstration of a circuit. That was very interseting.
The demonstration of a circuit. The was very ineresting.
The demonstrations of current electricity and the generating electricity held the students attention.
The demonstrations using peers and the Lingo game.
The demonstrations using volunteers from the audience.
The demonstrations were fun and the power point was attractive.
The different forms of energy were interesting to them. They were able to refer back to the information later that day as we started a unit on energy in language arts.
The electric circuit and Lingo.
The electric stick. Everyone was engage during that activity. More activities.
The electricity and renewable energy.
The electricity circle and experiments.
The electricity circle and experiments.
The electricity stick & Lingo.
The energy stick and the bingo game.
The energy sticks!
The engaging and student involved demonstrations.
The experiments showing the use of a circuit.
The free gift
The funny videos and electrical circuit demonstration.
The game and the presentation kept them engaged. Visuals and having students help with presentation.
The game kept the students anicipation up.
The game that kept them involved, because it was such a large group the Lingo game helped a lot.
The group activity with holding hands and passing electricity along a broken or closed circuit.
The hands on activities
The hands on activities and they were able to relate it to what they were learning in class.
The hands on activities that allowed students to participate. Even having students discuss what the man in the video did was great.
The hands on activities that demonstrated what the instructors had been teaching.
The hands on activities, such as the human circuit.
The hands on activities. They also enjoyed Lingo.
The hands on activities. They also enjoyed the interactive nature of the presentation.
The hands on activity.
The hands on aspects of an open and closed circuit and the Lingo game.
The hands on experiments during the presentation. The nightlight.
The hands on parts. Using the complete circuit stick, coming up front to assist the presenters, and Lingo. They were thrilled with the nightlight.
The hands-on activities and Lingo were what I think my students liked the best. The powerpoint with videos was also great.
The hands-on activities where the students were able to get up and volunteer for a demonstration.
The hands-on activities, the videos, and Lingo.
The hands-on experiences.
The hands-on learning, especially the complete and incomplete circuit. It was designed for the age group thoughtfully.
The human circuit was their favorite.
The human circuit.

In my opinion, the thing the students liked best about the materials/program was:

The incentive to receive a prize for a survey was effective.
The informative presentation. It was great and they were very involved.
The interaction kept their attention.
The interactive parts.
The interactive presentation kept their attention, and the Lingo board was great for reviewing key vocabulary.
The interactive/participatory nature of the presentation.
The kind ladies and the opportunity for something a bit different.
The lesson was engaging and fun. The presenters were excellent.
The Lingo card review activity and the opportunity to see and experience the circuit.
The Lingo card. The energy stick and night light. Thanks!
The Lingo cards helped the kids stay focused.
The Lingo game
The Lingo game and creating the human circuit.
The Lingo game and the demonstration about how to make light in your house.
The Lingo game and the night lights!
The Lingo game and the video.
The lingo game! They also loved the night lights and the time to participate.
The Lingo game.
The Lingo game. Making the class circle around and produce energy to the light bulb (closed circuit).
The material was engaging. They loved the demonstrations.
The night light & the energy ticket lesson.
The night light!
The night light.
The night light.
The night lights and having electricity passing through each other.
The night lights and the energy stick.
The night lights they got.
The night lights were a huge hit. They liked learning about easy ways kids their age could save energy. Thank you very much for providing this service!
The night lights.
The nightlight!
The open and closed circuit activity.
The opportunity to experience a different approach. It's always nice to have a change.
The presentation and free light.
The presentation as a whole.
The presentation video.
The presentation was clear, straight forward and well done. They liked the interactive parts especially.
The presentation was liked the best. They liked the videos and the circle of students showing the flow of energy. They thought it was "cool" to get the night lights.
The presentation was very engaging. They were excited about the night lights too.
The presentation was very engaging. The students like participating.
The presentation.
The presenters knew how to present to 5th graders. However, smaller groups (we had three classes at once) may be more effective.
The presenters were great with the kids.
The presenters were great! Kept the students involved and interested. The hands on energy stick was great!
The presenters were upbeat and engaging.
The questions asked to them and how well they were able to connect everything to their lives.
The reward after bringing back the survey.
The student demonstration about conductors and insulators.
The students are always enthused with a change and the program was entertaining and educational. They loved the night light.
The students are interested in the information about natural resources! They love learning about how we harness energy in so many ways. The slides are engaging, & the gameboard kept them interested as well.
The students enjoy the Lingo game. It keeps them involved! Great materials! They love the night light.
The students enjoyed being able to go home with their newly learned knowledge and talk to their families about it.
The students enjoyed being able to participate hands on, during the program. They, also, loved the night lights.
The students enjoyed learning about how energy helps them, and ways to save it!
The students enjoyed participating in creating a circuit and the Lingo game. They also liked getting the night light!
The students enjoyed the Bingo game, the light-up stick, and the night light they received.

In my opinion, the thing the students liked best about the materials/program was:

The students enjoyed the energy of the presentation. The "new" discovery of how things work kept their attention.
The students enjoyed using the energy stick the most. I think that activity will make the entire presentation memorable for them.
The students enjoyed using the energy stick the most. I think that activity will make the entire presentation memorable for them.
The students liked playing Bingo. Also, the students liked coming up to help with different experiments.
The students liked seeing how electricity flowed without hurting anyone.
The students liked when they touched one another and the light came on. They also enjoyed playing Lingo.
The students loved getting the night lights. They enjoyed the presentations.
The students loved the night lights! Great incentive for them to talk to their parents and return their worksheets. Wonderful program, thank you!
The students really enjoyed the bingo card activity and humorous presentation with the light bulb head.
The students really loved the game and the positive interaction with the presenters!
The use of volunteers and props!
The variety of activities and media. The quest presenters were so fabulous: engaging, welcoming, personable, etc. Best ever!
The videos and Lingo game. Also, the demonstrations.
The wand that lights up when touched, the lingo game, videos and powerpoint, & the energetic and enthusiastic instructors. They also liked the night light.
Their participation in the Lingo type activity during the presentation.
They enjoyed the electrical circuit balls!
They enjoyed the interaction with the presenters. They also enjoyed the hands on demonstrations.
They enjoyed the interaction with the presenters. They also enjoyed the hands on demonstrations.
They enjoyed the student participation components.
They hands-on experiments. My students love to get up and participate!
They liked being a human conductor of electricity.
They liked being engaged and using the Lingo cards. Also, learning specific things they could do as students to save energy. The night lights were very motivating.
They liked earning a night light and being taught by someone new.
They liked getting the lights.
They liked how their parents were supportive of the program.
They liked learning about electricity and the video clips.
They liked learning ways they could take action to share electricity.
They liked participating by coming up to help. They also liked playing the Lingo game. Good job!
They liked participating.
They liked playing Lingo and being chosen to go up front and act out and role play. Lingo was loved!
They liked playing Lingo and they loved being personally involved in showing how electricity is made and creating a human circuit. Our presenters were fantastic!
They liked the conductor experiment and when the students held hands and the tube lit up.
They liked the hands on activities and they loved Lingo.
They liked the night light.
They liked the Nightlight.
They liked the nightlight.
They liked the nightlight.
They liked the videos and any kind of interaction.
They liked the videos and Lingo game-very engaging.
They love doing "Lingo"
They love getting the WattSmart night light.
They love the light stick and making a human circuit.
They loved all of the experiments. The hands-on chemical lad was a favorite also.
They loved being able to participate in the demonstrations.
They loved being in a circle and making the energy stick light up & buzz.
They loved seeing the light turn on when the students made a circle.
They loved that the presentation was hands on! It sparked thoughts on the topic that normally wouldn't be there.
They loved the "conductors" activity and how their bodies were the actual circuit. Loved it!
They loved the activities
They loved the Bingo game and the stick.
They loved the circuit demonstration with the energy stick and testing out conductors and insulators.
They loved the electical circuit activity.

In my opinion, the thing the students liked best about the materials/program was:

They loved the energy tube and creating human circuits. They also enjoyed the Lingo game played throughout the presentation.
They loved the hands on activities! Especially the circuit and Lingo game.
They loved the hands on portions and the night lights.
They loved the interactive activities.
They loved the interactive Bingo
They loved the Lingo, the power point was engaging, and the activity booklet was well thought. I liked the energy sources and how they were explained to the students.
They loved the night lights and demonstrations!
They loved the night lights. They also loved the light that lit up when the circuit was complete during the presentation.
They loved the nightlight from returning the survey.
They loved the posters and looking at all the different power stuff. The information on electricity and currents went well with our science unit.
They really enjoyed making the complete circuit.
They really enjoyed the demonstration with the energy stick.
They really enjoyed the LINGO game! They also enjoyed the things they would get called up to participate in.
They really like it when they get to participate in the presentation. They also like the Bingo game.
They really liked the Bingo game.
They really liked the program and the presenters. The nightlights were also a great hit.
They really liked the program and the presenters. The nightlights were also a great hit.
They relate to the students. They loved the circuit.
They seemed to enjoy learning new things and quizzing themselves with Lingo cards.
They were excited to get their night lights after turning in their form.
They were kept actively moving and engaged.
This year, they are excited for the nightlights.
Tremendous interactive lesson and discussion. Students were engaged. Presenters were excited and showed an interest in these young people.
Understanding electricity.
Understanding the electricity curriculum.
Visuals and Lingo.
Was seeing how everything works. It was hands on.
Watching demonstration and playing bingo.
We do this every year and love it!
Your BINGO game is wonderful-makes them think, yet it's fun.

In the future, one thing I would change would be:

A lot of kids had a chance to help which was a positive. But many kids didn't even have a chance to stand. And hour is a long time to sit on the floor. Even in chairs it's a long time. Kids are use to simple brain breaks. Teachers could even do this.
Activities that are more interactive.
Add more hands on activities so students better understand circuit electricity.
Add more to the presentation from the UTAH 5th grade core.
Better whole group management throughout the hands-on experiences.
Bingo game would be nice to have a prize for the winner.
Bring more energy sticks so all kids could be in a circle and try it. (More small circles).
Come later in the school year to provide a review on electricity.
Come teach when teachers are doing the electricity sections.
Do one class at a time, it's more personal.
Emphasize more why we should be more energy efficient, and move more to renewable energy sources.
Everything was terrific. Thanks for coming!
Excellent job!
Have a self-evaluation of power usage by students. Bring it home to them.
I can't think of anything.
I thought the presenters did an awesome job. The only recommendation I would have is working on smoother transitions between Lingo and the activity circuit.
I would not change anything.
In that particular location (school lunch room) it would have been nice to have a microphone.
It was all really good! We loved the presentation.
It would be nice if the Home Energy Worksheet were a little more tied to the presentation. I would like to see more of the excitement of the presentation carried over to the completion of the worksheets.
It would be nice to have the presenters split up and speak to smaller groups of students.
Kids would buy into Lingo more if the prizes were tangible, like one of the nightlights, small pen and keychain etc.
Majority of our students are in apartments or the homeless shelter. Asking them to remind parents to recycle old refrigerators is not realistic for our population.
Make the survey more "kid friendly."
Maybe have a chart with the new vocabulary words used in the presentation.
More chances for all the students to participate with the cool gadgets. I know that may not be possible.
More engaging activities.
More hands on activities.
More information for students to help with the home survey.
None
Nothing really. Thought it was well run and well received.
Nothing, they did a great job! Thanks!
Nothing.
Nothing.
Nothing. Students were engaged, attentive, and fanastic!
Nothing. Students were engaged, attentive, and fanastic!
Our presentations were awesome!
Provide small prizes for the bingo game.
Thank you!
The bingo game was a little distractive.
The Lingo game would be nicer if there was a winner.
The presentation was supposed to be 1 hour, but it ended up being about 35 minutes. Maybe more movement.
The promise of something when they participate because they only got the "something" if they returned the paper.
They are always disappointed that the Lingo game has no reward. Not really needed, but that is all I could think of.
Way too long! Some activities were too young, i.e. repeat, "flow, flow flow" etc.
You always do a great job!

Teacher ID

Be *watt*smart
Begin at home

Home Energy Worksheet

Student First Name

Heating

1. Install and use a programmable thermostat.
   - ☐ Currently do ☐ Will do
   - ☐ Neither
2. Caulk windows and weather strip outside doors.
   - ☐ Have done ☐ Will do
   - ☐ Neither
3. Inspect attic insulation and add insulation if needed.
   - ☐ Have done ☐ Will do
   - ☐ Neither
4. Keep furnace air filters clean/replaced regularly.
   - ☐ Currently do ☐ Will do
   - ☐ Neither

Cooling

5. Replace existing air conditioning unit with a high-efficiency unit.
   - ☐ Have done ☐ Will do
   - ☐ Neither
6. Close blinds when windows are exposed to the sun.
   - ☐ Currently do ☐ Will do
   - ☐ Neither
7. Use a fan instead of air conditioning.
   - ☐ Currently do ☐ Will do
   - ☐ Neither
8. Participate in Rocky Mountain Power's Cool Keeper program.
   - ☐ Currently do ☐ Will do
   - ☐ Neither

Water heating

9. Set the water heater temperature to 120 degrees F.
   - ☐ Have done ☐ Will do
   - ☐ Neither
10. Install a high-efficiency showerhead.
    - ☐ Have done ☐ Will do
    - ☐ Neither
11. Take 5 minute showers.
    - ☐ Currently do ☐ Will do
    - ☐ Neither
12. Wash full loads in the dishwasher and clothes washer.
    - ☐ Currently do ☐ Will do
    - ☐ Neither

Lighting

13. Replace incandescent bulbs with CFL or LED bulbs.
    - ☐ Have done ☐ Will do
    - ☐ Neither
14. Turn lights off when not in use.
    - ☐ Currently do ☐ Will do
    - ☐ Neither

Refrigeration

15. Replace old, inefficient refrigerator with an ENERGY STAR® model.
    - ☐ Have done ☐ Will do
    - ☐ Neither
16. Unplug and/or recycle old freezers/refrigerators.
    - ☐ Have done ☐ Will do
    - ☐ Neither
17. Maintain refrigerator and freezer coils and check door seals twice yearly.
    - ☐ Currently do ☐ Will do
    - ☐ Neither

Electronics

18. Turn off computers and game consoles when not in use.
    - ☐ Currently do ☐ Will do
    - ☐ Neither

Cooking

19. Use a microwave oven, toaster oven or crock pot instead of a conventional oven.
    - ☐ Currently do ☐ Will do
    - ☐ Neither

Get paid for being *watt*smart

20. Visit Rocky Mountain Power at *wattsmart.com* for more energy-saving tips and rebates.
    - ☐ Have done ☐ Will do
    - ☐ Neither

WAT UT

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cultivating energy literacy

ROCKY MOUNTAIN POWER
Let's turn the answers on.

Home Energy Worksheet (Spanish)

Profesor(a) Nombre _____

Ser ***watt***smart
Empieza en casa

Verificación de la Energia Domestica

Del Estudiante _____

Calefacción

1. Instalar y usar un termostato programable.
   ☐ Lo hago ☐ Lo haré ☐ Ninguno
2. Calafatear ventanas e instalar burletes en el exterior de las puertas.
   ☐ Lo he hecho ☐ Lo haré ☐ Ninguno
3. Inspeccionar el aislamiento del ático y agregar aislamiento si es necesario.
   ☐ Lo he hecho ☐ Lo haré ☐ Ninguno
4. Mantener los filtros de aire de la calefacción limpios/ reemplezarlos regularmente.
   ☐ Lo hago ☐ Lo haré ☐ Ninguno

Enfriamiento

5. Reemplazar la unidad de aire acondicionado existente por una unidad de alta eficiencia.
   ☐ Lo he hecho ☐ Lo haré ☐ Ninguno
6. Cerrar las persianas cuando las ventanas estén expuestas al sol.
   ☐ Lo hago ☐Lo haré ☐ Ninguno
7. Usar un ventilador en lugar del aire acondicionado.
   ☐Lo hago ☐ Lo haré ☐ Ninguno
8. Participar en el programa "Cool Keeper" de Rocky Mountain Power.
   ☐ Lo hago ☐ Lo haré ☐ Ninguno

Calentadores de agua

9. Programar el calentador de agua a 120 grados F.
   ☐ Lo he hecho ☐ Lo haré ☐Ninguno
10. Instalar una cabezal de ducha de alta eficiencia.
    ☐ Lo he hecho ☐ Lo haré ☐ Ninguno
11. Tomar duchas de 5 minutos.
    ☐ Lo hago ☐ Lo haré ☐ Ninguno
12. Lavar cargas llenas en los lavaplatos y las lavadoras de ropa.
    ☐ Lo hago ☐ Lo haré ☐ Ninguno

Iluminación

13. Reemplazar los focos incandescentes con focos CFL o LED.
    ☐ Lo he hecho ☐ Lo haré ☐ Ninguno
14. Apagar las luces cuando no estén en uso.
    ☐ Lo hago ☐ Lo haré ☐ Ninguno

Refrigeración

15. Reemplazar refrigerador antiguo e ineficiente con modelo de ENERGY STAR®.
    ☐ Lo he hecho ☐ Lo haré ☐ Ninguno
16. Desenchufar y/o reciclar congeladores/refrigeradores antiguos.
    ☐ Lo he hecho ☐ Lo haré ☐ Ninguno
17. Mantener la bobina del refrigerador y del congelador y inspeccionour el sello de las puertas de dos veces al año.
    ☐ Lo hago ☐ Lo haré ☐ Ninguno

Dispotiuos Electrónicos

18. Apagar computadoras y consolas de juegos cuando no estén en uso.
    ☐ Lo hago ☐ Lo haré ☐ Ninguno

Cocinar

19. Usar el horno microonda, y el horno eléctrico o un cocedor lento en lugar del horno convencional.
    ☐ Lo hago ☐ Lo haré ☐ Ninguno

Reciba paga siendo *watts*mart

20. Visite Rocky Mountain Power en *wattsmart.com* para obtener más consejos y rebajas de ahorro de energía.
    ☐ Lo he hecho ☐ Lo haré ☐ Ninguno

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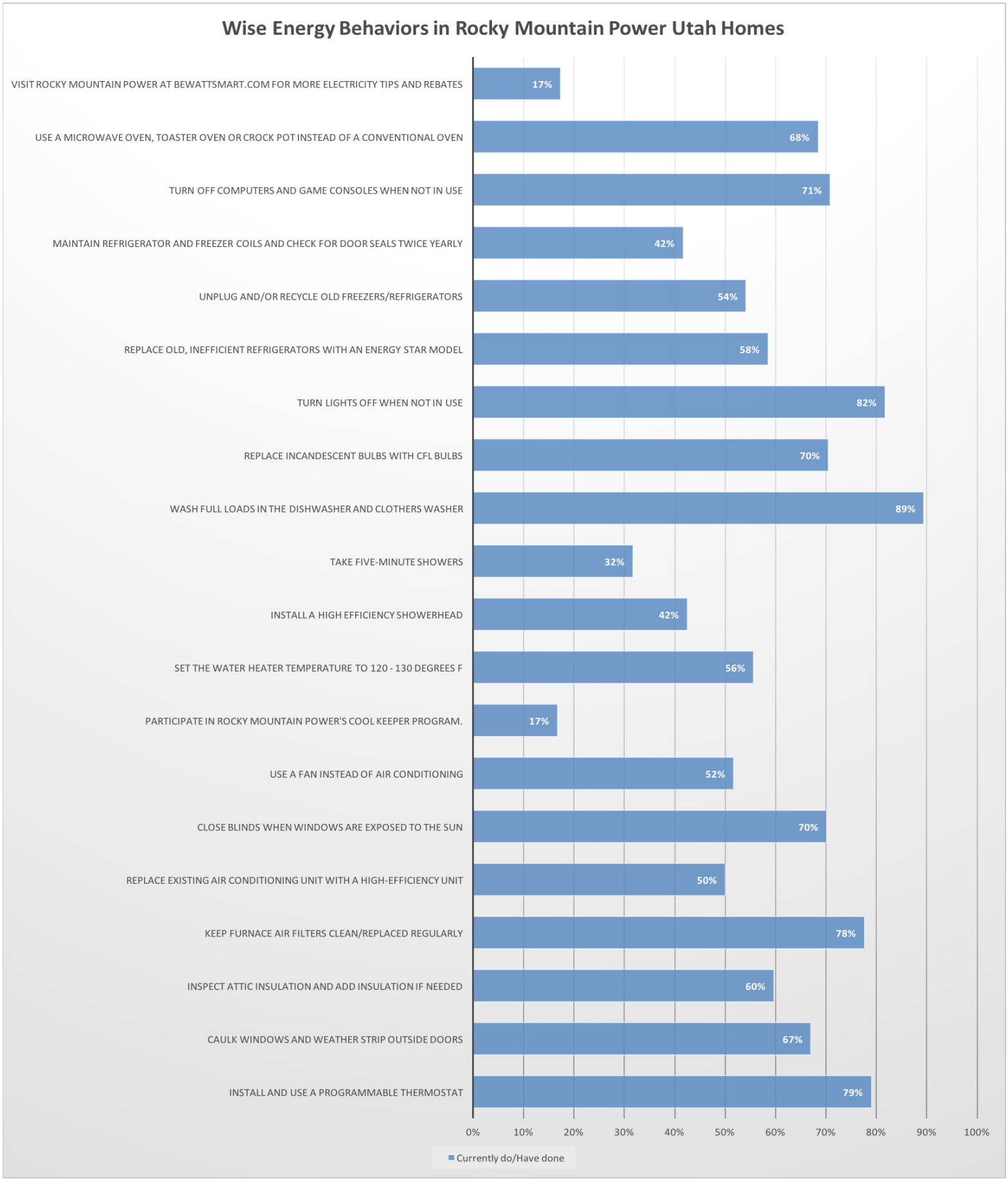
ROCKY MOUNTAIN POWER
Hagamos brillar las soluciones.

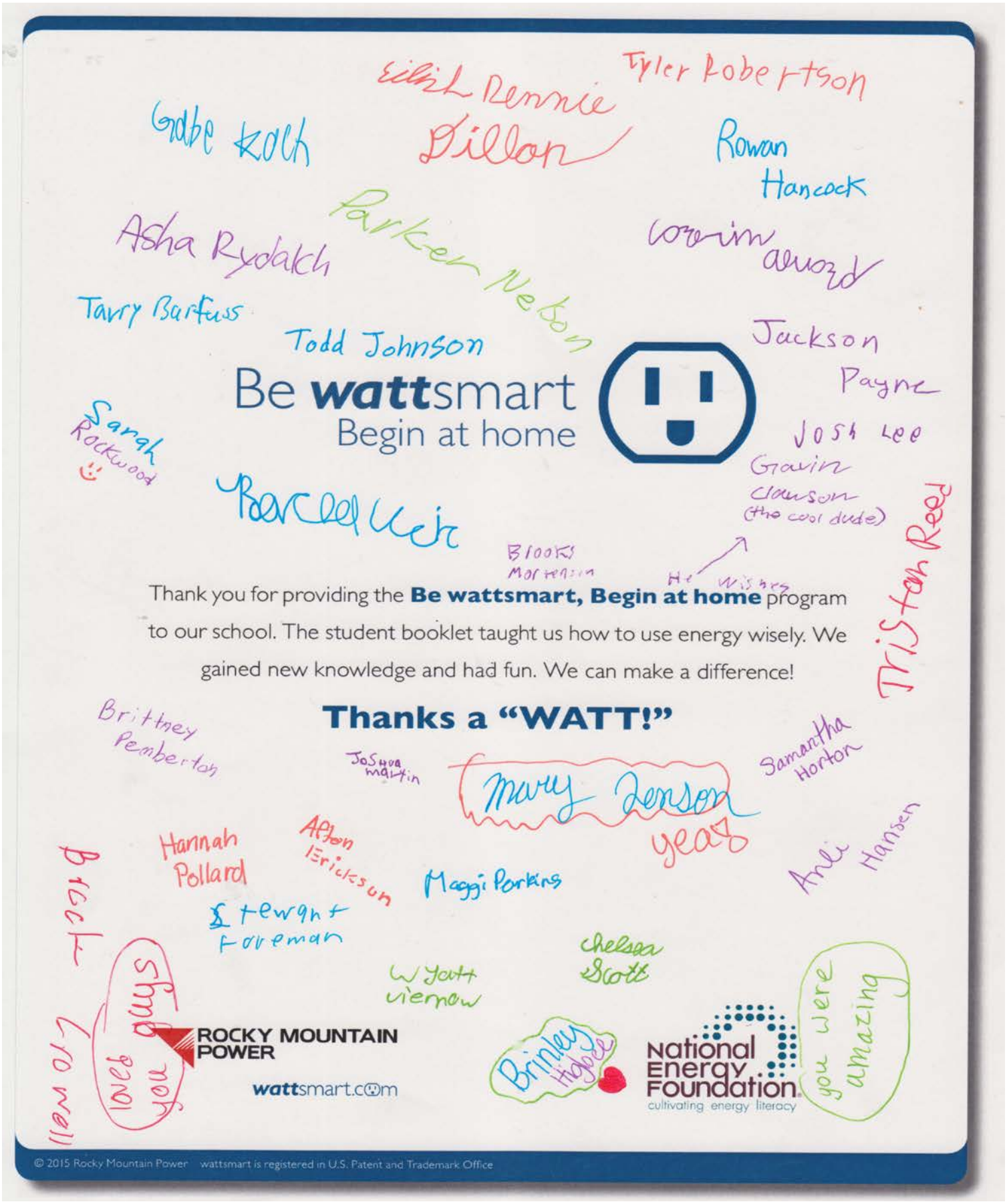
Wise Energy Behaviors in Rocky Mountain Power Utah Homes



WattSmart Education Program
Home Energy Worksheet Summary - Rocky Mountain Power

Energy Efficient Activity	Currently do /Have done	Will do	Neither
Install and use a programmable thermostat	79%	9%	12%
Caulk windows and weather strip outside doors	67%	17%	16%
Inspect attic insulation and add insulation if needed	60%	17%	23%
Keep furnace air filters clean/replaced regularly	78%	14%	9%
Replace existing air conditioning unit with a high-efficiency unit	50%	17%	33%
Close blinds when windows are exposed to the sun	70%	10%	20%
Use a fan instead of air conditioning	52%	15%	33%
Participate in Rocky Mountain Power's Cool Keeper program.	17%	22%	61%
Set the water heater temperature to 120 - 130 degrees F	56%	18%	27%
Install a high efficiency showerhead	42%	18%	40%
Take five-minute showers	32%	25%	43%
Wash full loads in the dishwasher and clothers washer	89%	5%	6%
Replace incandescent bulbs with CFL bulbs	70%	18%	12%
Turn lights off when not in use	82%	14%	4%
Replace old, inefficient refrigerators with an ENERGY STAR model	58%	17%	25%
Unplug and/or recycle old freezers/refrigerators	54%	17%	29%
Maintain refrigerator and freezer coils and check for door seals twice yearly	42%	37%	21%
Turn off computers and game consoles when not in use	71%	17%	12%
Use a microwave oven, toaster oven or crock pot instead of a conventional oven	68%	13%	19%
Visit Rocky Mountain Power at bewattsmart.com for more electricity tips and rebates	17%	55%	28%

Sampling of *Thanks a "WATT" Cards*




Ashley
Mckail
Calvin
Anzel.C
Billy
Ammon
EDDiE
Lind
Mary
Be wattsmart
Begin at home
Brooke C.
Jaxon
Ryan
Cloe
Lelbe
Thank you for providing the Be wattsmart, Begin at home program to our school. The student booklet taught us how to use energy wisely. We gained new knowledge and had fun. We can make a difference!
Autumn
Thanks a "WATT!"
Caleb
Bidger
Tyson
Austin
Ethan
Dawson
Avery
Dalton
Natalie
Addie
Will is away
Kate Lush
Kylie
Kara
Ivy
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Brooklyn
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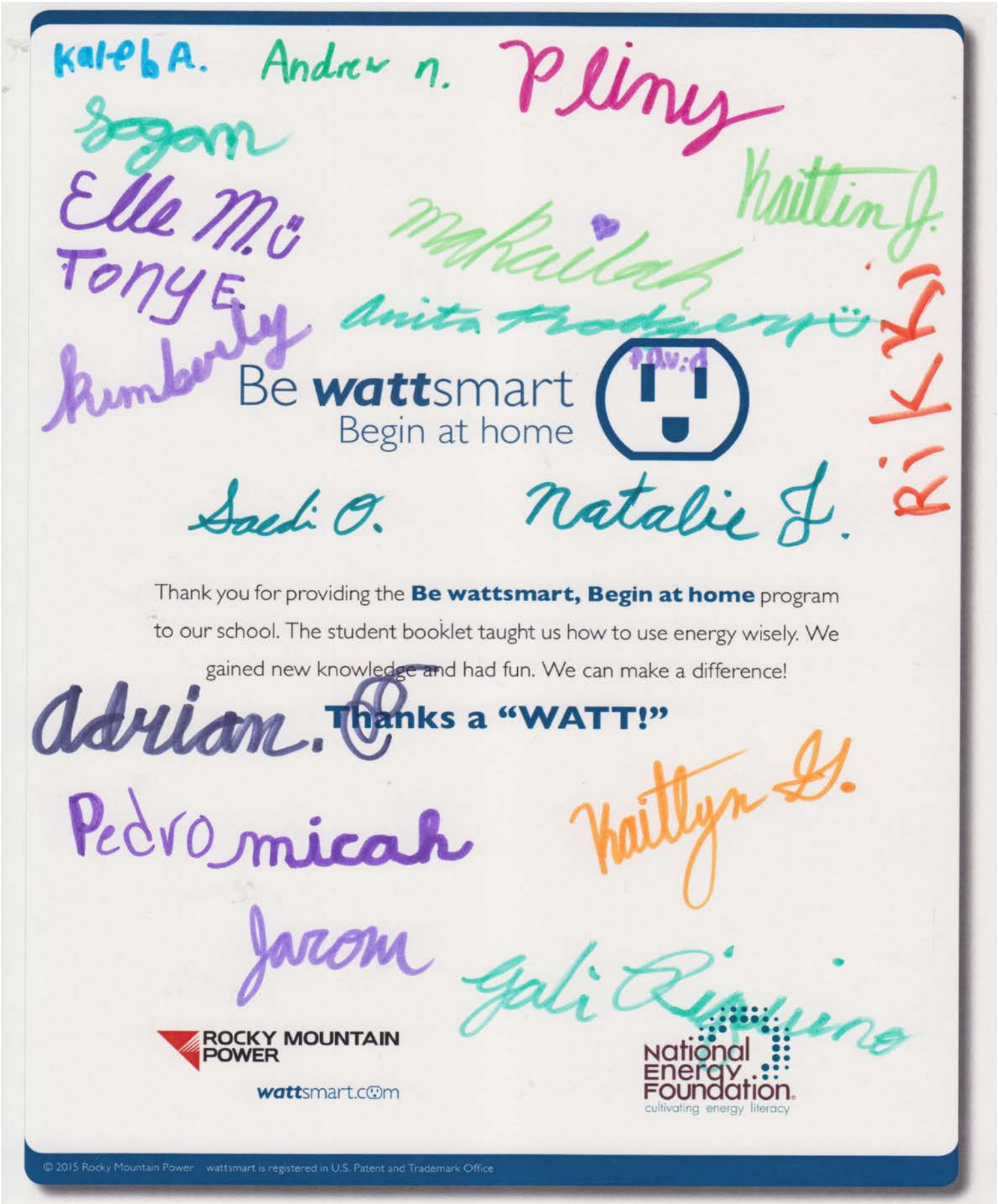

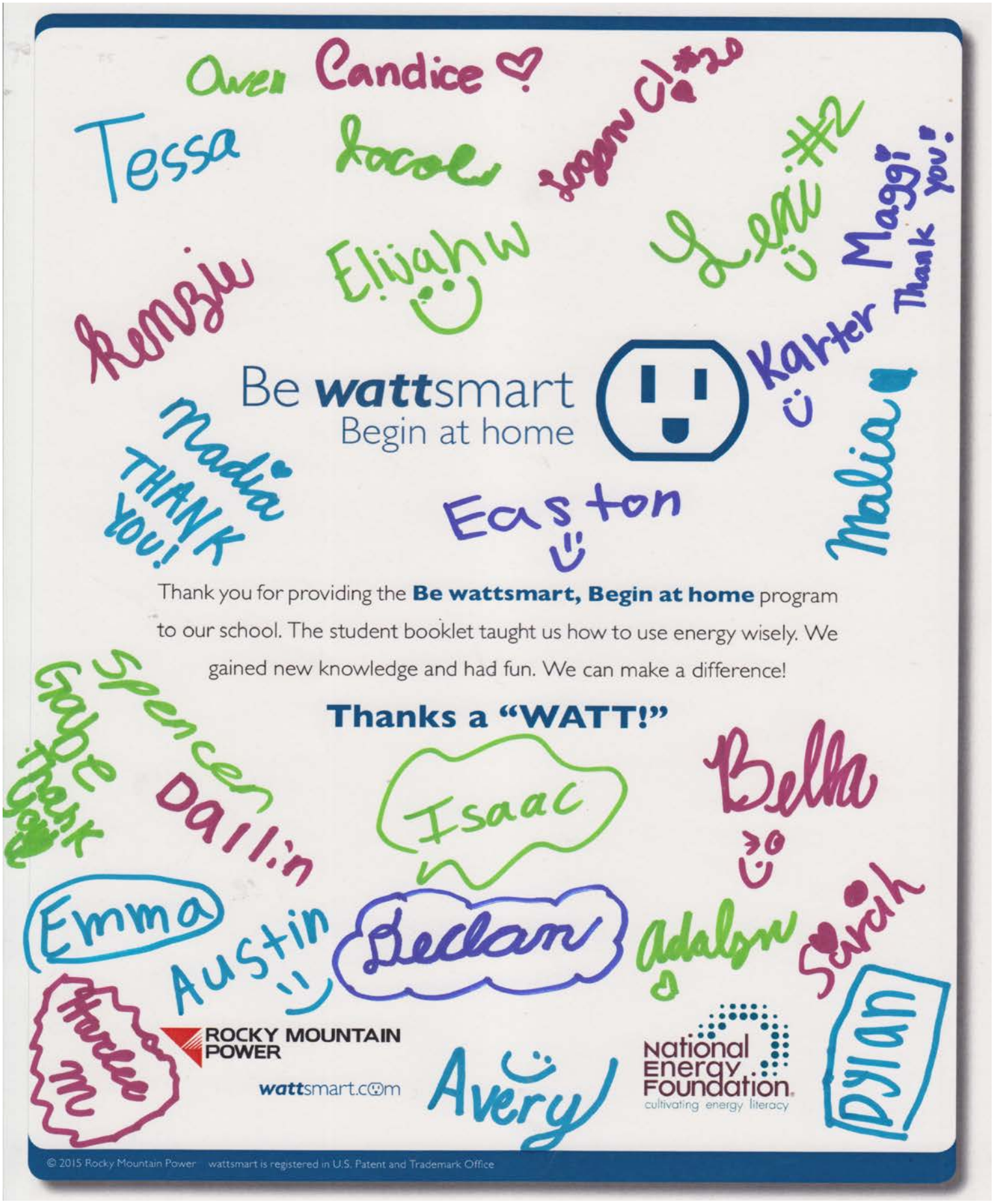
Owen
Candice
Tessa
Isaac
Logan Cl #20
Lexi #2
Renzlie
Elijah W
Maggi
Thank you!
Be wattsmart
Begin at home
Karter
Madia
THANK YOU!
Malia
Easton
Thank you for providing the Be wattsmart, Begin at home program to our school. The student booklet taught us how to use energy wisely. We gained new knowledge and had fun. We can make a difference!
Thanks a "WATT!"
Spencer
Gabe
Dallin
Isaac
Bella
Emma
Austin
Declan
Adalyn
Sarah
Harley
ROCKY MOUNTAIN POWER
wattsmart.com
Avery
National Energy Foundation
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DYLAN
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