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PACIFICORP COMMUNICATIONS, OUTREACH, AND EDUCATION

UTAH

Preface

On June 11, 20CAMPAIN Commission approved the Company's proposal to implement an outreach and communications campaign. The program's objective is to promote energy efficiency and conservation through education and increase customer awareness of the Company's DSM programs. This report presents an assessment of year 12 (calendar year 2021) of the DSM outreach and communications campaign, including an evaluation of Wattsmart in meeting its objectives and a summary of year 12 program activities.

CUSTOMER SURVEY RESULTS

The Company has conducted customer research each year from 2010 to 2021 to determine the effectiveness of the outreach and communications campaign in increasing the awareness of and self-reported participation in DSM programs. The research methodology and findings of this survey work are included below.

Research Methodology

MDC Research completed 1,093 residential online surveys in September 2021 and 288 business online surveys in July and August 2 using online survey methodology.

The overall objective of this research was to measure awareness and affinity for Rocky Mountain Power's energy conservation programs. Additional objectives included: measuring the awareness level of Rocky Mountain Power advertisements and determining awareness of Rocky Mountain Power being a resource for energy efficiency; distinction between Wattsmart and Rocky Mountain and Pacific Power; and discerning actions residential and business customers are taking to conserve energy.

Escalante National Benchmarking Study contains high-level findings regarding energy efficiency in which Rocky Mountain Power received a score of 83% among residential customers. These customers think the Company does a good job of "Providing information on how to control your electricity costs," and a score of 77% among the program's objective of "Providing information on how to control electricity costs."

Key Research Findings – Residential Customers

Eighty-two percent of residential customers say Rocky Mountain Power does a good job of having programs that help customers use energy more efficiently. Positive ratings are nearly the same as 2020 year-end findings (83%).

Advertising and communications recall

Three in five (61%) customers recall Rocky Mountain Power communications/advertising, down from 68% in 2020. About half (45%) say they recall seeing or hearing any energy efficiency

advertising, email or news stories. Among those who recall energy efficiency information, 74% say they visited the utility’s website or sought additional information and nearly two-thirds (63%) associate “Wattsmart” with Rocky Mountain Power.

Actions were taken to conserve electricity

Sixty-four percent of residential customers have taken some actions to conserve energy, up from 2020 (62%). Actions around lighting continue to be the most common, with “Installing energy-efficient lighting” as the leading action at 27%, though down from 39% in 2020. Top actions around heating/c cited, with “lowered use of/turned off AC” at 11% and “installed energy-efficient AC” at 10%, both in line with 2020 findings.

Reason for taking action

The main reasons for taking action to reduce energy use (among those who have taken action): to save money (69%) and to protect the environment (20%). The third reason is to conserve energy (18%).

Preferred information sources

Rocky Mountain Power is the most mentioned first source for customers to turn to for energy efficiency information. Rocky Mountain Power’s emails and website are the most common ways respondents learn about the Company. *(MDC Research)*

Email, broadcast or cable television, online news aggregators and other websites are the top sources for information on news and current events. *(MDC Research)*

Key Research Findings – Commercial Customers

Findings for 2021 regarding energy efficiency among commercial customers show the following:

- In 2021, nine-in-ten (94%) Rocky Mountain Power business customers believe that it’s “very” or “somewhat important for utility companies to help customers conserve energy through program offerings *(MDC 2021 Business Research)*.
- Additionally, more than half (64%) of business customers are aware of Rocky Mountain Power communications, in line with 2020 findings. *(MDC 2021 Business Research)*.
- In 2021, seven-in-ten (76%) Rocky Mountain Power commercial customers are aware of the Company “offering solutions to help them use energy more efficiently.” Findings are identical to 2020 *(Escalent Commercial Study Wave 2 2021)*.
- In addition, seven in ten (77%) Rocky Mountain Power customers believe their utility is doing a good job of “providing information on how to control electricity costs” compared to 74% in 2020 *(Escalent Commercial Study Wave 2 2021)*.
- Approximately eight-in-ten (82%) of Rocky Mountain Power customers feel their utility company does a good job of “providing information about products and services that are of value to them”, a decrease from 87% in 2020 *(Escalent Commercial Study Wave 2 2021)*.

Conclusions

Customers feel their utility is doing a good job of providing information, even though the

awareness level for recall of communications has gone down for residential customers and stayed consistent for business customers. The percentage of customers taking action to save energy has remained steady among both customer categories. As in years past, customers are more likely to conserve energy by using energy-saving lighting than any other method, though lighting actions are beginning to decline overall. Customers are primarily driven to conserve energy to save money, save energy and help protect the environment.

The company continued to advertise and promote “Wattsmart” energy-efficient actions to leverage these findings to express Rocky Mountain Power’s “Powering Your Greatness” brand essence. The advertising messages empower customers to make smart choices by highlighting cost-saving behaviors, tools and rebates, and energy conservation benefits.

CAMPAIGN ACTIVITIES

Communications, Outreach and Education

Wattsmart is an overarching energy efficiency campaign to engage customers in reducing their energy usage through behavioral changes and pointing them to the programs and information to help them do it. “Rocky Mountain Power has incentives, rebates and tools to help you save energy and money” remains the key.

The Company uses earned media, customer communications, education and outreach, advertising, and program-specific marketing to communicate the value of energy efficiency, provide information regarding low-cost, no-cost energy efficiency measures, and educate customers on the availability of programs and services rebates.

In 2021, the Company introduced a new Wattsmart advertising campaign to inform and educate customers about the benefits of energy efficiency. The campaign encourages customers to take meaningful actions to reduce energy use and lower their bills.

The Company’s external communications department manages earned media in cooperation with the regional business managers located in Utah. “Earned media” generally refers to favorable television, radio, newspaper or internet news coverage gained through press releases, media events, opinion pieces, story pitches or other communication with news editors and reporters. A list of the creative and news releases is included in Exhibit C.

Customer Communications

Beyond paid media, the Company also used statement communications, email, website, social media, and news coverage. Tapping into all resources with consistent messaging has been the Company’s approach and will continue to be refined. As part of the Company’s regular communications to its customers, support materials, newsletters, and the Company’s website promote energy efficiency initiatives and case studies regularly. The Company uses the following tactics consistently to communicate to customers.

Website:

- rockymountainpower.net/Wattsmart (Wattsmart.com)
- URLs link directly to the energy efficiency landing page. Once there, customers can self-

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select their state for specific programs and incentives.

Social Media:

- Twitter feed promotes energy efficiency tips and Wattsmart programs a few times per month.
- Facebook posts include Wattsmart messages three to four times per month.

Newsletters

- *Connect* residential newsletter is sent to customers two to three times a year; each issue includes energy efficiency tips and/or rebate program information.

Wattsmart Campaign

Paid Media

The overall paid media plan objective is to effectively reach its customers through a multi-media mix that extends both reach and frequency. The audiences for communications were prioritized as follows:

- *PRIMARY*: Residential households in the Company’s service area
- *SECONDARY*: Small to mid-sized businesses.

Table 1 outlines the value provided by each communication channel.

Table 1 – Communication Channels

Communication Channel	Value to Communication Portfolio	Placement
Television, Cable Television & Over the Top (OTT)	Due to the strength and reach of Salt Lake City’s designated market area, television and OTT (Over the Top) are effective and economical media channels. OTT includes advertising on streaming services (YouTube, Netflix, Hulu, Amazon Prime Video, etc.).	Broadcast TV – 720 TRPs Cable TV – 2,481 spots OTT – 2,022,774 impressions
Radio	Given the cost relative to television, radio builds on communications delivered via television while providing for increased frequency of messages.	896 Total Rating Points (TRPs)
Print	Includes ads in local newspapers	639,784 impressions

Communication Channel	Value to Communication Portfolio	Placement
Paid Social Media (Facebook & Instagram)	Promoted posts on social media support broadcast and digital media to increase overall awareness.	4,030,195 impressions with 29,960 clicks
Digital Display	Supports the broadcast and print media while also increasing awareness for energy-saving messaging.	6,086,994 impressions with 5,061 clicks
Paid Search	Search engine marketing (SEM) helps customers find content from advertising.	185,399 impressions

The total number of 2021 impressions for the Wattsmart campaign was 12,969,243.

Weblinks to the current portfolio of advertisements are included in Exhibit C of this report.

Public Outreach

Energy Education in Schools

The Company offers a “Be Wattsmart, Begin at Home” school education program delivered through the National Energy Foundation (“NEF”). The program is designed to develop a culture of energy efficiency among teachers, students, and families. The centerpiece is a series of one-hour presentations with educational and entertaining video components and hands-on, large group activities for 4th graders. Teachers are provided instructional materials, and students are sent home with a Home Energy Worksheet to explore energy use in their homes and encourage efficient behaviors.

Presentations are based on state education guidelines. In fall 2021, 15,583 Utah students participated in the curriculum, including 200 schools taught by 601 teachers. Students received “Home Energy Worksheets” and were asked to audit their homes to receive LED night lights as incentives. Teachers were eligible to receive \$50 incentives for their classrooms depending on how many students completed their worksheet summary of NEF’s 2021 activities, and accomplishments in Exhibit B.

Social media Coverage for educating the next generation of energy savers

Rocky Mountain Power uses social media to connect with the next generation of energy savers. Videos created for the school presentations are available on Rocky Mountain Power’s YouTube channel and emphasize the importance of conservation and saving energy. The series of videos features a very enthusiastic host who demonstrates behaviors to provide fourth graders with ideas on how they can save energy to help the environment and save their parents money. Topics in the videos include turning off lights, switching to LED light bulbs, knowing what you want before opening the refrigerator, running the dishwasher only when it’s full, running a fan instead of air conditioning to stay cool, and the impacts of weatherization.

PROGRAM-SPECIFIC MARKETING

All energy efficiency program marketing and communications are under the Wattsmart umbrella to ensure a seamless transition from changing customer behavior to the actions they could take by participating in specific programs. Separate marketing activities administered by and specific to the programs ran in conjunction with the Wattsmart campaign.

Wattsmart Homes Program

The Wattsmart Homes program is communicated to customers, retailers and trade allies through various channels. Using a strategic approach, the Program communicates select priority measures during key selling seasons and uses opportunities like home shows to help increase customer awareness of energy efficiency incentives.

The program communications team supported the following initiatives in 2021:

- Cooling campaign promoting rebates for target cooling measures such as ductless heat pumps, supplemental ductless heat pumps and dual fuel heat pumps.
- Heating campaign promoting rebates for target heating measures such as dual fuel heat pumps, ductless heat pumps and supplemental ductless heat pumps.
- Weather triggered emails
- Spring and fall home shows
- Smart thermostat instant rebates

Cooling and Heating Campaigns

In 2021, the heating and cooling campaigns utilized past customer participation, modeling, and mosaic data, to put in motion a highly targeted email and direct mail campaign promoting dual fuel heat pumps, ductless heat pumps and supplemental ductless heat pumps. Messaging highlighted the energy and cost-saving benefits of the equipment and sent customers to content-rich landing pages for more information regarding rebate amounts and requirements.

Weather Triggered Emails

In 2020, the Wattsmart Homes Program implemented a weather event-triggered email campaign promoting key priority measures during instances of extreme heatwaves or winter storms. Due to the campaign's success, the Program continued into 2021 with two deployments in Utah: July and December promoting ductless heat pumps, supplemental ductless heat pumps, and dual fuel heat pumps. The email campaigns continued to see high open rates with an average of 33% and 2,391 clicks to the measure-specific landing pages. Monitoring inclement weather allows us to time measure messages with days or weeks that customers are most inclined to take advantage of an offer. This tactic will continue to be refined in 2022 and beyond.

Home shows

Due to the ongoing COVID-19 pandemic, the Spring Salt Lake Tribune Home and Garden Festival, typically held in March, was canceled.

As the pandemic numbers plateaued and with strict CDC guidelines, the Wattsmart Homes program staff attended The Deseret News Home Show October 8-10, 2021, at the Mountain America Expo Center in Sandy, Utah.

To help drive show attendance, a customer email and website promotions were used to increase awareness of the show. More than 346 customers used Rocky Mountain Power’s online coupon code to get discounted admission to the show. The higher-than-average code usage can be attributed to residents comfortable attending public events after mass shutdowns across the nation due to the pandemic were lifted. Customers who visited the booth received information about energy efficiency upgrades and renewable energy choices and could enter to win a Daikin Fit Dual Fuel Heat Pump.

Smart thermostat promotions

In 2021, Earth Day was the primary promotion for smart thermostats in Utah, encouraging customers to purchase a new smart thermostat to take advantage of Wattsmart incentives and manufacturer discounts. Through past participation data layered with customer mosaics, customers were chosen to pinpoint the right customers with the highest propensity to purchase a smart thermostat. These eligible customers had not received an incentive or redeemed a Wattsmart instant rebate for a smart thermostat. Email performance resulted in a 19% open rate and 2,393 coupon reservations in Utah.

Wattsmart Homes Communications

Communications Channel	Impressions
Direct mail	6,000
Emails	706,649

Energy Insights Reports

Thousands of print and email Energy Insights Reports were delivered to Utah residential and small to mid-size business customers in 2021.

Customer satisfaction and engagement with the Bidgely program demonstrated consistently positive results. Email open rates averaged 31%, which is more than the utility industry average. Email recipients also gave the email communications they received 69% “likes” via thumbs up and thumbs down voting buttons included with every message.

Cool Keeper

The company uses a variety of direct outreach to keep *Cool Keeper* participants informed and encourage new customers to take part. In 2021, outreach included:

- Letters to apartment tenants.
- Reminder letters and emails to participants ahead of the Cool Keeper summer cooling



season.

- A series of different emails to non-participants to encourage participation.
- An email to participants at the end of the summer season with a link to an online survey.
- A postcard and email to participants at the end of November to thank participants and provide their Cool Keeper bill credit amount.

Wattsmart Business

In 2021, Wattsmart Business communications encouraged customers to inquire about incentives for lighting with controls, HVAC upgrades, irrigation, and other energy efficiency measures.

The program was marketed with radio ads and NPR underwriting, newspaper ads, digital display, paid social posts and paid search advertising. Updated campaign ads featured incentives and tools to help businesses reduce energy costs and save money. This was in addition to direct customer contact by Company project managers and regional business managers, trade ally partners, and content on the Company website, Facebook, etc.

In 2021, the program garnered 14,922,622 impressions. A breakdown of impressions by media type is shown in Table 3 below.

Table 3 – Wattsmart Business Impressions by Media Type

Communications Channel	Impressions
Newspaper	2,615,922
Digital display/Search	8,111,793
Social media	4,194,907

OUTREACH CAMPAIGN BUDGET RESULTS

The 2021 budget for outreach activities was \$1,500,000, as presented in Table 4 below. The channel of communication summarizes estimated expense.

Table 4 – 2021 Budget & Approximate Expenditures

	Budget	Approximate Expenditures
TV	\$328,000	\$ 335,721
Radio	\$10,000	\$11,485
Print/Out of Home	\$ 100,000	\$104,787
Digital/Social	\$ 245,000	\$ 244,039
Creative/Production/Planning	\$ 325,000	\$ 325,721
General PR	\$ 6,000	\$ 6,271
Energy Insight Reports	\$200,000	\$200,000
Wattsmart Events and Sponsorships	\$ 30,000	\$ 34,050
Be Wattsmart, Begin at Home School Education Program (NEF)	\$245,000	\$ 257,436
Research	\$ 11,000	\$ 11,040
Total	\$ 1,500,000	\$ 1,530,550

EXHIBITS

Exhibit A



Exhibit A

Energy Efficiency Questionnaires

**Rocky Mountain Power
2020 Energy Efficiency Web Questionnaire**

Date: June 29, 2020
Universe: General public, Rocky Mountain Power service areas Utah, Idaho, and Wyoming
Sample size: 1000 Rocky Mountain Power residential customers
 Screener: Head of household, most likely to contact the utility company
Objective: Measure the public’s awareness and affinity for energy conservation programs

LANDING PAGE

MDC Research is conducting a survey on behalf of Rocky Mountain Power regarding its services and programs.

This survey usually takes a few minutes. We are only interested in your opinions. We are not selling anything.

Thank you in advance for taking the time to help us serve you better. We appreciate your participation very much!

To begin the survey, please click '>>>' below.

L1. RECORD STATE FROM SAMPLE

- 1 Idaho (QUOTA: MIN 200; NO MAX)
- 2 Utah (QUOTA: MIN 600; NO MAX)
- 3 Wyoming (QUOTA: MIN 200; NO MAX)

We have a few questions to start to make sure we hear from a broad mix of Rocky Mountain Power customers.

S0 What is your gender?

- 1 Male
- 2 Female

Q1 [Screener 1] Is Rocky Mountain Power your electricity provider?

- 1 Yes
- 2 No à **THANK & TERMINATE**
- 3 Prefer not to say à **THANK & TERMINATE**



Q2 **[Screener 2]** Are you a person in your household who is likely to make decisions about your household participating in services offered by Rocky Mountain Power?

- 1 Yes
- 2 No à **THANK & TERMINATE**
- 3 I prefer not to answer à **THANK & TERMINATE**

Q3 Do you own or rent your home?

- 1 Rent
- 2 Own/ buying
- 3 Other
- 7 Prefer not to say

Q4 What is your age category?

- 1 18 to 24
- 2 25 to 34
- 3 35 to 44
- 4 45 to 54
- 5 55 to 64
- 6 65 or over
- 7 Prefer not to say

Q5 What is your HIGHEST LEVEL OF EDUCATION that you have had the opportunity to complete?

- 11 Less than High School
- 12 High School Degree
- 13 Some College
- 14 College Degree
- 15 Some Graduated Study
- 16 Post-Graduate Degree or Higher
- 98 Prefer not to say

Q6 During the past six months, from what electric or gas companies do you recall seeing, hearing or reading any form of advertisements or communications?

99 RECORD: _____

DO NOT DISPLAY; FOR CODING USE ONLY

11 Idaho Power

- 12 Dominion Energy (Questar Gas)
- 13 Northwest Natural
- 14 Pacific Gas & Electric/PG&E
- 15 Pacific Power/PPL
- 16 PacifiCorp
- 17 Portland General/PGE
- 18 Rocky Mountain Power/Utah Power
- 99 Other, Specify
- 88 None

Q7 During the past six months, do you recall seeing, hearing or reading any form of advertisements or communications from Rocky Mountain Power?

- 1 Yes
- 2 No à**SKIP TO Q8A**

Q8 What types of messages or topics do you remember from Rocky Mountain Power’s advertisements or communications?

99 RECORD: _____

DO NOT DISPLAY; FOR CODING USE ONLY

- 11 Working to keep your power on
- 12 Electrical safety
- 13 Programs such as equal pay or customer guarantees
- 14 Energy efficiency programs
- 15 Using energy wisely
- 16 Planning for your future energy needs
- 17 Preparing for power outages
- 18 Renewable or alternative energy sources
- 19 System or infrastructure improvements
- 20 Billing or energy assistance
- 21 Being Wattsmart
- 22 Blue Sky Renewable Energy
- 23 Solar energy generation
- 24 Home Energy Report (Comparison to similar homes’ energy usage)
- 99 Other, Specify _____
- 97 Don’t remember/Don’t know

Q8A During the past six months, do you recall seeing, hearing or reading the phrase “being Wattsmart?”



- 1 Yes
- 2 No à**SKIP TO Q9**

Q8B Which, if any, companies are associated with the phrase “Wattsmart?”

99 RECORD: _____

Q9 In the past year, have you taken any actions or changed anything in your household to save energy?

- 1 Yes
- 2 No à **SKIP TO Q12**
- 3 Prefer not to say à **SKIP TO Q12**

Q10 What actions have you taken in your home in order to save energy?

99 RECORD: _____

DO NOT DISPLAY; FOR CODING USE ONLY

- 11 Add insulation to your attic, roof, or walls
- 12 Reduce heating thermostat setting
Increase cooling thermostat setting
Install smart thermostat
- 13 Generally conserve or use less energy
- 14 Install an energy-efficient air conditioner or furnace
- 15 Install energy-efficient appliances
- 16 Install energy-efficient doors or windows
- 17 Insulate or caulk around windows or doors
- 18 Insulate water heater, pipes, or air ducts
- 19 Tune up your furnace or water heater
- 20 Turn off lights when leaving a room
- 21 Unplug appliances when away from home
- 22 Use energy-saving light bulbs
- 23 Monitor usage based on Home Energy Report
- 99 Other: _____
- 97 Don't know

Q11 What are the main reasons you took steps to conserve energy in your home?

99 RECORD: _____

DO NOT DISPLAY; FOR CODING USE ONLY

- 11 To protect the environment
- 12 To reduce need for new energy infrastructure
- 13 To save money
- 14 Heard ads encouraging energy conservation
- 15 To make my home more comfortable
- 16 Needed to replace an old or broken appliance
- 17 To take advantage of a rebate or tax credit
- 99 Other: _____

97 Don't know/ none

Q12 How important is it for utility companies to offer customers programs to help conserve energy?

- 1 Not at all important
- 2 Not very important
- 3 Somewhat important
- 4 Very important
- 7 Don't know

Q13 What sources do you typically rely on for information about news and current events?

Select all that apply.

- 11 Billboard
- 12 Bill insert
- 13 Direct mail
- 14 Family, friends, co-workers
- 15 Magazine
- 16 Newspaper
- 17 Radio
- 18 Social networking (e.g., blogs, Facebook, Twitter)
- 19 Television
- 20 Trade publication
- 21 Website (Rocky Mountain Power)
- 22 Website (other than Rocky Mountain Power)
- 23 Email
- 99 Other, Specify _____
- 97 Don't remember/Don't know

Q14 What sources do you typically rely on for information about Rocky Mountain Power?

Select all that apply.

- 11 Billboard
- 12 Bill insert
- 13 Direct mail
- 14 Family, friends, co-workers
- 15 Magazine
- 16 Newspaper
- 17 Radio
- 18 Social networking (e.g., blogs, Facebook, Twitter)
- 19 Television

- 20 Trade publication
- 21 Website (Rocky Mountain Power)
- 22 Website (other than Rocky Mountain Power)
- 23 Email
- 99 Other, Specify _____
- 97 Don't remember/Don't know

Q15 How interested do you think Rocky Mountain Power is about helping you save energy? Please use a 1-5 scale. One means *not at all interested*. Five means *very interested*.

- 1 Not at all interested
- 2
- 3
- 4
- 5 Very interested
- 97 Don't know

Q16 Which one of the following would you most likely turn to first for energy-efficiency information?
[ROTATE 1 – 5]

- 1 Rocky Mountain Power
- 2 Dominion Energy (Questar Gas)
- 3 Home improvement retailer
- 4 State Department of Energy
- 5 Federal government
- 99 Other, Specify _____
- 97 Don't know

Q16a Which one of the following would you most likely turn to first for renewable energy information?
[ROTATE 1 – 5]

- 1 Rocky Mountain Power
- 2 Dominion Energy (Questar Gas)
- 3 Home improvement retailer
- 4 State Department of Energy
- 5 Federal government
- 6 Solar Installer (Name: _____)
- 99 Other, Specify _____
- 97 Don't know (DNR)

Q17 Using a 0-10 scale, where 0 means not at all satisfied, and 10 is completely satisfied, how satisfied are you overall with Rocky Mountain Power? You can use any number from 0-10.

99 RECORD RATING _____

97 Don't know/refused

Q18 Compared to a year ago, has your satisfaction with Rocky Mountain Power increased, stayed the same or decreased?

1 Decreased

2 Stayed the same à **SKIP Q19**

3 Increased

97 Don't know/refused à **SKIP Q19**

Q19 And why do you say your satisfaction has **(INCREASED, OR DECREASED FROM Q18)**?

99 RECORD: _____

We are about done. We have just one more question to help us categorize your responses.

Q20 Which of the following best describes your annual household income?

11 Less than \$20,000

12 \$20,000 to \$39,999

13 \$40,000 to \$59,999

14 \$60,000 to \$89,999

15 \$90,000 to \$129,999

16 \$130,000 to \$199,999

17 \$200,000 or more

97 Prefer not to say

EXIT

Thank you very much for your help with this important research! We appreciate you taking the time to provide us with your feedback.

For questions about the survey or data collection, please email rockymountainpower@mdcinvite.com.

WATTSMART[®]

To submit your survey responses, please click the >>> button below.

IP NOTE: DIRECT RESPONDENTS TO WWW.ROCKYMOUNTAINPOWER.NET/wattsmart

**Rocky Mountain Power
2020 Energy Efficiency Web Questionnaire**

Date: July 13, 2020
Universe: General business, Rocky Mountain Power service areas Utah, Idaho and Wyoming and Pacific Power service areas in Washington
Sample size: 600 Rocky Mountain Power/Pacific Power commercial customers
Screener: Most likely to contact utility company
Objective: Measure business customer awareness and affinity for energy conservation programs

- L1. RECORD STATE FROM SAMPLE
- | | | |
|---|------------|--------------------------|
| 1 | Idaho | (TARGET: MIN 48) |
| 2 | Utah | (TARGET: MIN 396) |
| 3 | Wyoming | (TARGET: MIN 96) |
| 4 | Washington | (TARGET: MIN 60) |

LANDING PAGE

MDC Research is conducting a survey on behalf of **[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]** regarding their services and programs.

This survey usually takes a few minutes. We are only interested in your opinions. We are not selling anything.

We thank you in advance for taking the time to help us serve you better. We appreciate your participation very much!

To begin the survey, please click '>>>' below.

We have a few questions to start to make sure we hear from a broad mix of **[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]** customers.

- S0 What is your gender?
- | | |
|---|--------|
| 1 | Male |
| 2 | Female |

Q1 **[Screener 1]** Is **[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]** the electricity provider for your business or organization?

- 1 Yes
- 2 No à **THANK & TERMINATE**
- 3 Prefer not to say à **THANK & TERMINATE**

Q2 **[Screener 2]** Are you a person in your company who is likely to make decisions about your business or organization participating in services offered by **[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]**?

- 1 Yes
- 2 No à **THANK & TERMINATE**
- 3 I prefer not to answer à **THANK & TERMINATE**

Q21 How many locations does your business or organization have?
Please enter your response as a whole number in the box below. Your best estimate is fine.

Record: [Accept responses between 1 and 200]

- 996 More than 200
- 997 Unsure
- 998 Prefer not to say

Q22 How many people work at your business or organization at your location?

- 1 Less than 10
- 2 10-20
- 3 More than 20
- 7 Unsure
- 8 Prefer not to answer

Q24 What is your job title? **ROTATE**

Please select the one response which best applies.

- 11 Owner/Co-owner
- 12 Manager
- 13 Office Manager
- 14 Admin/Secretary/Receptionist
- 15 President

16 Director
99 Other (specify)

Q26 What is your age category?

- 1 18 to 24
- 2 25 to 34
- 3 35 to 44
- 4 45 to 54
- 5 55 to 64
- 6 65 or over
- 7 Prefer not to say

Q27 What is your HIGHEST LEVEL OF EDUCATION that you have had the opportunity to complete?

- 11 Less than High School
- 12 High School Diploma
- 13 Some College
- 14 College Degree
- 15 Some Graduated Study
- 16 Post-Graduate Degree or Higher
- 98 Prefer not to say

Q3 During the past six months, from what electric or gas companies do you recall seeing, hearing or reading any form of advertisements or communications?

99 RECORD: _____

DO NOT DISPLAY; FOR CODING USE ONLY

- 11 Idaho Power
- 12 Dominion Energy (Questar Gas)
- 13 Northwest Natural
- 14 Pacific Gas & Electric/PG&E
- 15 Pacific Power/PPL
- 16 PacifiCorp
- 17 Portland General/PGE
- 18 Rocky Mountain Power/Utah Power
- 19 Columbia REA (Washington)
- 20 Cascade Natural Gas (Washington)
- 99 Other, Specify
- 88 None

Q4 During the past six months, do you recall seeing, hearing or reading any form of advertisements or communications from [IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]?

- 1 Yes
- 2 No àSKIP TO Q6

Q5 What types of messages or topics do you remember from [IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]’s advertisements or communications?

99 RECORD: _____

DO NOT DISPLAY; FOR CODING USE ONLY

- 11 Working to keep your power on
- 12 Electrical safety
- 13 Programs such as equal pay or customer guarantees
- 14 Energy efficiency programs
- 15 Using energy wisely
- 16 Planning for your future energy needs
- 17 Preparing for power outages
- 18 Renewable or alternative energy sources
- 19 System or infrastructure improvements
- 20 Billing or energy assistance
- 21 Being Wattsmart
- 22 Blue Sky Renewable Energy
- 23 Solar energy generation
- 24 Intermountain Healthcare endorsement
- 25 Small Business Lighting– Red Iguana, SparkleZone, TrimLight
- 27 Apple King endorsement
- 28 Canoe Ridge Winery endorsement
- 29 Wray’s Marketfresh IGA endorsement
- 99 Other, Specify _____
- 97 Don’t remember/Don’t know

Q6 During the past six months, do you recall seeing, hearing or reading the phrase “Being Wattsmart?”

- 1 Yes
- 2 No àSKIP TO Q8

Q7 Which, if any, companies are associated with the phrase “Wattsmart?”

99 RECORD: _____

Q8 How would you rate your level of agreement or disagreement with the statements below about **[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]? (ROTATE)**

[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]...

	Completely disagree								Completely agree	
	1	2	3	4	5	6	7	8	9	10
A. ...offers solutions to help customers use energy more efficiently	1	2	3	4	5	6	7	8	9	10
B. ...provides information on how to control energy costs	1	2	3	4	5	6	7	8	9	10
C. ...helps your company/organization by providing cash incentives to save money on energy bills	1	2	3	4	5	6	7	8	9	10
D. ...provides information about products and services that are of value to you and your organization	1	2	3	4	5	6	7	8	9	10

Q9 In the past year, have you taken any actions or changed anything in your business/organization to save energy?

- 1 Yes
- 2 No à **SKIP TO Q12**
- 3 Prefer not to say à **SKIP TO Q12**

Q10 What actions have you taken in your business in order to save energy?

99 RECORD: _____

DO NOT DISPLAY; FOR CODING USE ONLY

- 11 Reduce heating thermostat setting
- 12 Increase cooling thermostat setting
- 13 Generally conserve or use less energy
- 14 Install an energy-efficient air conditioner or furnace
- 15 Install energy-efficient lighting such as LEDs
- 16 Install energy-efficient doors or windows
- 17 Added insulation
- 18 Installed a ceiling fan
- 19 Use computers or TV less often
- 20 Turn off lights more frequently
- 21 Invested in an energy management system (EMS)
- 22 Increased/expanded usage of energy management system (EMS)
- 23 Change equipment set-points
- 24 Capital equipment upgrades
- 99 Other: _____
- 97 Don't know

Q11 What are the main reasons you took steps to conserve energy in your business/organization?

99 RECORD: _____

DO NOT DISPLAY; FOR CODING USE ONLY

- 11 To protect/help the environment
- 12 To reduce need for new energy infrastructure
- 13 To save money
- 14 Heard ads encouraging energy conservation
- 15 To make my business more comfortable
- 16 Needed to replace old or broken equipment
- 17 To take advantage of a rebate or tax credit
- 18 It's the right thing to do
- 19 To meet corporate sustainability goals
- 20 For marketing/promotion of business
- 21 To be a good corporate citizen
- 22 To help the community
- 99 Other: _____
- 97 Don't know/ none

Q12 How important is it for utility companies to offer customers programs to help conserve energy?

- 1 Not at all important
- 2 Not very important
- 3 Somewhat important
- 4 Very important
- 7 Don't know

Q28 How important is it for utility companies to offer programs to help ease demand for energy during select, high-usage periods, also referred to as Demand Response?

- 1 Not at all important
- 2 Not very important
- 3 Somewhat important
- 4 Very important
- 7 Don't know

Q13 What sources do you typically rely on for information about news and current events?
Select all that apply.

- 11 Billboard
- 12 Bill insert
- 13 Direct mail
- 14 Family, friends, co-workers
- 15 Magazine
- 16 Newspaper
- 17 Radio
- 18 Social networking (e.g., blogs, Facebook, Twitter, LinkedIn, Reddit)
- 19 Television
- 20 Trade publication
- 21 Website ([IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power])
- 22 Website (other than [IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power])
- 23 Email
- 24 News apps
- 99 Other, Specify _____
- 97 Don't remember/Don't know

Q14 What sources do you typically rely on for information about **[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]**?

Select all that apply.

- 11 Billboard
- 12 Bill insert
- 13 Direct mail
- 14 Family, friends, co-workers
- 15 Magazine
- 16 Newspaper
- 17 Radio
- 18 Social networking (e.g., blogs, Facebook, Twitter, LinkedIn, Reddit)
- 19 Television
- 20 Trade publication
- 21 Website (**[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]**)
- 22 Website (other than **[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]**)
- 23 Email
- 24 News apps
- 99 Other, Specify _____
- 97 Don't remember/Don't know

Q15 How interested do you think **[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]** is in helping your business/organization save energy? Please use a 1-5 scale. One means *not at all interested*. Five means *very interested*.

- 1 Not at all interested
- 2
- 3
- 4
- 5 Very interested
- 97 Don't know

Q16 Which one of the following would you most likely turn to first for energy-efficiency information?
[ROTATE 1 – 7]

- 1 **[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]**
- 2 Dominion Energy (Questar Gas)
- 6 **[IF L1=4: Cascade Natural Gas]**
- 7 **[IF L1=4: Columbia REA]**
- 3 Home improvement retailer

WATTSMART[®]

- 4 State Department of Energy
- 5 Federal government
- 6 Contractor and/or equipment supplier
- 99 Other, Specify _____
- 97 Don't know

Q16a Which one of the following would you most likely turn to first for renewable energy information?
[ROTATE 1 – 8]

- 1 **[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]**
- 2 Dominion Energy (Questar Gas)
- 7 **[IF L1=4: Cascade Natural Gas]**
- 8 **[IF L1=4: Columbia REA]**
- 3 Home improvement retailer
- 4 State Department of Energy
- 5 Federal government
- 6 Solar Installer (Name: _____)
- 99 Other, Specify _____
- 97 Don't know

Q26 What types of assistance would you like to see from **[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]** to help you save energy? *Please select all that apply.* **(ROTATE)**

- 11 Information about how you can save energy in your business
- 12 Building energy assessment
- 13 Financial incentives for building retrofit measures
- 14 Financial incentives for high efficiency equipment
- 15 Discounts on energy-saving lighting and other office products
- 99 Other, Specify _____
- 88 None of these

Q17 Using a 0-10 scale, where 0 means not at all satisfied, and 10 is completely satisfied, how satisfied are you overall with **[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]**? You can use any number from 0-10.

- 99 RECORD RATING _____
- 97 Don't know/refused

Q18 Compared to a year ago, has your satisfaction with **[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]** increased, stayed the same or decreased?

- 1 Decreased
- 2 Stayed the same à **SKIP Q19**
- 3 Increased
- 97 Don't know/refused à **SKIP Q19**

Q19 And why do you say your satisfaction has **(INCREASED, OR DECREASED FROM Q18)?**

99 RECORD: _____

We are about done. We have a few questions about your company/organization to help us categorize your responses.

Q20 What industry best describes your business or organization?
Please select the one response which best applies.

- 11 Building Contractors/Developers
- 12 Grocery/Retail
- 13 Healthcare
- 14 Manufacturing
- 15 Trade/Services (e.g., lawyers, banks, etc.)
- 16 Public Nonprofit/Education
- 17 Real Estate/Property Managers
- 18 Restaurant/Lodging/Entertainment
- 19 Wholesale/Transportation
- 99 Some other industry **(please specify)**
- 97 Unsure
- 98 Prefer not to answer

Q23 In your best estimate, what was the total annual total gross revenue for your business in 2018?

Record: [Accept responses between 1 and 999999995]

- 999999996 \$1,000,000,000 or more
- 999999997 Unsure
- 999999998 Prefer not to say

Q25 Which of the following best describes your business/organization's average monthly **[IF L1=1-3: Rocky Mountain Power; IF L1=4: Pacific Power]** bill?

- 1 \$0-199
- 2 \$200<\$250
- 3 \$250<\$500

- 4 \$500<\$1000
- 5 \$1,000<\$2,500
- 6 \$2,500<\$5,000
- 7 \$5000+
- 8 Prefer not to say

EXIT

Thank you very much for your help with this important research! We appreciate you taking the time to provide us with your feedback.

For questions about the survey or data collection, please email [IF L1=1-3: rockymountainpower@mdcinvite.com; IF L1=4: pacificpower@mdcinvite.com].

To submit your survey responses, please click the >>> button below.

IF L1=1-3: DIRECT RESPONDENTS TO WWW.ROCKYMOUNTAINPOWER.NET/wattsmart

IF L1=4: DIRECT RESPONDENTS TO WWW.PACIFICPOWER.NET/wattsmart

Exhibit B



Exhibit B

National Energy Foundation Be Wattsmart 2020
Report

Exhibit C



Exhibit C

Creative and News Releases

Wattsmart Choices TV

- [Wattsmart Choices residential TV](#)
- [Wattsmart Choices summer cooling TV](#)

Wattsmart Choices Radio

- [Wattsmart Business](#)

Wattsmart Choices Print & Out of Home

- [Wattsmart Choices Print](#)
- [Wattsmart Choices summer cooling digital billboard](#)
- [Utah Valley Parade of Homes ad](#)

Digital & Social

- [Wattsmart Choices residential display](#)
- [Wattsmart Choices residential social](#)
- [Wattsmart Choices residential social #2](#)
- [Wattsmart Cost-Savings residential display](#)
- [Wattsmart Cost-Savings residential social](#)
- [Wattsmart Cost-Savings residential social #2](#)
- [Wattsmart usage insights social](#)
- [Wattsmart Choices summer cooling display](#)
- [Wattsmart Choices summer cooling social](#)
- [Wattsmart Choices winter heating display](#)
- [Wattsmart Choices winter heating social](#)
- [Wattsmart Business display](#)
- [Wattsmart Business social](#)
- [Wattsmart Business social #2](#)

Email

- [Cool Keeper Midseason Email](#)
- [Weather-triggered Email](#)
- [Smart Thermostat Email](#)
- [Dual Fuel Heat Pump Email](#)
- [Fall Home Show Email](#)

Connect Newsletters

- [February 2021 – Explore usage insights; improve your comfort and savings](#)
- [May 2021 – Lower costs, more efficiency](#)
- [October 2021 – Easy comfort, effortless savings](#)

News Releases

- [Four steps to beat the heat to save on summer energy costs](#)
- [Tips for staying warm during the winter](#)

Photos from 2021 Deseret News Fall Home Show





2021

NEF

Be Wattsmart,
Begin at home
UTAH

Program Report



Prepared for:

PacifiCorp/Rocky Mountain Power

Michael S. Snow

DSM Regulatory Affairs Manager

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Salt Lake City, UT 84116

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National Energy Foundation

Patti Clark

Program Director

5055 South 900 East, Suite 300

Salt Lake City, UT 84117

March 9, 2022

Savings

Submit online at thinkenergy.org/WatSmart

Teacher ID:

Teacher Name:

Student First Name:

Home Energy Worksheet

Heating

1. Install and use a programmable or smart thermostat.
 Currently do Will do
 Neither

2. Check 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 or an evaporative cooling unit.
 Have done Will do
 Neither

6. Check 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°F.
 Have done Will do
 Neither

10. Install a high-efficiency shower head.
 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 inefficient bulbs with 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 old freezers/refrigerators and/or dispose of them in an environmentally safe manner.
 Have done Will do
 Neither

17. Maintain refrigerator and freezer coils and check door seals regularly.
 Currently do Will do
 Neither

Electronics

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

Cooking

19. Use a microwave oven, toaster oven, slow cooker or outdoor grill instead of a conventional oven.
 Currently do Will do
 Neither

Get paid for being WatSmart

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

Home Energy Worksheets

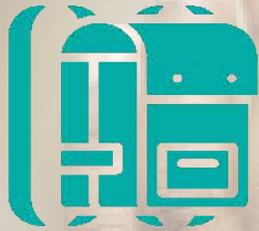
– Returned: 7,624 –

– 48% –

- Online - 67.42%

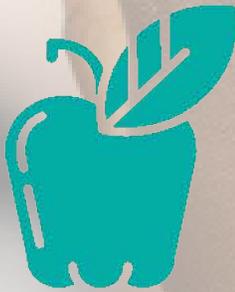
- Paper - 32.58%

Participants



Students

– 15,583 –



Teachers

– 601 –



Schools

– 200 –

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Program Overview

Program Description

“Thank you! We appreciate this amazing program, including the nightlights, teacher guides, and especially the student/family guides that go home!”

“That it was super easy to implement and gave good information to the students about energy.”

“It is an excellent resource for teaching students about being good citizens when it comes to energy conservation.”

“Thank you. The program was very engaging for my students and successful in helping them see where energy comes from, how it is used, and how we can be more Wattsmart with our energy usage.”

“The program is amazing and the hand gestures that you teach them about circuitry and energy will be lasting in their learning.”

-2021 Utah Teacher Participants

The Be Wattsmart, Begin at home program is a collaborative partnership between Rocky Mountain Power and the National Energy Foundation (NEF). It encourages teachers, students and families to “Be Wattsmart” with their energy use. The program objective is to build energy awareness, throughout the school year, with an engaging presentation and energy efficiency curriculum. The program also expands enthusiasm to homes via Rocky Mountain Power branded curriculum, games and online resources.



Building Collaborations

“It supports the 4th grade curriculum.”

“We love having this program presented to our 4th graders. It connects to our science curriculum perfectly and we refer back to it often. The presenters do such a great job and have excellent management skills.”

“This is valuable and relevant information for students and families today. Especially in low-income areas.”

“THANK YOU! As an educator who funds my own class on many things, it is great when the community steps up to help.”

-2021 Utah Teacher Participants



The Be Wattsmart, Begin at home program provided energy efficiency content that was custom developed to support the Utah SEEd standards as well as Utah State Office of Education’s Core Curriculum for fourth grade. Teachers appreciated the collaborative efforts to align program components to their learning standards. Curriculum correlations were provided to teacher participants in the *Teacher Guide* delivered to each teacher prior to their presentation.

NEF utilized multiple strategies to support teacher and parent participants:

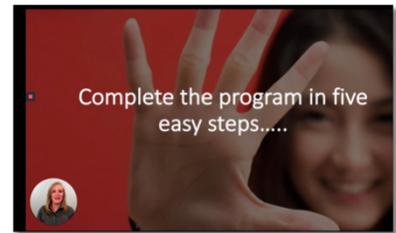
- Dedicated educational service representative
- *Parent Introduction Letter*
- Spanish documents – *Home Energy Worksheet* and *Parent Introduction Letter*
- Online and hard copy *Home Energy Worksheets*
- Changed title of the student guide to family guide to support the efforts of including families in the take home information.
- Amazon eGift Cards for teachers with a qualifying *Home Energy Worksheet* return
- “Tips and Tricks” teacher training
- Automated emails to communicate program details, including submission of the *Home Energy Worksheets* and progress toward the gift card
- Online virtual presentations and live presentations to support a variety of learning situations during the pandemic



CONTACT US:



Sarah Richards
Educational Service Rep.
800.616.8326 ext. 159
sarah@nef1.org



Program Registration

NEF developed a postcard to promote the Be Wattsmart, Begin at home program to eligible new teachers and schools. Emails were also used to contact prior participating teachers.

Teachers were given three ways to enroll: calling or emailing the educational service representative, Sarah Richards or completing the registration form at thinkenergy.org/wattsmart-ut/. After registration was qualified, a series of email communications with teachers, were sent automatically by the program registration system.



Program Implementation

“It was educational and worth our time.”

“Please keep this program going! It is making a difference.”

“Great at getting students interested in how to conserve electricity. Knowledgeable presenters and great videos that my students loved. Good incentives for turning in the survey; my students were very motivated and so was I! :)”

-2021 Utah Teacher Participants

Implementation was quickly adapted to provide flexibility for different learning environments made necessary by COVID-19. NEF developed a “Presentation Toolbox” of options to help teachers provide the program to their students. Teachers were able to select from a prerecorded presentation which included a Kahoot! review game to measure students’ attainment of knowledge from the presentation. Pre-recorded presentations were designed as a teacher directed program when Energy Educators were not given permission to visit a school due to the pandemic.



In-person presentations were conducted with either one or two Energy Educators depending upon the schools’ pandemic protocols. NEF required all Energy Educators to be fully vaccinated, wear an N95 mask and take their temperature each morning to protect students and teachers.



Both presentations 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. Energy Educators completed demonstrations of making a human electrical circuit, during which they taught key core curriculum concepts such as insulators and conductors of electricity and electrical generation. In-person assemblies included the review game, “Lingo” at designated points throughout the presentation.

To help students remember energy efficiency tips, students viewed “Caitlynn Power” video vignettes produced by PacifiCorp. The videos are a highlight for both teachers and students. In addition, the Caitlynn Power videos were added to the program website where teachers could access them for further energy instruction and where students could access them to share with their families.

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.



Program Materials

“I liked how they could do a paper version or a digital version of the Home Energy Worksheet.”

“I love the posters and have a few in my classroom’s walls.”

“As connections come up in science lessons, I incorporate ideas from the presentation and Teacher’s guide.”

“The video was so well put together and had such great content information. It was perfect for what we were learning in our core and the kids were so engaged! They loved the game and learned so much!”

-2021 Utah Teacher Participants

A *Parent Letter* was provided to explain the importance of Be Wattsmart, Begin at home. In addition, students were given a *Family Guide* and *Home Energy Worksheet* to share with their families. Students who returned their worksheet or completed a worksheet online, received an LED nightlight featuring the Rocky Mountain Power logo as a reward.



Educators were also given helpful energy educational materials. Each teacher participant was provided a custom Be Wattsmart, Begin at home folder. The folder contained a custom *Teacher Guide* with additional information and activities to supplement and continue energy education in the classroom. Also, in the folder were two NEF instructional posters.

A program *Implementation Steps Flier* assisted teachers in carrying out the program for students learning both at school and online. It also gave simple steps for successfully returning *Home Energy Worksheets* and the sponsor *Thanks a “Watt” Card* in the postage paid envelope. A *Rewarding Results Flier* gave information concerning the gift card teacher participants would receive for returning their student surveys. Educators received a \$50 gift card for an 80% return by the December 31, 2021 deadline.

Program Website

The Be Wattsmart, Begin at home program website, <https://thinkenergy.org/wattsmart-ut/>, served multiple purposes for participating teachers, students and families:

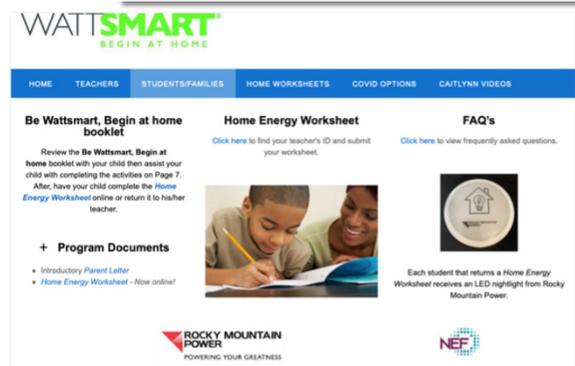
Teachers

- Program registration
- Dedicated educational service representative contact information
- Access to program presentations and documents
- Game and education page
- Links to additional resources



Students and Families

- Access to Caitlynn Power videos
- Access to the online *Home Energy Worksheets*
- Energy efficiency games
- Frequently asked questions about the program
- Parent program documents posted



Program Accomplishments

- 15,583 students and families reached
- 601 Utah teachers reached
- 201 schools participated
- 334 Utah teachers returned packets
- 243 \$50 eGift cards delivered
- 91 \$25 eGift cards delivered

Attachments

Fall 2021 Participating Schools

School Name	School Address	City	State	Zip
Heritage Elementary	925 West 3200 South	Nibley	UT	84321
Layton Elementary	369 West Gentile Street	Layton	UT	84041
Bella Vista Elementary	2131 Fort Union Boulevard	Cottonwood Heights	UT	84121
Woodstock Elementary	6015 South 1300 East	Murray	UT	84121
Vae View Elementary	1750 West 1600 North	Layton	UT	84041
Ellison Park	800 Cold Creek Way	Layton	UT	84041
Sunrise Elementary	1542 East 11245 South	Sandy	UT	84092
William Penn Elementary	1670 Siggard Drive	Salt Lake City	UT	84106
Midvale Elementary	7830 Chapel Street	Midvale	UT	84047
Ridgecrest School	1800 7200 South	Cottonwood Heights	UT	84121
Heritage Elementary	1354 West Weaver Lane South	Layton	UT	84041
Altara School	800 East 11000 South	Sandy	UT	84094
Park Lane School	9955 South 2300 East	Sandy	UT	84092
Quail Hollow Elementary	2625 Newcastle Drive	Sandy	UT	84093
Mountain View School	2025 East 3100 North	Layton	UT	84040
Canyon Creek Elementary	755 South 1100 West	Farmington	UT	84025
Upland Terrace Elementary	East Place	Salt Lake City	UT	84102
Woodrow Wilson	2567 South Main Street	South Salt Lake	UT	84115
Eastwood School (2)	2160 Copper King Lane	South Jordan	UT	84095
Adelaide School	731 West 3600 South	Bountiful	UT	84010
Oakwood Elementary	5815 Highland Drive	Holladay	UT	84121
West Bountiful Elementary	750 West 400 North	West Bountiful	UT	84087
Woods Cross Elementary	745 West 1100 South	Woods Cross	UT	84087
Century Elementary	5820 North 4800 West Street	Bear River City	UT	84301
King Elementary	601 Gordon Avenue	Layton	UT	84041
Syracuse School	1503 South 2000 West	Syracuse	UT	84075
Three Mile Creek Elementary	2625 South 1050 West	Perry	UT	84302
Valley Elementary	5821 East 1900 North	Eden	UT	84310
Riley School	1410 South 800 West	Salt Lake City	UT	84104
Hillcrest School	130 North Eccles Avenue	Ogden	UT	84404
Columbia Elementary	3505 West 7800 South	West Jordan	UT	84088
Pioneer Elementary	250 North 1600 West	Ogden	UT	84404
Rosamond School	12195 South 1975 West	Riverton	UT	84065
New Bridge Elementary	2150 Jefferson Avenue	Ogden	UT	84401
Westland School	2925 West 7180 South	West Jordan	UT	84084
Jordan Hills Elementary	8892 South 4800 West	West Jordan	UT	84081
Shadow Valley Elementary	4911 1500 East	Ogden	UT	84403
Green Acres Elementary	640 East 1900 North	North Ogden	UT	84414
Aspen Elementary	11189 South Willow Walk Drive	South Jordan	UT	84009
Orchard Spring Elementary	3300 North 975 West	Pleasant View	UT	84414
Welby School	4130 West 9580 South	South Jordan	UT	84095
Bluff Ridge School	2680 Bluff Ridge Drive	Syracuse	UT	84075
South Jordan School	Black Cherry Way	South Jordan	UT	84095
Monte Vista School	11121 South 2700 West	South Jordan	UT	84095
Antelope Elementary School	1810 South Main Street	Clearfield	UT	84015
Fox Hills Elementary	3775 Vixen Way	Salt Lake City	UT	84129
Columbia Elementary- Davis	378 South 50 West	Kaysville	UT	84037
Blackridge Elementary	14131 Rosecrest Road	Herriman	UT	84096
Centerville Elementary	350 North 100 East	Centerville	UT	84014
Municipal Elementary	5775 South 2200 West	Roy	UT	84067
Voyage Academy	1891 North 1500 West	Clinton	UT	84015
Midas Creek School	11901 Park Haven Lane	Riverton	UT	84096
West Clinton School	2826 West 1800 North	Clinton	UT	84015
Oak Hollow Elementary	884 14400 South	Bluffdale	UT	84065
Highland School	10865 North 6000 West	Highland	UT	84003
Jim Bridger School	5368 Cyclamen Way	West Jordan	UT	84081
Whittier Elementary	1600 South 300 East	Salt Lake City	UT	84115
Lincoln Academy	1582 West 3300 North	Pleasant Grove	UT	84062
Washington School	420 North 200 West	Salt Lake City	UT	84103
Lincoln Elementary	450 East 3700 South	South Salt Lake	UT	84115
Cedar Ridge School	4501 West Cedar Hills Drive	Cedar Hills	UT	84062
Mona Elementary	East 200 South Street	Mona	UT	84645
Legacy School	28 East 1340 North	American Fork	UT	84003
Granite Elementary	9760 South 3100 East	Sandy	UT	84092
Southland School	12675 South 2700 West	Riverton	UT	84065
Hidden Hollow School	7447 Hidden Valley Parkway	Eagle Mountain	UT	84005
Hayden Peak Elementary	5120 West Hayden Peak Drive	West Jordan	UT	84081
Howard R. Driggs School	4340 South 2700 East	Holladay	UT	84124

School Name	School Address	City	State	Zip
Copper Canyon School	8917 Copperwood Drive	West Jordan	UT	84081
Falcon Ridge Elementary	6111 West 7000 South	West Jordan	UT	84081
Olene Walker Elementary	3751 South 900 West	Salt Lake City	UT	84119
Butterfield Canyon Elementary	6860 Mary Leizan Lane	Herriman	UT	84096
Taylorville Elementary	2010 Mantle Avenue	Taylorville	UT	84129
Terra Linda School	8400 South 3400 West	West Jordan	UT	84088
Oakridge Elementary	4325 Jupiter Drive	Salt Lake City	UT	84124
Silver Crest Elementary	12937 Elementary Drive	Herriman	UT	84096
Diamond Ridge Elementary	6034 Mill Valley Lane	West Valley City	UT	84118
Silver Ridge Elementary	3340 North 3050 West	Ogden	UT	84404
Beacon Heights Elementary	1850 South 2500 East	Salt Lake City	UT	84108
North Ogden Elementary	530 East 2650 North	Ogden	UT	84414
Bonneville Elementary	1145 South 1900 East	Salt Lake City	UT	84108
Taylor School	293 East Pages Lane	Centerville	UT	84014
West Weber Elementary	4178 West 900 South Street	Ogden	UT	84404
Open Classroom Charter School	134 D Street East	Salt Lake City	UT	84103
North Park Elementary	4046 2175 West Street	Roy	UT	84067
Ensign Elementary	775 12th Avenue	Salt Lake City	UT	84103
Parkside Elementary	2262 North 1500 West	Clinton	UT	84015
Majestic Elementary	425 West 2550 North Street	Pleasant View	UT	84414
East Midvale School	300 6990 South	Midvale	UT	84047
Rose Springs Elementary	5349 Inns Brook Place	Erda	UT	84074
Willow Canyon School	9650 South 1700 East	Sandy	UT	84093
Stewart Elementary	1155 North Main Street	Centerville	UT	84014
Old Mill Elementary	130 Brigham Road	Tooele	UT	84074
Bountiful Elementary	1620 South 50 West	Bountiful	UT	84010
Sterling Elementary	135 South 7th Street	Tooele	UT	84074
Buffalo Point School	1924 South Doral Drive	Syracuse	UT	84075
Kanesville Elementary	3112 South 3500 West	Ogden	UT	84401
Adams Elementary	2200 East Sunset Drive	Layton	UT	84040
Franklin School	1115 West 300 South	Salt Lake City	UT	84104
Valley View Elementary	2465 West 4500 South	Roy	UT	84067
Liberty School	1085 South Roberta Street	Salt Lake City	UT	84111
Mountain Trails School	3951 North Wood Road	Eagle Mountain	UT	84005
Eagle Valley School	4475 Heritage Drive	Eagle Mountain	UT	84005
Holt Elementary	448 North 1000 West	Clearfield	UT	84015
Harbor Point Elementary	4189 East Schooner Drive	Saratoga Springs	UT	84045
Dilworth School	1953 South 2100 East	Salt Lake City	UT	84108
Neil Armstrong Academy	5194 Highbury Parkway	West Valley City	UT	84120
Magna School	8500 West 3100 South	Magna	UT	84044
Alpine School	400 East 300 North	Alpine	UT	84004
Timpanogos Academy	70 South 100 East	Lindon	UT	84042
Willow Elementary	439 South Willow Road	Grantsville	UT	84029
Pleasant Green Elementary	8201 2700 south	Magna	UT	84044
Meadowlark School	497 Morton Drive	Salt Lake City	UT	84116
Freedom School	10326 North 6800 West	Highland	UT	84003
Academy Park Elementary	4580 Westpoint Drive	West Valley City	UT	84120
Orchard School	1035 North 800 East	Orem	UT	84097
Northridge School	1660 North 50 East	Orem	UT	84057
Brookwood Elementary	8640 Snowbird Drive	Sandy	UT	84093
Mountainville Academy	195 South Main Street	Alpine	UT	84004
East Elementary	255 East 70 South	Cedar City	UT	84720
Hillside School	4283 6000 West	West Valley City	UT	84128
Philo T. Farnsworth Elementary (2)	3751 South 4225 West	West Valley City	UT	84120
Gateway Preparatory	201 Thoroughbred Way	Enoch	UT	84721
Odyssey Charter School	738 East 700 South	American Fork	UT	84003
Jordan Ridge Elementary	2636 West 9000 South	West Jordan	UT	84088
Three Peaks Elementary	1685 West Midvalley Road	Cedar City	UT	84721
North Elementary School	550 West 200 North	Cedar City	UT	84720
Granger Elementary	3700 South 1950 West	West Valley City	UT	84119
Windsor Elementary	1315 North Main Street	Orem	UT	84057
Washington Terrace Elementary	20 East 4600 South	Ogden	UT	84405
Arcadia Elementary	3461 West 4850 South	Salt Lake City	UT	84118
Lindon Elementary	30 North Main Street	Lindon	UT	84042
Centennial Elementary	450 South 400 East	Orem	UT	84097
Fremont Elementary School	160 West 2525 North	Sunset	UT	84015
Harry S. Truman Elementary	4639 3200 West	West Valley City	UT	84119
Lakeview Elementary	2025 5000 South Street	Roy	UT	84067

School Name	School Address	City	State	Zip
Hobble Creek Elementary	1145 East 1200 North	Mapleton	UT	84664
Reading Elementary	360 West 2025 North	Centerville	UT	84014
Western Hills Elementary	5190 Heath Avenue	Kearns	UT	84118
Mapleton Elementary	120 West Maple Street	Mapleton	UT	84664
Country View Elementary	4650 West 4800 South	West Haven	UT	84401
South Elementary	499 West 400 South	Cedar City	UT	84720
Lakeside Elementary	2941 West 800 North	Clinton	UT	84015
Naples Elementary	1640 1900 South Street	Naples	UT	84078
West Point School	3788 West 300 North	West Point	UT	84015
Sunburst Elementary	2504 West Sunburst Drive	Layton	UT	84041
Odyssey School	2050 1955 West	Woods Cross	UT	84087
Crestview Elementary	2100 Lincoln Lane	Holladay	UT	84124
Wasatch School	210 Center Street	Clearfield	UT	84015
Cedar Valley Elementary	40 East Center Street	Cedar Fort	UT	84013
Hill Field Elementary	389 South 1000 East	Clearfield	UT	84015
Brookhaven Elementary	7082 North Seedling Drive	Eagle Mountain	UT	84005
Roy Elementary	2188 West 5600 South	Roy	UT	84067
Eaglecrest Elementary	2760 North 300 West	Lehi	UT	84043
Bennion Elementary	5775 South 2975 West Street	Salt Lake City	UT	84118
Lake Ridge School	West 3400 South	West Valley City	UT	84044
Lomond View Elementary	3644 North 900 West	Pleasant View	UT	84414
Burch Creek Elementary	4300 Madison Avenue	Ogden	UT	84403
Midland Elementary	3100 West 4800 South	Roy	UT	84067
Peruvian Park School	1545 East 8425 South	Sandy	UT	84093
Golden Fields School	10252 South Split Rock Drive	South Jordan	UT	84009
Hawthorne School	1675 South 600 East	Salt Lake City	UT	84105
Jeremy Ranch School	3050 Rasmussen Road	Park City	UT	84098
Heartland Elementary	1451 West 7000 South	West Jordan	UT	84084
Sharon Elementary	525 400 East	Orem	UT	84057
McPolin Elementary	2270 Kearns Boulevard	Park City	UT	84060
Uintah Elementary	6115 South 2250 East	Ogden	UT	84403
Riverdale Elementary School	1160 West 4400 South	Ogden	UT	84405
River Heights School	780 East 600 South	River Heights	UT	84321
Farmington Elementary	50 West 200 South	Farmington	UT	84025
Elk Meadows Elementary	3448 Shields Lane	South Jordan	UT	84095
Daybreak Elementary	4544 Harvest Moon Drive	South Jordan	UT	84095
Rose Creek School	12812 3600 West	Riverton	UT	84065
Parkview School	970 Emery Street West	Salt Lake City	UT	84104
Mary W. Jackson School	750 West 200 North	Salt Lake City	UT	84116
Riverside Elementary	8737 1220 West	West Jordan	UT	84088
Newman Elementary	1269 Colorado Street West	Salt Lake City	UT	84116
Cascade School	860 Cougar Drive	Orem	UT	84097
Hillsdale School				
Sprucewood School	East 12025 South		UT	84020
Sand Springs School	242 North 3200 West	Layton	UT	84041
West Haven Elementary	4385 South 3900 West	West Haven	UT	84401
Whitesides School	233 Colonial Avenue	Layton	UT	84041
Emerson Elementary	1017 Harrison Avenue	Salt Lake City	UT	84105
Eastlake Elementary	4389 Isla Daybreak Road	South Jordan	UT	84009
Canyon View School	3050 East 7800 South	Salt Lake City	UT	84121
Quest Academy Charter School	4862 West 4000 South	West Haven	UT	84401
Plain City Elementary	2335 North 3600 West Street	Ogden	UT	84404
Sunset Elementary	2014 North 250 West	Sunset	UT	84015
Crescent School	11100 South 230 East	Sandy	UT	84070
Cook Elementary	1175 1350 South	Syracuse	UT	84075
Herriman Elementary School (2)	13170 South 6000 West	Herriman	UT	84096
Morningside Elementary 2	4170 South 3000 East	Salt Lake City	UT	84124
Oakcrest School	8086 Belnap Circle	West Jordan	UT	84088
Orem Elementary	450 West 400 South	Orem	UT	84058
Foothills School	13717 South Shaggy Peak Drive	Riverton	UT	84096
H Guy Child Elementary	655 East 5500 South	South Ogden	UT	84405
Trailside School	5700 Trailside Drive	Park City	UT	84098
Roosevelt Elementary	190 West 5100 South	Washington Terrace	UT	84405
South Weber Elementary	1987 Cedar Bench Drive	South Weber	UT	84405
Knowlton Elementary	801 Shepard Lane	Farmington	UT	84025

Program Promotions



Wattsmart® is
ready for
you!

Enroll your fourth-grade science students in a free, engaging energy education program.

BE WATTSMART, BEGIN AT HOME



WATTSMART® BEGIN AT HOME

The Be Wattsmart, Begin at home program reinforces electricity learning standards in an engaging presentation. Participating teachers receive free energy education posters, activities and student materials as well as the chance to receive a Visa® gift card of up to \$50, depending on participation.

Presentations begin in fall 2021.

Reserve your classroom's spot today at

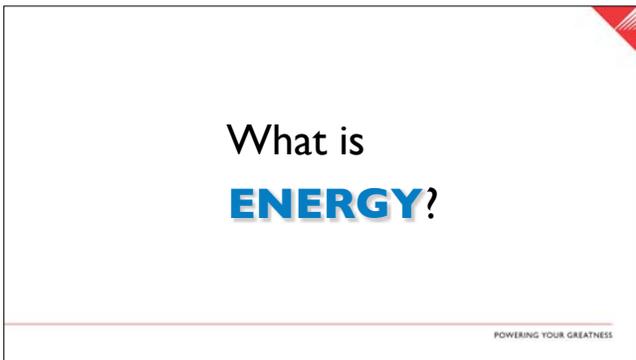
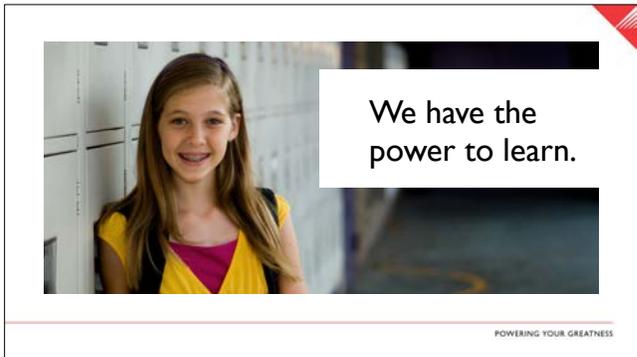
Wattsmart.com/begin

or email Sarah at sarah@nefl.org.



Program Documents

Keynote Presentation



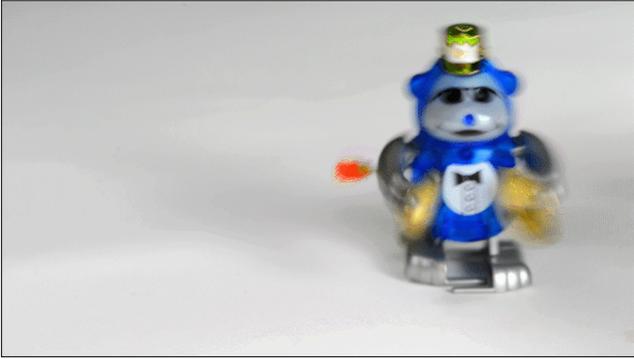
Potential Energy



Kinetic Energy



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Natural Resources



Anything we use that comes from the earth or the sun

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Renewable Resources



POWERING YOUR GREATNESS

Nonrenewable Resources



POWERING YOUR GREATNESS



POWERING YOUR GREATNESS



It's time to
play Lingo!



energy

There are many
types of energy.



natural gas

The blue flame of
natural gas is a
nonrenewable
resource.

natural resource

Anything we use
that comes from
the earth makes
sense as a
natural resource.



Electricity

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Electricity

Electricity is generated from natural resources.



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Rocky Mountain Power

Electric generation by energy source



Coal 51%



Renewables 22%



Natural gas 20%

Other sources 7%

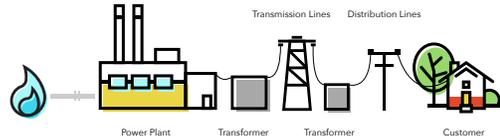
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How many people does it take to turn on a light bulb?



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Electric Generation



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Transforming Energy with Circuits



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What do we need?

An energy source

example: battery or wall outlet

A conductor to carry electrical energy

example: wire

A load to use the energy

example: light bulb

Open and Closed Circuits

Transforming Energy



Conductors
allow electricity to flow through them.

Insulators
resist the flow of electricity.

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It's time to play Lingo!



Renewable
R... naturally replaced.



Nonrenewable
N... or not at all.



Oil
...orce used to produce
... E. O...

Energy Efficiency

Using less energy to accomplish the same amount of work



Technology

+



Behaviors

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Caitlynn Power

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Home Efficiencies



What can you do to be Wattsmart?

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Be the energy expert in your home.

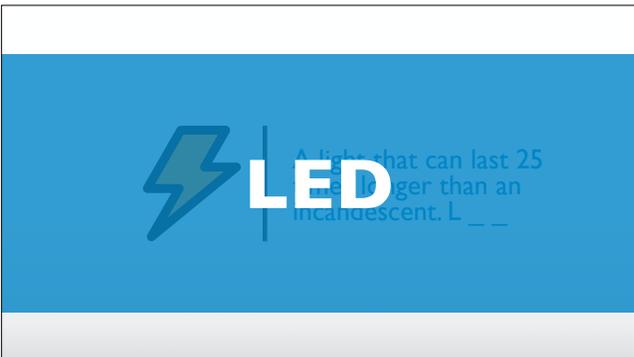
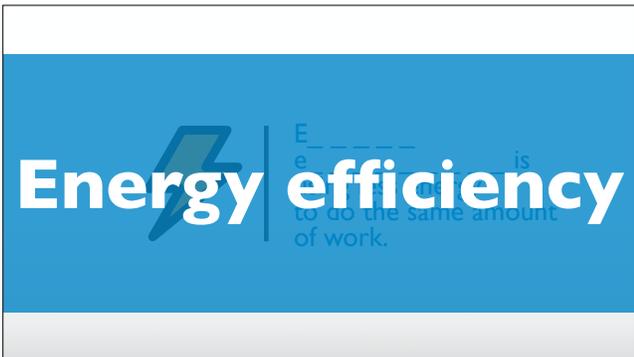
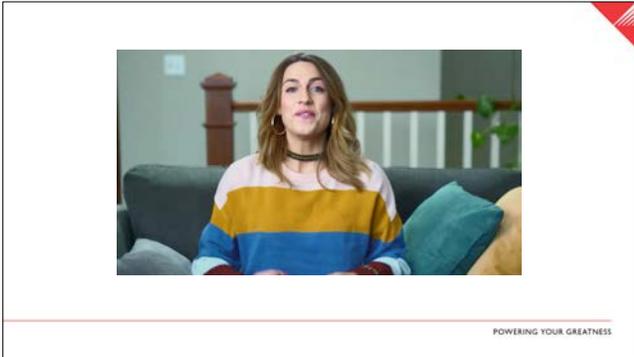


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Phantom Load

Electricity consumed by an electronic device in standby mode.

full load

Make sure you have a full load before starting your dishwasher.

water

Turn off the water when brushing your teeth.

What have we done today?



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

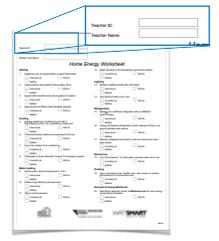
Engage in energy efficiency.

Review your **Be Wattsmart, Begin at home** booklet with your family.



Complete the

Home
Energy
Worksheet



Online Worksheet ThinkEnergy.org/Wattsmart/

Find Your Teacher ID

1 Find Your School 2 Find Your Teacher 3 Submit Your Form

Enter the keyword of your school's name. Example - Kennedy for John F Kennedy

School Name

Search for School

Don't know your Teacher ID? No problem. Use this tool to find your teacher ID



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Receive your very own Rocky Mountain Power LED nightlight.



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POWERING YOUR GREATNESS



YOU have
the *power* to
be WattSmart!

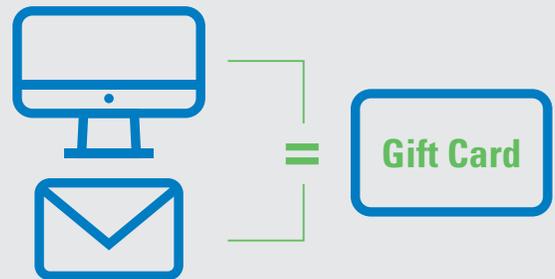
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Implementation Steps for Presenter Option

- 1** Verify you have received:
- *Teacher Materials Folder* (notice your teacher ID in upper left corner)
 - Your **Be Wattsmart, Begin at home** *Teacher Guide*
 - *Home Energy Worksheets* (HEWs) for you and your students
 - **Be Wattsmart, Begin at home** family booklets
 - Set of *Parent Letters*
 - Wattsmart nightlights (student incentive for completing the HEW)

- 2** After the presentation, distribute to each student a:
- **Be Wattsmart, Begin at home** family booklet
 - HEW (Write your teacher ID on each worksheet before you send home.)
 - *Parent Letter*

- Final steps:
- 3**
- Reward students with a Wattsmart nightlight when they complete their worksheet on paper or online at thinkenergy.org/Wattsmart.
 - HEWs submitted online can be verified through the teacher portal (pas.nefl.org/teacher-portal) with your teacher ID.
 - Have each student sign the *Thank You Card* to Rocky Mountain Power.
 - Mail all completed paper HEWs and the *Thank You Card* in the postage paid envelope (found in your materials folder) by December 17, 2021.



Attention Teachers

Return your student *Home Energy Worksheets* (HEWs) and receive a **\$25 – \$50** Amazon eGift Card for classroom use, depending upon participation. Students may submit worksheets online or return the completed survey to you. See the *Implementation Steps* for additional HEW online information.

80% or greater return of registered students' HEW = \$50
50 – 79% return of registered students' HEW = \$25

Postmark due date:
December 17, 2021

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 your Educational Service Representative.

ID - Megan Hirschi at megan@nef1.org
UT & WY - Sarah Richards at sarah@nef1.org



Family Guide



 **ROCKY MOUNTAIN
POWER**
POWERING YOUR GREATNESS

Dear Parents,

The **Be Wattsmart, Begin at home** program assists teachers and families 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 complete the **Home Energy Worksheet** (HEW) online at thinkenergy.org/Wattsmart or return it to your child's teacher.

Thank you for being Wattsmart and for your participation!

What's inside?

This booklet is divided into three sections that will give you the power to:

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 committed to the delivery of reliable electric service that's safe, low-cost and increasingly from clean, renewable resources. Serving more than 1 million customers in Utah, Idaho and Wyoming, the company is one of the lowest cost energy producers in the nation. Rocky Mountain Power is moving toward a sustainable energy future that includes increased use of solar, wind and other renewable resources; and provides customers with more choices to meet their energy needs.

About the National Energy Foundation

The National Energy Foundation (NEF) is a 501(c)(3) nonprofit organization, founded in 1976. It is dedicated to increasing energy literacy through the development, distribution and implementation of educational programs and materials. These resources relate primarily to energy, natural resources, energy efficiency, energy safety and the environment. Concepts are taught through science, math, art, technology and writing. NEF recognizes the importance of educating individuals about energy so they can make informed decisions about energy issues and use.

I have the *power* to be Wattsmart.

- Being Wattsmart is all about taking steps to save energy – which in turn can help you save money.
- You have the power to become more energy efficient. Rocky Mountain Power can help with Wattsmart programs and incentives for homes and businesses. Saving energy also saves money and is good for the environment.



I have the power to learn.

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
- 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. The United States has more coal reserves than any other country in the world, but the reserves are shrinking.



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:



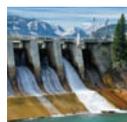
Solar is energy from the sun.



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 Source	Rocky Mountain Power (2020 Basic Fuel Mix)*	United States (U.S. EPA, 2020 data)
Natural Gas	19.5%	40.3%
Coal	51.4%	19.3%
Nuclear	0.00%	19.7%
Petroleum	0.00%	37%
Other/misc.	6.8%	.4%
Renewables (total)	22.3%	10.8%
Hydropower	5.1%	7.3%
Wind	11.3%	8.4%
Biomass	0.4%	1.4%
Solar	5.2%	2.3%
Geothermal	0.3%	0.4%

**This information is based on Federal Energy Regulatory Commission Form 1 data. Rocky Mountain Power's "basic fuel mix" includes owned resources and purchases from third parties. It is based on energy production and not resource capability, capacity or delivered energy. All or some of the renewable energy attributes associated with wind, solar, biomass, geothermal and hydro facilities in the fuel mix may be: (a) used 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) not acquired. The 2020 fuel mix includes energy production associated with 157 megawatts of solar resources acquired through customer partnerships supported by a customer's purchase of 100% of renewable energy attributes generated by those solar resources.*

I have the power to *discuss* energy use to 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 and appliances 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 or smart 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% 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.
- 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 shower head and save money on your utility bills and more than 2,300 gallons of water per 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.
- Replace your incandescent bulbs with LEDs (light-emitting diodes) and save \$5 to \$8 per year per bulb. These bulbs use up to 80% less energy 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.



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 50% 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 cable boxes.
- Use advanced 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 approximately 40% less energy than conventional models and provides energy savings without sacrificing the features you want.
- Clean door gaskets with warm water or a detergent that leaves no residue.

Dishwashers

- Only run dishwashers when full and use the air-dry or no heat dry settings.
- ENERGY STAR® dishwashers use less energy than the federal minimum standard for energy consumption.
- Try running your dishwasher before 3 p.m. or after 8 p.m. to avoid peak demand.

Laundry

- Buy a moisture sensitive dryer that automatically shuts off when clothes are dry.
- Use a drying rack whenever possible.
- To avoid peak demand, wash and dry clothing before 3 p.m. or after 8 p.m. when possible.

Cooking

- Use a microwave oven, toaster oven or slow cooker instead of a conventional oven.
- Use the right size 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.



I have the power to *engage* in energy efficiency.

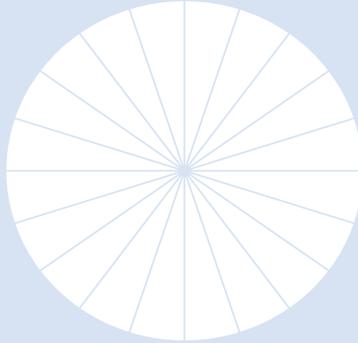
Parents, be Wattsmart and watch the energy savings add up.

An individual with a combined electric and heating fuel bill of \$2,500 per year could save 20% 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.

Your Home's Electricity Use

Most families in the U.S. use about 54% of their electricity for lighting and to power appliances and electronics, 32% to heat and cool their homes and 14% of their energy to heat water.

Choose three colors and create a pie chart with the percentages above. You may need to round each number. Each segment on the chart shows 5%.



Lighting, Appliances and Electronics

Heating Water

Heating and Cooling

(Source: eia.gov/todayinenergy/detail.php?id=36412, accessed April 2021)



Your Home's Electricity Use

Let's go on an energy scavenger hunt! Search for each item in your home.

I FOUND IT HERE.

 Ceiling Fan	 Water-efficient Shower Head
 Door sweep under exterior doors	 Caulk, Foam Spray or Weather-stripping
 Dishes or Clothes Air-drying	

I have the *power* to be Wattsmart.

Together with your parent(s), complete the separate *Home Energy Worksheet*. Return the completed *Home Energy Worksheet* to your teacher or submit it online at thinkenergy.org/Wattsmart to 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.



WATTSMART®

BEGIN AT HOME



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

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WATTSMART[®]

BEGIN AT HOME



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STEM Connections	Science		Technology		Engineering				Math								
	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
Activity																	
Pass the Sack		•		•													
The Search for Energy	•	•	•	•									•			•	•
A Bright Idea!	•	•	•	•	•	•	•	•	•	•	•	•	•				
The Art of Circuits	•	•	•				•		•	•	•						•
Shine a Light on History		•	•	•		•	•	•	•		•						
Layered Lunch	•		•							•							
How Do You Rate?	•	•		•		•	•				•	•		•		•	•
Energy in Math													•	•	•	•	
Be Wattsmart, Begin at home Poster		•		•			•	•									•

Activity: Pass the Sack

Objective

Students will demonstrate the difference between renewable and nonrenewable resources and the need for conservation of resources.

Curriculum Focus

Science
Social Studies

Materials

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

Key Vocabulary

Nonrenewable resource
Renewable resource

Next Generation Science Correlations

4-ETS1 – 2
4-ESS3 – 1-2
4-ESS3.A
5-ETS1 – 2
5-ETS1 – 1
5-ESS3 – 1
MS-ESS3 – 4
MS-ESS3.A



Introduction

Statistical research confirms world consumption of natural resources is increasing every year. Continued population growth ensures that demand will continue to increase for renewable and nonrenewable energy resources necessary to maintain our way of life. This creates problems for future availability of nonrenewable resources. Nonrenewable resources are just that, resources that cannot be renewed. For example, a resource used at our present rate might last about 100 years. Factor in population growth and increasing reliance on technology, and that resource may last only 79 years.

In this activity, two different types of candy (or other objects students would like) will represent resources. One type of candy will represent renewable resources and the other will represent nonrenewable resources.



Procedure

1. Before class, count out enough candy so there is one piece per student (some of each type of candy, with 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 contents to run out before everyone gets candy!**
2. Tell students you will demonstrate how resources get used over time by playing “Pass the Sack.” Show students the sack and explain that 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** type 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 who 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? Do they trade, barter (trade for goods), buy (trade for currency), invade and take or 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 periodically to renew it.)
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.
8. Point out that renewable resources also have limitations. They may not generate electricity as reliably as nonrenewable sources. The amount of energy produced may vary with weather and location.
9. Plan how to pass out the remaining candy.



Discussion

- Should rules be established to determine how the candy is distributed?
- Do oil, coal and natural gas companies have rules/regulations that must be followed to find resources?
- Should there be rules and regulations on how much oil, coal and natural gas people use?
- How do the class' social decisions influence the availability of candy?



To Know and Do More

Go to [eia.gov/kids](https://www.eia.gov/kids) to access games, tips and facts for kids to learn about renewable energy and energy efficiency.

Discuss whether or not it is possible to run out of a renewable resource. Wood and fresh water are examples of renewable resources that can be used faster than nature can replace them.

Activity: The Search for Energy

Objective

Students will learn the difference between renewable and nonrenewable resources.

Curriculum Focus

Math
Science
Social Studies

Materials

- 1/2 bag popcorn or other small item to represent solar energy
- Small pieces of ripped paper to represent approximate U.S. nonrenewable energy reserves
 - 164 black - coal
 - 22 red - uranium
 - 8 green - natural gas
 - 2 blue - oil
- Large sheet or tarp to place paper and popcorn on for easy clean up (optional)
- Copies of "Data Table and Graph"

Key Vocabulary

Nonrenewable resources
Renewable resources

Next Generation Science Correlations

4-ESS3-1
4-ESS3.A
5-ESS3 - 1
MS-PS1 - 2
MS-LS2 - 1
MS-ESS3.A



Introduction

Fossil fuels are extremely useful energy sources. Our society has adopted them because they can be readily available and economical. In the early part of the 20th century, a fledgling solar industry took root but was ultimately displaced by less expensive energy sources such as fossil fuels. Today some fossil fuels are harder to find and increasingly more costly. The sun, on the other hand, is just as plentiful as it was 100 years ago. It is a renewable resource that could become our most widely used source of energy.

The following activity is a simulation game in which students learn the difference between renewable and nonrenewable resources. The game reflects society's use and exhaustion of nonrenewable fuels and the eventual transition to renewable technologies.



Procedure

1. Divide the class into five equal groups. Each group represents a company going after a particular resource (coal, uranium, natural gas, oil or the sun). The paper and popcorn represent reserves of the various energy resources. Pass out copies of the student sheet "Data Table and Graph" to each group or have students create their own data tables on paper.
2. Have students gather in a large circle. Scatter the papers plus a handful of "solar" popcorn so they are spread out in the center of the circle. You can do this on a sheet for easier clean up. Explain that this exercise demonstrates how the availability of 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 resources that are available change after each trial. Tell each group that they will have 30 seconds to pick up as many papers or popcorn as they can of their assigned type. Start timing.

After 30 seconds have the groups stop and count the items they have gathered. Have each group announce their results to the class and record every count in their data table. If some groups have collected all of their available resource, point out that the resource is now depleted and they are unemployed.

4. Scatter another handful of “solar energy,” helping students realize that since the sun is a renewable resource, there is the same amount of it each time you look, whereas the nonrenewable fuels are being depleted. Repeat the search period so students can get more papers or popcorn.
5. Stop after 30 seconds and have the group count and record the papers and popcorn collected again. Note that there are fewer nonrenewable fuels found in the second round. Students have to look harder to find what is left. The solar count is slowly catching up with the nonrenewable fuels. Repeat with additional trials as needed.
6. Have groups create a bar chart or, for more advanced students, a multiline graph of the number of papers and popcorn collected each trial.



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 a resource? Why do some deposits go unused?



To Know and Do More

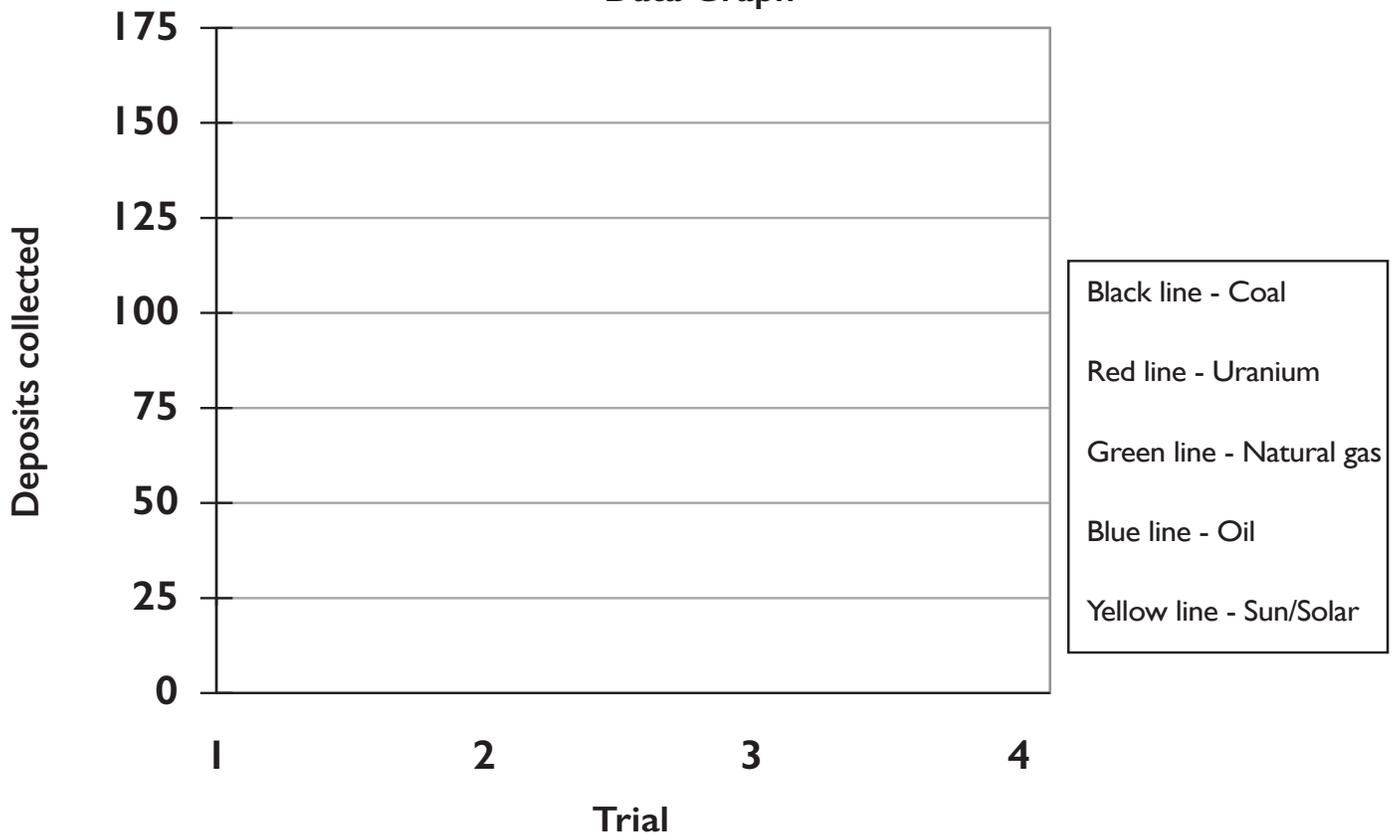
Add wind and water to the activity. Lead a discussion to be sure the students understand why you continued adding more sun, wind and/or water after each trial, but did not add more of the other papers. As a class, come up with a general outline of how to more effectively manage the resources that are available to us.

Student Sheet: Data Table and Graph

Data Table

Search Period	Coal (Black)	Uranium (Red)	Natural Gas (Green)	Oil (Blue)	Sun/Solar (Popcorn)
1					
2					
3					
4					
Totals					

Data Graph



Activity: A Bright Idea!

Objective

Students will study an example of potential energy converted to energy in the forms of heat and light.

Curriculum Focus

Science

Materials

- Several general purpose C dry cell batteries
- A string of holiday lights, cut apart and stripped at the ends or small bulbs and sockets with wires
- Battery operated toy and batteries
- Small flashlight bulbs and sockets
- Copies of "A Bright Idea!"

Key Vocabulary

chemical energy, circuit, closed circuit, current, electrode, electrolyte, kinetic energy, open circuit, parallel circuit, potential energy, radiant energy, series circuit, thermal energy, transformation, voltage

Next Generation

Science Correlations

4-ETS1 – 1-2
4-PS3 – 2-4
4-ESS3 – 1
5-PS1.B
5-ESS3 – 1
5-ESS3.C
MS-PS3 – 3
MS-PS3.B
MS-LS2 – 1
MS-ESS3.A



Introduction

Alessandro Volta, an Italian physicist, made the first battery in 1799. Volta placed two different metal electrodes in an electrolyte solution (a chemical mixture which will conduct an electrical current). The chemical reaction caused an electromotive force. A common misconception is that batteries store electrical energy. This is not really true. Batteries convert chemical energy to electrical energy. They store chemical energy that can be released during a chemical reaction. An electric current can be produced before by using metals or carbons that have different chemical properties and an acid or base that will allow the movement of electrical charges.



Procedure

1. Demonstrate a battery operated toy with and without the battery. Explain that energy is the ability to do work or cause change, such as moving the toy or powering a light bulb.
2. Discuss:
 - How do we know the energy from the battery is working?
 - What kind of energy is the toy giving off? (possible answers include kinetic energy, mechanical, light, sound and heat)
 - The battery converts chemicals (chemical energy) to electricity (electrical energy) and the toy converts electricity to many possible forms of energy, including mechanical energy, heat (thermal energy), light and sound.
3. Have students use the materials provided to experiment with simple circuits by following the guided inquiry activity on the student sheet. As the students do the activity, have them note the light and heat energy given off.
4. Give students examples of types of potential and kinetic energy.

Kinetic energy: a person riding a bike, a fire in a woodburning stove, a person running

Potential energy: a lump of coal, a sandwich, a rock at the top of a hill



Discussion

Write the word choices on the board. Read the statements to the students and have them fill in the blanks using the words.

1. A battery converts chemical energy into _____ energy.
2. Electricity is a form of _____ energy.
3. The light bulb converts electrical energy into _____ and _____ energy.
4. A battery contains _____ energy.

Word choices:

potential electrical heat kinetic light

Answers:

1. electrical 2. kinetic 3. light, heat 4. potential



To Know and Do More

Ask students if they believe batteries are important to our way of life today. Have students make a list of all the items they used yesterday that contained a battery. Their list might include:

Wristwatch	Tablet
Automobile	Video game controller
Cell phone	TV remote control

To continue this, have students add to the list all of the items they can think of that use batteries. Are your students surprised at how many items today depend on batteries to operate and how many battery operated items they depend on daily?



Career Awareness Activity

Search the internet for a company that produces batteries. Discover the various job opportunities and careers within that company. Your list might include: scientists, chemists, research analysts, accountants, purchasing agents and administrative assistants.

Student Sheet: A Bright Idea!

Alessandro Volta, an Italian physicist, made the first battery in 1799. Volta put sheets of two different types of metal in a jar of water with a chemical that could carry electricity (an electrolyte). The chemical reaction between the electrolyte and the metal plates caused electrons to move when the plates were connected with a wire. The flow of electrons moving in a wire is called an electric current or electricity.

Using one battery and one light, make the bulb light up. Congratulations, you have made an electrical circuit!

1. What did you do to get the light to come on and complete the circuit? How was it touching the battery?

2. What do you have to do to make the light bulb turn off and then back on?

3. What do you think the electrical terms "open circuit" and "closed circuit" mean?

4. How do you think a light switch works?

5. What type and form of energy is in the battery?

6. The battery's energy was transformed into what other forms of energy?

Using one battery, try to light up two lights.

1. Sketch how the wires are connected to the battery when you light two lights.

2. Are the lights the same brightness as when you lit only one or are they dimmer?

3. A series circuit has only one path that electrons can follow as they are pushed from one side of the battery to the other. A parallel circuit has more than one path and the electrons can go more than one way to get from one end of the battery to the other. Which type of circuit did you make and draw?

4. Experiment with multiple batteries connected together, placing the positive end of one battery touching the negative end of another battery. What effect does the number of batteries have on the brightness of the bulbs?

5. If you leave the battery connected to a bulb long enough, you will feel the wire and the ends of the battery getting warm. What do you think is causing this?

6. Can that heat be useful? Can it be dangerous? Give an example to prove your point.

7. Wash your hands when you are finished.

Activity: The Art of Circuits

Objective

Students will learn about conservation of energy and energy transfer by experimenting with electrical circuits.

Curriculum Focus

Science
Social Studies
Language Arts
Art

Materials

- Playdough® or homemade salt dough
- 9V batteries
- 9V battery clips with red and black cables
- 2V LED miniature light bulbs
- Insulating material: cardboard, packaging plastic or dough made from sugar, not salt (optional)

Key Vocabulary

Energy transfer
Electric current
LED (light-emitting diode)
Electric circuit
Insulator
Conductor

Next Generation Science Correlations

4-PS3 - 2
4-PS3 - 4
4-PS3.A-B, D
4-ETS1 - 1
4-ETS1.A
5-ETS1 - 1
5-ETS1.A
MS-PS3 - 3
MS-PS3.A-B
MS-ETS1 - 1
MS-ETS1.A



Introduction

Materials that allow a flow of electric current to pass through them more easily are called conductors. Aluminum, silver, copper and water are examples. Insulators block the flow of electricity. Nonmetallic materials, such as rubber, plastic, wood, cloth and dry air are insulators. An electrical circuit is a path of conductors through which electric current flows. Energy can be transferred from place to place by electric current.

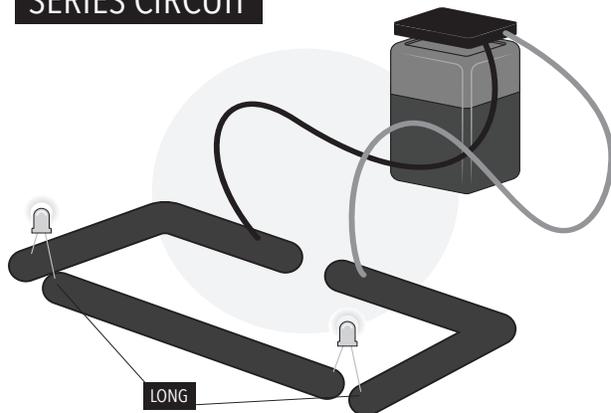
In this activity, students will use salt dough, which is a conductor, to design circuits which will transfer electrical energy. If they are successful, the electricity will be transformed to light and heat energy in a miniature LED bulb.



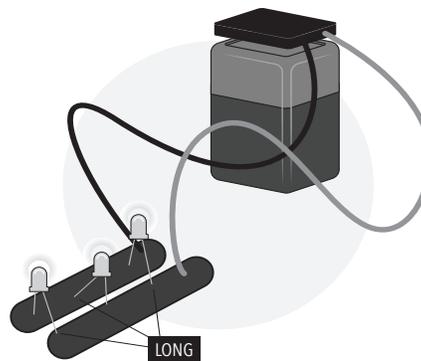
Procedure

1. Introduce students to their materials:
 - a. Attach the battery to a battery clip with red and black cables. The red lead is the positive terminal and the black lead is the negative terminal.
 - b. Examine the LED bulb. Two wires (or legs) extend from the bulb. The longer wire is the positive side of the LED and the short wire is the negative side. The LED should only be connected to dough, never directly to the battery terminals, which will cause the bulb to burn out.
2. Tell students that electricity can only go through the circuits they will create in one way. The positive terminal of the battery (red lead on battery clip) must be nearest a positive (long) leg of the LED. A battery pushes electricity around the circuit through the positive leg and out the negative (short) leg, then repeating through the next positive leg (if there is more than one LED in the circuit).
3. Explain that electricity will take the path of least resistance. It is easier for electricity to travel through the dough than through the LED. If two pieces of dough are touching, the LED will not light.
4. Challenge students to design a simple circuit like the ones on the next page.

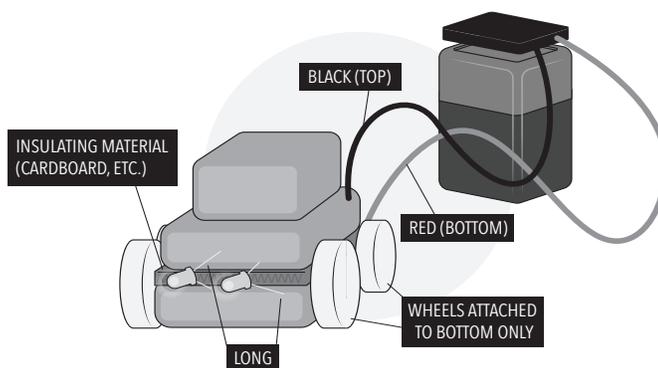
SERIES CIRCUIT



PARALLEL CIRCUIT



If time allows, have students create a circuit work of art like the one below. Since the conductive dough cannot touch, use insulating material between layers.



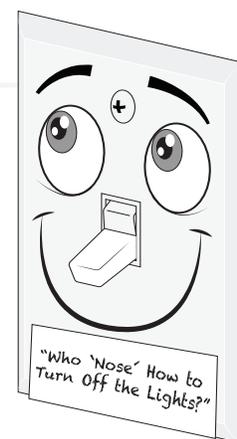
Discussion

- How does your dough circuit light the LED compared to the circuits at your home?
- In a series circuit with multiple LEDs, what happens to the brightness of the LEDs that are further from the battery? Why?



To Know and Do More

When a light switch is off, the electrical pathway to a bulb is not complete and electricity cannot flow to light that bulb. When you flip the switch on, you close the circuit and the light turns on. If light is not needed, it is important not to waste the natural resources used to generate the electrical power that is being transformed to light. Have students create characters without noses to put over light switches at school or home. The art should help remind them to turn lights off!



Activity: Shine a Light on History

Objective

Students will gather details and make inferences from text to explain historical events related to electricity. They will use their knowledge to write information text to support an opinion.

Curriculum Focus

Language Arts
Social Studies
Science

Materials per student group

- Index cards

Key Vocabulary

LED (light-emitting diode)
Incandescent bulb
Filament
Electric meter
Inference
Persuasive
Lumen
Watt

Next Generation Science Correlations

4-PS3 - 2
4-PS3.A-B
MS-PS3 - 3



Introduction

Thomas Edison and Nick Holonyak are two famous lighting inventors. They both made major contributions that changed the way people lived. Thomas Edison patented the incandescent bulb in the late 1870s. Since that time, people have enjoyed the convenience of using electricity for light. Nick Holonyak created the first practical, visible spectrum LED which revamped lighting as we know it.

In this activity, students will research the contributions of these two inventors. They will gather details to form an opinion about which man was more influential in history.



Procedure

1. Give students time to research the famous inventors Thomas Edison and Nick Holonyak. They can use the internet or other sources to find important information.
2. Have students fill out the index cards for each inventor. Using that information, they should decide which inventor was more influential in history and write a persuasive paragraph with details from their research to support their opinion.
3. Challenge students to practice reciting their paragraph and then present it to another student(s) in an attempt to change a differing opinion.



Discussion

- What kinds of light bulbs are used in your home? How do they affect the way you live and work?
- What do you think the next great electrical invention will be?
- Thomas Edison said, "Genius is one percent inspiration and ninety-nine percent perspiration." What did he mean? How does his quote apply to you?



To Know and Do More

A light bulb package has a lighting facts label that contains different numbers.

- The light output in lumens.
- The power used by the bulbs, measured in Watts. The higher the wattage, the more energy the bulb uses.
- A measure of how warm or cool the light from that bulbs looks, measured in Kelvin (K). Low numbers are warmer light hues (orange or yellow). High numbers are cooler hues (blue or green).

When buying new bulbs, we should shop by lumens, not wattage. We save energy by finding bulbs with the lumens we need, then choosing the lowest wattage possible for that number of lumens.

Lighting Facts <small>per bulb</small>	
Brightness	800 lumens
Estimated Yearly Energy Cost \$1.08 Based on 3 hrs/day, 11¢/kWh Cost depends on rates and use	
Life	Based on 3 hrs/day 23 years
Light Appearance	
Energy Used	9 Watts

Activity: Layered Lunch

Objective

Students will understand that natural gas deposits are trapped and held by certain types of geologic formations.

Curriculum Focus

Science
Art

Materials

- Slices of bread
- Almond butter or other thick spread (e.g. cream cheese)
- Honey
- Plastic wrap or wax paper
- Plastic knife

Key Vocabulary

Permeable
Impermeable
Source rock

Next Generation Science Correlations

4-ETS1 - 1
4-ETS1.A
5-ETS1 - 1
5-ETS1.A
MS-LS4 - 1
MS-LS4.A
MS-ESS1 - 4
MS-ESS1.C
MS-ETS1 - 4
MS-ETS1.B



Introduction

How do we find natural gas? Try this activity to get an idea of the type of rock formations and characteristics geologists look for when locating natural gas deposits.

As natural gas molecules form, they migrate from shale “source rock” into more porous areas such as sandstone. Porous or permeable layers are much like a sponge with little pockets throughout the rock. The natural gas continues to move to either the earth’s surface (where it escapes into the atmosphere) or it is trapped when nonporous or impermeable rock layers block its path.



Procedure

Using bread, almond butter and honey, create some edible models of rock layers. (In place of almond butter you could use peanut butter, Nutella or even thick frosting depending on allergies within the classroom.)

1. Spread thick layers of almond butter then honey on a slice of bread. Top it with another slice of bread.
2. Make a second sandwich just like the first, or gently cut the sandwich in half.
3. Put one sandwich (or one half) with the almond butter layer above the honey and the other sandwich (or other half) with the honey on top of the almond butter.
4. Next spread a thick layer of only honey on a slice of bread, adding another slice on top.
5. Cover your sandwiches with wax paper or plastic wrap and gently press down on them for about three seconds, representing millions of years of pressure.
6. Cut the sandwiches in half and observe what has happened.



Discussion

1. What do you think the honey represents?
2. Which layer do you think represents porous rock?
3. Which layer is the nonporous rock?
4. Did the honey seep into both slices of bread? Why or why not?
5. What do you predict would happen with a sandwich made with only almond butter?
6. How might the ingredients you used affect your results?
7. Draw the layers of your sandwich and use colored pencils or crayons to distinguish the different layers and write labels for each layer that includes: impermeable, permeable, natural gas, nonporous rock and porous rock.

Answers

The honey represented natural gas or a fossil fuel. The bread was the porous rock where the honey or natural gas gets into the little pockets or air spaces. Almond butter acted like a nonporous rock layer blocking the honey from seeping into the slice of bread above the almond butter. The results may be different depending on your ingredients: denser bread allows less seepage, creamier almond butter may be less impermeable or thicker honey may not fill the little pockets as easily.



To Know and Do More

Assign students to further investigate how natural gas is trapped in rock formations. Have them draw pictures of a formation and the trapping of oil and natural gas in the earth.

Visit a natural history museum and look for prehistoric life forms and rock formations.

Activity: How Do You Rate?

Objective

Students will conduct a home survey to determine how they can use energy more efficiently by changing their habits and improving conditions and thereby improve the environment in which they live.

Curriculum Focus

Language Arts
Science
Social Studies

Materials

- Copies of “How Do You Rate?”

Key Vocabulary

Conservation
Efficiency
Environment
Natural resources
Quality of life

Next Generation Science Correlations

4-ESS3 – 1
5-ESS3 – 1
5-ESS3.C
MS-LS2 – 1
MS-ESS3 – 3
MS-ESS3.A



Introduction

We use natural resources every day. Sometimes we use them just as they come from earth or the atmosphere. At other times we alter their makeup to fit our needs. For instance, we use the sun just as it is to dry clothes, but we use photovoltaic cells to capture the sun’s energy and convert it to electricity, a secondary energy source. We use coal just as it comes to us from the earth to make electricity, or we use coal to provide coke for steel manufacturing. Many natural resources we use every day are nonrenewable, once we use them they are gone. Others are renewable, they can be replaced through natural and/or human processes.

It is responsible to use all resources efficiently and wisely. When we do, we reduce energy use, save money and preserve the environment. Making wise decisions today will have a positive impact on our future.

Imagine the difference we could make if we all used energy more efficiently. We would conserve natural resources for the future and enjoy better air quality and a better life. Each one of us can truly make a difference. All it takes is knowledge and action.



Procedure

Using energy efficiently and conserving our natural resources are responsible and easy actions that students can take today to show they respect the environment and have a desire to protect and preserve it.

1. Pass out “How Do You Rate?” Discuss the actions that may apply to the school (e.g., windows and doors have weather-stripping; drapes or blinds are open on cold, sunny days and closed on hot days; thermostats are adjusted at night; lawns are only watered early or late in the day). As you discuss each action, write a T for true or F for false on the board to see how the school rates. What can the students do to improve energy use at school?
2. Decide on several actions the students can take at school to help save energy and protect the environment. One action might be to use both sides of their paper and then recycle. If a room is empty during lunch or at other times, they can be sure lights are turned off and computers are on sleep mode.
3. Have the students take the survey home and complete it with their parent’s or guardian’s help. Explain to students that it is important to record their true energy use and not mark what they think they should be doing.
4. How did the students’ homes rate? Discuss the results of the home survey. Help students to become enthusiastic about conserving natural resources and using energy more efficiently.

5. Prepare a graph to show the results of the energy efficiency survey. Which efficiency tips are already practiced by most students? Which were least used? Graph the number of students marking true for each item.
6. Find the mean, median, mode and range of the data on the home survey.



Discussion

Discuss the benefits of energy conservation. How will our energy use impact our future? Compare the benefits and possible inconveniences and their correlation to our quality of life.



To Know and Do More

Why do you think people do not practice all of the energy efficiency tips on the survey? Are there false assumptions that affect people's behavior? (Believing that turning things on and off uses more energy than leaving them on, for example.)

Discuss how people in other geographic areas and cultures would rate. Does everyone have a car, dishwasher or an air conditioner?



Career Awareness Activity

Have the students think of some careers that could have a big impact on your community's energy usage. Some areas to consider: teachers impact energy usage through education and by example; utility workers impact energy through education and incentives; government regulators have an influence through restrictions and rewards, such as financial benefits or tax breaks.

Student Sheet: How Do You Rate?

How energy efficient is the building you live in? Together with your parents or guardians, answer the following questions to rate your home or apartment.

Circle T if the statement is true, F if the statement is false or NA if the statement does not apply to your living situation.

Heating and Cooling

Windows and doors have good weather-stripping.	T F NA	Ducts are insulated in unheated/uncooled areas.	T F NA
Window coverings are open on cold, sunny days and closed on hot days.	T F NA	Garage is insulated.	T F NA
Window coverings are closed at night when heat is on.	T F NA	Air filters on furnace and air conditioner are cleaned and changed regularly.	T F NA
Thermostat is set at 68 F (20 C) or lower in winter.	T F NA	Thermostat is adjusted at night.	T F NA
Air-conditioning is set at 78 F (26 C) or higher in summer.	T F NA	Fireplace damper is closed when fireplace is not in use.	T F NA

Water

A pitcher of water is kept in the refrigerator for drinking.	T F NA	Hot water heater is set at 120 F (49 C).	T F NA
Faucets and toilets do not leak.	T F NA	• If someone in your household has a compromised immune system, consult your physician.	
Showers and faucets are fitted with energy-efficient shower heads and aerators.	T F NA	Hot water pipes from water heater are insulated.	T F NA
Showers last no longer than 5 minutes.	T F NA	If located in an unheated area, hot water heater is wrapped in an insulation blanket.	T F NA
Toilets are low flow, or tanks use water displacement devices.	T F NA	Broom, not hose, is used to clean driveways and sidewalks.	T F NA
		Faucet is shut off while brushing teeth and shaving.	T F NA

Appliances

Dishwasher is usually run with a full load.	T F NA	Clothes dryer is usually run with a full load.	T F NA
Automatic air-dry is used with the dishwasher.	T F NA	Clothes are often hung up to dry.	T F NA
Washing machine is usually run with a full load.	T F NA	Refrigerator is set no lower than 37 F (3 C).	T F NA
Cold water is used in washing machine most of the time and is always used for rinses.	T F NA	Lids are usually put on pots when boiling water.	T F NA
		Oven is preheated for only 10 minutes (if at all).	T F NA

Lighting

Lights are turned off when not in use.	T F NA	Light bulbs are kept dusted and clean.	T F NA
LED bulbs are used in at least one room.	T F NA	Sunlight is used whenever possible.	T F NA
Security and decorative lighting is powered by solar energy.	T F NA		

Trash

Glass, cans and newspapers are recycled.	T F NA	Overpackaged products are usually avoided.	T F NA
Plastic is separated and recycled.	T F NA	Reusable bags are used for groceries, or bags are recycled.	T F NA
Old clothes are often given to charities, secondhand clothing stores, etc.	T F NA	Rechargeable batteries are used when possible.	T F NA
Food scraps and organic waste are composted.	T F NA	Food is often bought in bulk.	T F NA
		Products made of recycled materials are favored.	T F NA

Transportation

Car is properly tuned and tires properly inflated.	T F NA	Public transportation is used when possible.	T F NA
Family drivers obey speed limit on the highway.	T F NA	Family members often walk or ride a bike for short trips.	T F NA
Family drives an electric vehicle.	T F NA	Kids and parents carpool when possible.	T F NA

Yard and Workshop

Lawns are watered early or late in the day.	T F NA	Cutting edges on tools are kept sharp.	T F NA
Grass is mowed to a height of 2 to 3 inches (5 to 8 cm).	T F NA	Electrical tools are maintained and gas equipment is kept tuned and serviced.	T F NA
Hand tools like pruners and clippers (rather than power tools) are used whenever possible.	T F NA		

Score 1 point for True, 0 points for False and 0 points for Not Applicable (NA).

Total Points: _____

Discuss the results of this survey with your family.
What can you and your family do to raise your score?

Activity: Energy in Math

Objective

Students will interpret and evaluate numerical expressions as they solve word problems.

Materials

- Copies of the questions found in the “To Know and Do More” section
- Individual white boards (optional)

Key Vocabulary

Watt

Common Core Correlations

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



Introduction:

In this activity, students will complete the problem set found on the bottom of page 22 within an allotted time (10 minutes). Students will solve the mathematical problems making connections to real world situations.



Procedure:

- Instruct students on the importance of learning to solve real world problems using their math skills. You may want to review some steps to solving word problems before beginning the first problem. The following questions might be useful to review:
 - Can you draw something to help you?
 - What can you draw?
 - What conclusions can you make from your drawing?
- Copy the questions on the “To Know and Do More” section on page 22 and pass it out to students. Make sure to remove answers on the bottom of the page.
- Model the problem.

Have a pair of students work at the board while the others work independently or in pairs at their seats.

As students work, circulate. Reiterate the questions above. After several minutes, have the demonstrating students receive and respond to feedback and questions from their peers if necessary.
- Calculate to solve and write a statement.

Give everyone 2 minutes to finish work on that question, sharing their work and thinking with a peer. All should write their equations and statements of the answer:
- Assess the solution for reasonableness.

Give students 1 to 2 minutes to assess and explain the reasonableness of their solution.



Discussion/Debrief

The student debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the problem set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed. Then guide students in a conversation to debrief the problem set and process the lesson.

Any combination of the questions below may be used to lead the discussion.

- What did you notice about this word problem?
- What is different in the problem?
- What are we trying to find out?
- How can we represent this part of the story? (draw, write a number; use manipulatives)
- What would help us organize our thinking and our work? (answers may vary: draw it out, act it out, write an equation, etc.)
- What strategies can we use to solve this problem?



To Know and Do More

Have your students turn in their worksheet showing their work to solve each problem. This will help you to assess your students' understanding of the math concepts presented in the lesson.

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 own bedroom 4 hours a day, and there are three people living there, how many Watts will be used a day to light the bedrooms?
 - 20 Watts
 - 240 Watts
 - 650 Watts
 - 720 Watts
4. For every 10 degrees the water heater setting is turned down, you can save 6% 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%

Answers: 1. Maggie, Michael, Jessie, Karen; 2. \$284; 3. 720 Watts; 4. 9%

Activity: Be Wattsmart, Begin at home Poster

Objective

Students will make their own energy-efficient choices that can be practiced at home to help future societies.

The students will also learn how they can be part of the solution to save energy and natural resources.

Materials

- House poster found on the following page
- Colored markers or pens

Key Vocabulary

Carbon footprint
Recycle
Energy efficient

Common Core Correlations

Energy Sources, Forms and Transformation
Personal and Social Perspectives
Research Tools
Problem-solving and Decision-making Tools
Connection to the Real World



Introduction:

This is a fun project for students to create after they have studied energy, energy efficiency and renewable and nonrenewable resources. Using the poster, students will add or color the items listed below to create a house that is eco-friendly and energy efficient. You can help your students answer questions about what types of energy they can use and how it will work in the house to create efficiency and save energy.



Procedure:

- Add or color the items listed below. You may want to do different items each day as you cover different topics: electricity, natural gas, water; etc.
 - Add a bicycle.
 - Add small recycling bins where appropriate.
 - Add 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 television and furnace.
 - Color the energy-efficient shower head red.
 - Color all items that use electricity yellow.
 - Find and circle the smart thermostat.
 - Color the furnace filter that is being changed orange.
 - Draw a purple water drop next to all items in the house that use water.



To Know and Do More

- Have each student write a brief description of the things their family has done to improve energy efficiency at home. Have your students add any items that will encourage their families to be energy efficient in the future.
- Choose a natural resource used for energy and create a Venn diagram comparing the positive and negative effects of the use of this resource on the physical environment.

Lingo Card

L	I	N	G	O
Water	Natural Gas	Natural Resource	Incandescent	Reduce
Full Load	Phantom Load	Oil	Coal	ENERGY STAR®
Renewable	Energy	Be Wattsmart, Begin at home	Turn It Off	Uranium
Energy Efficiency	LED	Recycle	68 Degrees	Embodied Energy
Cooking	78 Degrees	Solar	Programmable or Smart Thermostat	Electricity

L	I	N	G	O
Full Load	Natural Gas	Phantom Load	LED	78 Degrees
Cooking	Electricity	Renewable	Recycle	68 Degrees
Natural Resource	Water	Be Wattsmart, Begin at home	ENERGY STAR®	Nonrenewable
Embodied Energy	Coal	Energy Efficiency	Heating	Incandescent
Programmable or Smart Thermostat	Reduce	Oil	Solar	Uranium

L	I	N	G	O
Coal	Natural Gas	Solar	Turn It Off	Renewable
Water	Nonrenewable	Phantom Load	Electricity	Full Load
Energy	Oil	Be Wattsmart, Begin at home	68 Degrees	Cooking
Programmable or Smart Thermostat	Incandescent	Recycle	Uranium	Natural Resource
Reduce	78 Degrees	Embodied Energy	LED	Energy Efficiency

L	I	N	G	O
Natural Resource	Water	Natural Gas	Programmable or Smart Thermostat	78 Degrees
Turn It Off	Reduce	Oil	Embodied Energy	Cooking
Phantom Load	ENERGY STAR®	Be Wattsmart, Begin at home	Uranium	Recycle
Energy	LED	68 Degrees	Energy Efficiency	Heating
Electricity	Renewable	Incandescent	Full Load	Solar

Dear Parents,

Today your child participated in the **Be Wattsmart, Begin at home** program sponsored by Rocky Mountain Power. In this engaging presentation, your child learned key science curriculum concepts 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* (HEW)

Please take a moment to read through this informative booklet with your child. Then, fill out the HEW in one of two ways:

- Visit thinkenergy.org/Wattsmart and complete the online worksheet. You will need to enter the teacher ID found on the paper worksheet. If you do not have the teacher ID, you can find it by searching for the teacher's name on the website.
- or
- Fill out the paper worksheet and return it to your child's teacher. To thank you, Rocky Mountain Power will provide your child with a Wattsmart nightlight.

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



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UT, ID, WY

Estimados padres,

Su hijo ha participado en el programa **Sea Wattsmart, Empieza en casa**, patrocinado por Rocky Mountain Power. En esta presentación atractiva, su hijo aprendió conceptos claves de su plan de estudios de ciencias, así como formas importantes para ser más eficiente con el uso de energía en el hogar.

Como parte del programa de **Sea Wattsmart, Empieza en casa**, su hijo recibirá:

- El folleto de **Sea Wattsmart, Empieza en casa**
- *Verificación de Energía Doméstica*

Tome un momento para leer el folleto informativo con su hijo. Luego, complete la *Verificación de Energía Doméstica* de una de estas maneras:

- Visite thinkenergy.org/Wattsmart para completar el formulario en línea. Necesitará entrar el número de identificación de su profesor que se encuentra en el formulario de papel. Si no tiene la identificación del maestro, puede encontrarla buscando por el nombre del maestro en el sitio web.
 - o
- Complete el formulario y devuélvalo al profesor de su hijo. Para agradecerle, Rocky Mountain Power le proporcionará a su hijo una luz de noche.

Apreciamos sus esfuerzos para reforzar la importancia del **Sea Wattsmart, Empieza en casa** de la energía y los acciones eficientes en el hogar.

WATTSMART
BEGIN AT HOME

National Energy Foundation
cultivating energy literacy

ROCKY MOUNTAIN POWER
POWERING YOUR GREATNESS

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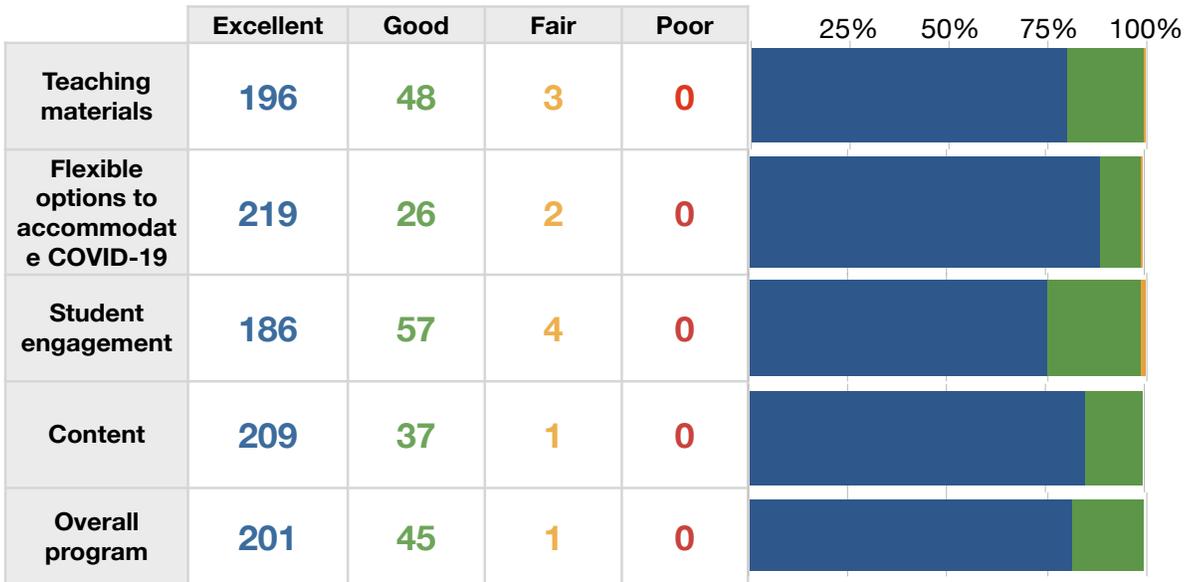
UT, ID, WY

Teacher Evaluation Compilation

Wattsmart Rocky Mountain Power Utah program

Program Evaluation Summary

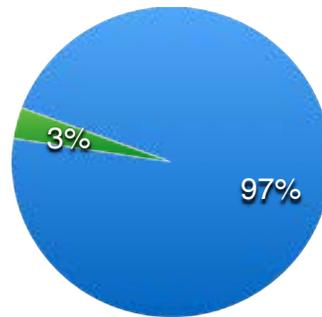
Impressions of the program from **242** educators.



Was the educational mini-grant a good incentive to participate in the program?

	Yes	No
Mini-grant	239	8

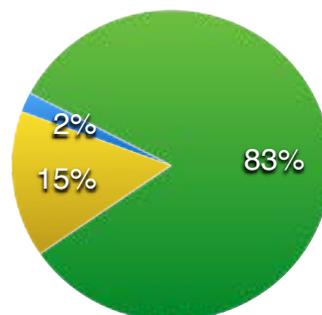
● Yes ● No



Where did your students participate with the presentation?

	Home	School	Both
Mini-grant	5	200	37

● Home ● School ● Both



Please share your experience or feedback on the electronic/online learning you used.

Clear and informative
Easy to use. The students enjoyed it and they liked the night lights.
Fabulous. Love this
Great online presentation
Great videos
I am using as much in class as possible and feel that technology is a tool not pedagogy.
I enjoyed the video.
I had the students do the worksheet at home and enter it at school.
I just used it personally and then with my class--kids didn't do it at home
I liked their presentation, however, they needed to have some sort of microphone to amplify their voices. Difficult to hear.
I love the highly interactive presentation and the students love it too.
I loved it!
I posted the assignment to my Google Classroom. It was user-friendly.
I projected the presentation through my computer on a big screen
I think that the online presentation option for COVID was fabulous. The kids enjoyed it and it was nice to still be able to have this presentation even though we can't have a lot of visitors in the building.
I thought it was engaging for the students!
I thought it was extremely user friendly and easy to teach.
I used the online portal to submit the student forms and that Kahoot game is really fun
I used the video presentation and was able to show my entire class.
I wish it could have been in person, but for being online it was great!
Interesting, engaging, and fun. The pacing was perfect and the lingo was a blast!
It all worked well! No glitches and it kept the kids interested.
It was a good compromise though not quite as good as the in person program.
It was a great presentation

Please share your experience or feedback on the electronic/online learning you used.

It was done very well!
It was easily transferred into our science lessons.
It was easy to use, it kept the students engaged the entire time.
It was good for the kids that were at home.
It was great to have access to the online present and be able to work through it at our own pace.
It was great to have online resources. I was not able to use the online tools as much as I would have liked.
It was great!
It was much smoother than I had expected
It was nice to have the additional resources.
It was okay. Nothing replaces the in-person teaching for this program.
It was super easy! I loved that it didn't take much teacher preparation at all. The materials were well packaged. Getting to the presentation was also easy with just a few clicks.
It was user friendly informative and age appropriate.
It was very easy to navigate
It was very well done and engaging for my students. Thanks for making it available through these means. We missed having the nice ladies at our school, but so appreciate getting us this important information through the electronic program!
It was very well organized and easy to deliver to my students.
It went pretty well! It wasn't quite the same as in person, but how could it be? You adapted it very well and did an excellent job.
It went smoothly. Thank you for making this program accessible for virtual learning.
It worked out just right. I could fit it into my schedule where I thought best.
Loved it!
Loved the option for online. This made it so easy for all of my students to participate.
Loved the video - kids were engaged
Luckily we were all face to face at that time. No online students.
My class was all in person at the time I did it.

Please share your experience or feedback on the electronic/online learning you used.

<p>My class watched the video and played the Lingo game. We paused the video occasionally to discuss it. The students enjoyed the fun way in which the information was presented.</p>
<p>My online students seemed to enjoy the presentation</p>
<p>My ONLY downside of the online electronic platform was the volume was maxed and you could barely hear the presentation. We made it work for this year. Thank you!</p>
<p>Part of my class did this online and the other part did it in class. All students completed the survey at home with their parents. I liked having the option of 2 modalities since I am trying to offer the same opportunities to both learning groups.</p>
<p>Presenters were ready to go and flexible with changes.</p>
<p>Students enjoyed learning to be energy wise.</p>
<p>The kids had a lot of fun and parents have said that they are being told by the kids what they are doing wrong or need to fix.</p>
<p>The kids loved it. There was enough interaction and silliness to keep their attention.</p>
<p>The kids were engaged throughout the presentation. They loved the silly videos in it especially.</p>
<p>The materials were easy to use and understand.</p>
<p>The online component and turning them in online seemed to work well.</p>
<p>The online kids enjoyed the presentation and did well with it. It was easy for them to use and manage.</p>
<p>The online learning video was super easy to show to my students who are an online class.</p>
<p>The online learning was efficient and effective.</p>
<p>The online presentation worked great for us.</p>
<p>The parents were very supportive.</p>
<p>The presentation was complete. I liked that the teachers were in the presentation rather than me just having to present the slides. I liked the lingo part too.</p>
<p>The presentation was simple to use using the resources (projector, document camera, etc.) I have available at my school.</p>
<p>The presentation was very quiet. I had the volume all the way up on my computer and projector and it was very difficult to hear.</p>
<p>The presenters were great and got the kids totally engaged with what was being taught.</p>
<p>The program was great for this year when we can't go on field trips and a great way to break up our mundane days.</p>
<p>The program was very easy to use. Thank you for the materials to supplement the online program. My students really enjoyed LINGO.</p>
<p>The programs run slow and sometimes we are timed out.</p>

Please share your experience or feedback on the electronic/online learning you used.

The students liked it just as much as when the presenters come. However the presenters keep them more engaged by doing the little hands on dimensions.
The students really enjoyed that part.
The students really enjoyed the video presentation
The videos worked great and it was just the right length.
Very easy to use.
we are building circuits out of wires. We are also exploring how energy transfers from form to other forms such as producing electricity and heat/light. In class to help them complete the survey at home, we discussed the meaning of each question and looked at current pictures of what you might have been looking for. Without this...survey would have been too hard (?) at least from a Title one perspective. After seeing real pictures they actually enjoyed finding answers.
We did that last year, but not this year. We liked the online presentation.
We enjoyed watching the online learning that was prepare
We had a great time.
We had this in person this year, but last year it was online and I enjoyed both.
We learned from the presentation and followed up in class and at home
We made our own circuits - the diagrams helped.
We used both the paper copies and then the website to play the extra activities.
We watched the program online and it was perfect.
We were in person, but the slide show was good.
worked well for my students at home

What additional activities did you or will you use from the Teacher Guide?

A Bright Idea and The Art of Circuits
All of it
As connections come up in science lessons, I incorporate ideas from the presentation and Teacher's guide.
Bright Idea activity, Make a circuit, wattsmart home poster
Bright Idea and The Art of Circuits
circuit activities
Circuit building, but that will come later in the year with our science curriculum
Class Discussion
Discussion with my students
Energy activities
Energy conservation lessons
Energy in Math and the circuits one
Energy saving tips for home
Everything! I loved it all and it fit perfectly with out science concepts!
Great lessons that are interactive
Home Connections
I am actually taking what was taught in my class and adding to it for our energy science unit. I just loved the explanations that were given and the examples shown. I even bought my own energy stick.
I am currently using the posters that came along with it.
I have already done several of them and started a project based learning on conserving electricity and other options for energy.
I have since purchased the Energy Stick, and will use it to help my students better understand electricity and conduction. This was a great demo!
I hung up the poster for students to look at and it started several conversations.
I just did it so I haven't done any yet.
I like the student books, Also the students really have enjoyed the games on the website
I liked the activity where the ladies made an electrical connection that ran through their bodies.
I liked the posters.
I love some of those additional lessons!
I love the lesson plans! I will use them and the provided activities as I teach electricity and circuits this year.
I love the posters and have a few in my classroom's walls
I love the whole presentation
I mostly refer to the materials discussed in the presentation as it comes up in science or other topics of study.
I reading the reading from the teaching guide
I really enjoyed the limited resources with candy and the popcorn idea. Additional things will include: creating their own circuits, more into the process of changing from one form of energy to another. I also changed the popcorn one to do a planet X where kids mine for things not knowing what it is and then after mining we look at planet that they have destroyed and talk about how we cannot fix the planet now because we used all the resources. (very similar to popcorn).
I reviewed renewable energy and had them find renewable resources around town.
I used a lot of the information to extend our district's material.
I used all of them. They were perfect for our energy unit with the Seed standards.
I used one more activity for a lesson
I used some of the information that was in the guide.
I used the posters for discussions and reminders of what we learned

What additional activities did you or will you use from the Teacher Guide?

I used the posters to guide discussion.
I want to use more of the information on energy.
I will use A Bright Idea and The Art of Circuits
I will use the Pass the Sack activity to illustrate renewable and non renewable resources. I will also combine the A Bright Idea & the Art of Circuits activities with the ones in the Foss Science Energy unit that I am currently teaching.
I will, most likely, us all of them when I get to that point in our curriculum.
I would like to find more youtube videos to share with the girl and the cow.
I would love if the actual presentation slides were sent to our team to review for their 4th grade curriculum.
I'll use several activities when we come to the energy portion in our science curriculum.
Information on how students can save energy and help their families to become energy efficient at home.
information on recycling
Kahoot
Learning how many items are using alternative fuels.
More hands on activities
Most if not all.
My DLI - Dual language immersion partner is teaching energy. She may use them.
My students loved the light plug!
Our science this year started with energy so we were able to use our lessons along with yours. It really made it easier with our shortened days having your lessons already written out and videos to watch. Thank you.
Pass the Sack and the poster activities
Pass the Sack, The Search for Energy, The Art of Circuits
Passed out the homework for students.
plan on use a few during the Energy unit
Posters
Review energy concepts
Shine a Light on History
Since this is no longer our curriculum, I probably won't use any of it.
So far we have done the Art of Circuits.
Some of the activities required things we did not have. We used the video, electrical circuits, and heat transfer with a bright idea, using batteries, light bulbs, infarred thermometers to see how thermal heat is different depending on the color of a car, paper. We ill be making solar ovens to continue our investigation of heat.
The 3 R's.
The activities actually go right along with our Science unit on Energy. We will be using each I think.
The adding and multiplying decimals activity
The Art of Circuits
the art of circuits
The Art of Circuits
The art of circuits and the search for energy.
The candy running out.
The games and some activities when we actually talk about Energy
The math lessons and the discussion questions
the poster
the poster
The posters and send home info guides.

What additional activities did you or will you use from the Teacher Guide?

The posters that came with the materials
The posters that came with the materials
The posters tie right into our science lessons. Also, the experiments are great.
The two posters, then I used the guide of how to present. I didn't dig much deeper than that this year due to time limits.
the videos
Tied it into our new science core
Tied it into our new science core
Used this information with our ENERY unit for 4th grade.
Used various information to support energy transfer
Videos
We continue to discuss how to be environmentally friendly
We did a science unit on renewable resources
We did not do additional activities because of time constraints.
We did the BINGO game and read the story about energy.
We did the Lingo and may use a few others
We discussed the reasons to save energy.
We discussed what energy was and ways that we can generate it.
We explored all the ways we use energy, the main sources of energy for Utah and what energy is.
We had a classroom discussion about what they learned.
We have done a whole unit on Energy so this was amazing!
We have just finished our lesson on energy - so we are looking for next year to use some of the lessons in the guide.
We have talked about being Wattsmart quite a bit. We are also very careful to turn out our classroom lights when we leave.
We made our own circuits - the diagrams helped.
We participated in the interactive lingo video then had a discussion about ways we could conserve energy at home and school, and even around our community
We referred to the included posters often as we further investigated electricity.
We reviewed much of the material in a power science day where we rotated from teacher to teacher,, each teacher taking a concept and sharing an activity.
We talk about what they can do personally to save energy and that every little bit helps. We discuss about weekly
We talked about energy.
We tied what we learned into our energy unit for science.
We use the posters as a jumping off point for essays.
We used it to discuss renewal vs. nonrenewable energy sources.
We used the activities to supplement our unit on where energy comes from and types of energy.
We will be using energy sticks and studying more about how electricity is created.
We will build a series and parallel circuit.
We will continue to discuss the concepts learned
We will reference some of the activities when we study this more in our science unit.
We've continued to use the Teacher guide in conjunction with our science program.

What would you tell other teachers about the program?

Awesome presentation! Very educational and engaging for the kids.
Definitely!
Do it ! Valuable material presented in a fun and interesting way.
Do it!!
Electricity is explained in a way that my students really understood the concept.
Energy is now part of the 4th grade core. By participating in this program, students get to see a real-world use of energy and they are able to make home, school and community connections.
Engaging for students and supports our curriculum.
Excellent
Fun activities to aide in standard 4.2.3
Fun and engaging
Good information for students and their parents on saving money on electricity at home
Good information on being Watt Wise.
Great at getting students interested in how to conserve electricity. Knowledgeable presenters and great videos that my students loved. Good incentives for turning in the survey; my students were very motivated and so was I! :)
Great introduction to different types of energy.
Great presentation
Great program!
Great program. Do it if you get a chance.
Great resource!
Great supplement to fourth grade science. Easy to use and implement.
Great way to help students understand conservation of resources.
I learned a lot about energy-saving tips myself! I definitely feel it is a worthwhile program.
I loved that it was a virtual option so that I could incorporate it into my plans when I had time. The Lingo game was a fun way to keep kids interested and watching.
I loved the presentarion. I think it was very helpsul, very visual, and the kids were very engaged. I'm already planning next year's.
I share it with my 4th grade team members every year.
I think it's an awesome program with a great incentive.
I think this year the program was the best yet. It's informative, fits with our curriculum and involves the students and keeps their attention.
I will happily refer! My students retained the information two months later!
I would encourage them to do this.
I would highly recommend this program. It integrates with 4th grade science and the students' world. I would love this to be a yearly program in my classroom.
I would recommend it

What would you tell other teachers about the program?

I would say that the presentation is well worth the time. The information is great!
I would tell other teachers that the kids loved it, and that it's helpful and easy to present.
I would tell them it would be worth their time. It goes along with our energy standards very well!
I would tell them that this is a great program and that it goes with the 4th grade science curriculum.
I would tell them to sign up!
I would tell them, "Be sure to sign up for this program! It's, fun and informative!!!"
If fit in great with our new science program.
interactive with the kids and the presenters were very high energy!
It covers a lot of the standards for electricity in 4th grade
It fits our curriculum well. It is also important for students and parents to think about ways they can save energy and thus save money. It is easy to follow and entertaining for students.
It has a great \$50 amazon incentive and it gets kids thinking about saving energy
It helps support our curriculum, it s engaging and fun!
It is a fun way to get families thinking about energy efficiency
It is a good awareness program for our students.
It is a good program!
It is a good segway to energy and energy transfer
It is a great beginning to our student of energy.
It is a great introduction to The Energy Unit
It is a great presentation that aligns with our 4th grade core. You should definitely take advantage of this opportunity!
It is a great program that is quick as you want and easy to do.
It is a great resource to go with our Energy unit
It is a great way to introduce the energy unit or use as a culminating activity.
It is an engaging way to spend 30-45 minutes with little to no prep!
It is an excellent resource for teaching students about being good citizens when it comes to energy conservation.
IT is awesome and great information for the kids to know.
It is easy to use and the students really enjoyed it
It is easy, friendly and worthwhile.
It is excellent and well worth the time. I LOVE the 50\$ gift card. THANK YOU!
It is fun and engaging and gets children thinking about conserving energy.
It is fun and informational and helps us think about ways we can be more energy efficient.

What would you tell other teachers about the program?

It is great, but prefer face-to-face. It is more engaging when presenters come.
It is really enjoyable to teach and fits into the science core nicely.
It is so worth doing!
It is totally worth it for 4th grade science!
It is very informational and aligns with the Core curriculum.
It is very informative and can spark great conversations.
It is very worthwhile.
It is worth doing
It is worth the time. Presenters were engaging and well prepared.
It supports the 4th grade curriculum.
It was a great presentation to align with Science and electricity lessons.
It was a great review of what we've taught.
It was a great to cover curriculum
It was a very good program.
It was easy to use. It was also engaging for the students and informative. I learned some things as well about energy conservation.
It was educational and entertaining
It was excellent and just the right amount of time.
It was fun and a little different activity to do in class.
It was fun and informative!
It was great and easy to do!
It was helpful for students to learn where the energy sources come from in their home.
It was helpful for students.
It was so engaging and the kids loved it!
It was so engaging for students. It was informative. The nightlights are great incentive to return their papers.
It was so fun and engaging and was perfect for our 4th grade science standards. The videos were so relevant and engaging.
It was so good. They should try it!
It was very fun and engaging for the students. They loved getting the night lights too!
It was very good and aligned to the core.
It was very good and went along with our 4th grade science lesson on energy.
It was very informative. It kept our students engaged. It was well worth the time.

What would you tell other teachers about the program?

It's a fun way to get the kids excited about electricity.
It's a good program to help kids understand electricity in ways that are relatable.
It's a good program to implement.
It's a good way to get children interested in energy.
It's a great addition to our curriculum since the kids get to learn about energy conservation and why it's so important.
It's a great intro into our Energy science topic.
It's a great opportunity that is aligned to our core.
It's a great program geared towards kids with simple ideas on how to save energy.
It's a great program to get students thinking about ways to conserve energy!
It's a great program, they should do it.
It's a great way to get students excited!
It's a great way to start discussions with your students about how to conserve
It's a nice way to teach conservation.
It's a worthwhile program with a great incentive. The students really enjoy it.
It's an excellent program, well worth the time. My students continue to remember it, as I refer to concepts we learned.
It's educational and informative. Also, it's engaging and the \$50 incentive is awesome!
It's great and easy to implement.
It's great!
It's well worth the time. Very interesting, and very classroom/student friendly.
It's a good program
It's well worth your time. The kids enjoy it and it makes them think about using their resources wisely. It ties in to the water strand of science in fifth grade when we discuss using resources wisely.
It's worth doing.
My partner teaches that unit.
My students learned about energy before I taught the unit. They were so knowledgeable when we started. It was such a good introduction and I feel it truly helped them visualize and connect to our core concepts.
My students loved it and thought it was a lot of fun!
Next year it will be worth the wait.
Nice resource to supplement science lessons
Perfectly aligned with our core!
Possibly, I feel that our school district had much more for us to teach on energy.
Really great--gets students excited about energy

What would you tell other teachers about the program?

Students were really engaged and enjoyed the presentation.
That is connects to grade level science core.
That is is useful.
That is was engaging and informational, goes right along with our curriculum
That is was engaging and informational, goes right along with our curriculum
That is was super easy to implement and gave good information to the students about energy.
That is was very easy to deliver and that the students have a blast!
That is was very educational.
That it integrated well with the curriculum.
That it is a great one and has a wonderful, important message! Plus \$50...haha.
That it is amazing, and the hand gestures that you teach them about circuitry and energy will be lasting in their learning.
That it is easy to set up, the presenters are friendly, the content is great.
That it is super fun and super easy to participate in.
That it is worthwhile for the kids to participate.
That it really helped me get the unit on energy taught.
That it tied so well with our standards.
That it ties in well with energy unit for science.
That it's a great program
That the presentation is a great introduction and if you use the teacher guide, the lessons are well written and engaging
That the presenters were super engaging and have some great information to share with our students!
That the Wattsmart program is the best organized and simplest way to teach children, especially in these difficult times about circuitry and electricity, plus, conserving energy is so important to teach at this age as well.
The booklet is great to incorporate Science into Language Arts.
The kids enjoyed it.
The kids liked it and the nightlights and grant was nice.
The kids liked it, it was user friendly, I would do it again
The kids love it!
The presentation is a concise way to teach about energy.
The presentation was engaging and educational. It was worth the time.
The presenters were AMAZING and it's worth it!

What would you tell other teachers about the program?

The program gives students environmental awareness that they can pass on to their families. They can develop conservation habits while they are young.
The program helps students understand energy usage and how we can be better at how we use energy in our homes.
The program provides great information for students to learn how to save energy in their homes.
The program was engaging, educational, and easy to use. My students enjoyed it. The content alligned with our science instruction about Energy.
The program was very informative and engaging!
The students really enjoy it.
The video was engaging to my students and they loved the bingo card.
They do a wonderful job teaching the students all about energy. It is well aligned with the core.
This is a good program and the kids really enjoy it.
this is a good way to introduce/support the energy transfer unit in 4th grade
this is a great introduction to energy
This is a great lesson to use as you begin the unit on energy.
This is a great program to be part of.
This is a great program with important information for all families
This is a great program! I love that it encourages kids to make smart energy choices at home or wherever they may be. They need to know that nonrenewable resources are not always going to be there, and that we need to seek
This is a worthwhile program that students enjoy.
This is a worthwhile, excellent program to introduce energy to 4th graders.
This is an awesome presentation!
This is an engaging presentation
This is great for our energy program
This it is a great way to get students thinking about thier electricity use and the home check involves parents with their child's learning.
This presentation was "kid friendly" and had lots of information that they could understand.
This program is a great to help educate students and their families of the programs offered to become aware of energy efficiency. Helped students understand energy in relation to the Utah state science standards.
This program is worth the time and effort-which isn't a lot.
This really helps the students learn about conservation.
To do it.
Use it, build on it and enjoy it
Very informational
Very informative and organized

What would you tell other teachers about the program?

Very well presented and managed.
Wattsmart is a great program to engage your students in learning about energy!
Well worth the time.
Worth the community and environment connection. The kids see that they can start being part of the solution in their own homes.
Worth the time and effort
Worth the time.
Worth the time. Good introduction for kids.

What would you like us to tell the program sponsor about the program?

Awesome job putting it together and providing the means for the program.
Continue to sponsor it please!
Enjoyed it!
Fantastic program
good job
Great online presentation!
Great program.
Great resources for students and their families to reach out to help understand how to become more energy friendly and the programs offered.
I feel like it is getting the word out there and causing families to talk about it at home.
I learned a lot
I learned several new things listening to the program. Very helpful.
I like it better when it is face-to-face.
I love the information and the presentation is awesome
I loved it and even learned new things myself!
I loved it!
I really appreciated the balance of the presentation between presenting and doing hands on activities. Very good vocabulary support for students who speak multiple languages.
I think educating kids when they are 9 or 10 is the time we can engage them and make a difference when they are adults
I think it will help students be more mindful of using electricity.
I think that the students have had more engagement when the presentation is done in person but I think that the presentation created for COVID was fabulous!
I want to do this every year! My students were extremely engaged and talked about the presentation afterwards. It was not a waste of my time.
I would also tell them it is worth the funding, thank you!
I'm not convinced that there is such a thing as phantom power unless a plug has a light or something like that that is actually using electricity. Just a plug in a wall will not use any power until the object is turned on.
If we could maybe have something similar to the PPT the presenters used.

What would you like us to tell the program sponsor about the program?

It gets the students excited about saving energy.
It helps us teach the curriculum in an engaging way.
It is a worth while program.
It is an excellent program!
It is appreciated.
It taught me so much and it's a good reminder.
It was a great platform due to COVID-19 restrictions. Can't wait to have everyone back in person as I believe the students will react better with that than the video.
It was educational and worth our time.
It was engaging and fit in well with our state Science curriculum.
It was fun and informational. The kids liked the night lights.
It was fun for the class and I appreciate the ability to receive the mini grant.
It was perfect for our curriculum.
It would be nice to have the presenters use a microphone or sound system that they bring. Especially during Covid where presenters wear masks and sound is hard to hear.
It's good for the students to think about and to have a conversation at home with families
It's very helpful that the games are already put together for us.
Its a good program.
Keep coming! It was fantastic! It would be nice to have an on-line program too so that kids that are out sick can still benefit.
Keep doing it! It is great information for students and parents.
Keep it up!
Keep offering it! We love it!
Keep offering the program!!
Keep sponsoring it. I learned right along with my students!
Keep supporting this program

What would you like us to tell the program sponsor about the program?

Last year, you contacted me. This year, I contacted you. A reminder at the beginning of the year would be really helpful. Please tell the sponsors that we appreciate having some real world examples to go with our new science core curriculum!

Loved that it's helped my kids with the review.

Loved the interaction with students. They loved it!

My class loved the Wattsmart program and were able to make some great connections with our energy unit in science class! They were also so excited to get a nightlight when they turned in their home energy checklist!

My students & their parents learned about saving energy.

Please keep bringing this program to our schools. The presenters have a enthusiastic way of presenting great materials....I would not have known how to do all of the experiments on my own....neighter would I have had the materials.

Please keep sponsoring this.

Please keep this program going! It is making a difference.

Really knowledgeable--the students LOVED it! They loved the Kaitlynn (sp?) videos too. :)

Same information. Thank you for offering this program to the schools.

Students love this program, the learn so much. The students always ask how does solar panels work, and how do cities clean water. You talk about this in your video but you do not explain.

Students need to learn early to be wise conserving energy. Thank you!

Students were engaged and enjoyed it.

Such a great program. My kids love the circuit lesson!

Thank you

Thank you - Please keep do it!

Thank you :)

Thank you for a fun program

thank you for bringing this program into the schools.

Thank you for creating and supporting a great program.

Thank you for giving our students something they would not have had.

Thank you for giving us an option on helping kids learn how to conserve.

Thank you for helping our students become aware of energy conservation.

What would you like us to tell the program sponsor about the program?

Thank you for helping our students learn about how to be smart when using our precious resources.
Thank you for making this available to students virtually. We all appreciate the extra effort to keep kids learning in a safe environment.
Thank you for making this part of our school year!
Thank you for making this resource available to teachers and students. It is an awesome program.
Thank you for offering alternative ways to present the program. It has helped us feel more normal this year.
Thank you for offering this program. I liked how it was linked to science standards.
Thank you for providing funding this program. My students loved learning about how to save energy in their homes.
Thank you for providing this valuable learning experience for the students.
Thank you for putting this together for us.
Thank you for putting this together. It was very helpful for my students.
Thank you for putting together such a great and engaging presentation for our students.
Thank you for putting together such a worth-while and fun presentation.
Thank you for sharing it with us! I appreciate anything that will help students to become more responsible, educated human beings.
Thank you for sponsoring this program. I felt like the students came away more knowledge about energy conservation. I really liked the video.
Thank you for sponsoring this program. The content fit with our instructional goals. The program was engaging and enjoyable for my class.
Thank you for supplying this for us.
Thank you for teaching our young students to be conscious users of energy.
Thank you for the information and night lights. The lights were a great incentive!
Thank you for the materials and the virtual lesson!
Thank you for the opportunity!
Thank you for the presentation and information!
Thank you for the time and money it took to prepare this program. It may seem small, but any chance a student gets to learn form another adult is very beneficial.
Thank you for this opportunity. It was a worthwhile introduction to energy. I appreciate the Amazon incentive which helped to buy science energy supplies.

What would you like us to tell the program sponsor about the program?

Thank you for this. The students loved it, were engaged and enjoyed the night lights!
Thank you for trying to make this program work for this year.
Thank you for your hard work and incentive it was much appreciated this year with everything else we are doing.
Thank you for your support, the students have enjoyed learning about energy.
Thank you for your support.
Thank you it was great!
Thank you so much for supporting a program that is so engaging, fun, and educational!
Thank you so much for the wonderful classroom gift!
Thank you so much! It was a fun, engaging presentations for my students!
Thank you so much!!!
Thank you to the amazing sponsors that make this program possible. The more people kids hear the info from the better.
Thank you very much for supporting my class!
Thank you very much. We really appreciate this program and their willingness to come to our school.
Thank you, it has impacted me.
Thank you, my students learned a lot about saving energy.
THANK YOU! As an educator who funds my own class on many things, it is great when the community steps up to help.
THANK YOU! I will participate as long as the program is offered.
Thank you! The new science curriculum is slightly challenging. I appreciate the additional activities that you provided to make it more doable.
Thank you! Investing in kids is worth it.
Thank you! It is a worthwhile program!
Thank you! The kids loved the crazy fun scientist videos. It got them thinking about how to save energy and how they can do their part at home.
Thank you! This program had my fourth grade students engaged and learning in ways I could not do on my own.
Thank you! This program helped to this concept better than I could ever do on my own.

What would you like us to tell the program sponsor about the program?

Thank you! Very informative and students liked it! The grant money was very helpful especially this year!
Thank you! We appreciate this amazing program, including the nightlights, teacher guides, and especially the student/family guides that go home!
Thank you. The program was very engaging for my students and successful in helping them see where energy comes from, how it is used, and how we can be more Wattsmart with our energy usage.
Thank you. The students were engaged and it was easy to use
Thank you...this was a great intro to our energy unit
Thanks for all the stuff it was super fun learning about the program with the students.
Thanks for all your hard work. It was user and kid friendly.
Thanks for helping to teach this.
Thanks for making this engaging for 4th grade students!
Thanks for the awesome review for my students about energy.
Thanks for the materials and the incentive for teachers to do it with their kids
That it is perfect program for our kids to hear.
That it is very helpful to get the students thinking about how they use energy.
That it is worthwhile and to keep doing it!
That the in school presentation was AMAZING!
That the parents were very willing to help the kids fill this out together.
That there should not be a time limit for a certain time of the year because, our curriculum is set up so we teach energy at a certain time of the year. We barely began our energy unit two weeks ago.
That's you for the lessonplans
The directions for the BINGO game were a little confusing. We thought we were looking for the words during the entire presentation, not just when they said stop. It wasn't until she said to get out the card and look for the words that I realized we were doing it wrong.
The kids enjoyed the nightlight as an incentive. The only question that kids and parents had was what temperature their water heaters were set at. I didn't know myself how to check this. There was one more, but I cannot remember on the survey. Many parents struggled filling it out so just put will do or don't not knowing. Sorry. Kids loved the activities suggested in book.
The kids really loved it!
The kids were excited

What would you like us to tell the program sponsor about the program?

The presentation goes hand-in-hand with the new SEEd standards. I appreciate having such engaging presenters.
The presenters were very much in tune with the kids and how to keep them engaged. Very entertaining!
The program held my students interest and it was well presented. My class loved the lights.
The students like the night lights.
The students love going home with the night light and telling parents it only costs 17 cents a year!
The students really enjoy it, and it has a great home connection.
The students really enjoy the program and getting their family involved with the survey.
The students really enjoyed the program and were actively involved.
The video was so well put together and had such great content information. It was perfect for what we were learning in our core and the kids were so engaged! They loved the game and learned so much!
They did a fantastic job and we'd love to have them back!
They did a great job
They have been great to ensure we have all the materials and resources we need to make the program beneficial and involving the students.
This is a great program that combines the science of energy and our options for sustainable energy.
This is a great program, that teaches the kids about energy conservation in context. It is very helpful because it is engaging and iinstructive.
This is a program that is so needed in our communities. Sometimes kids are the squeaky wheel needed at home to make a difference in their adults. ;))
This is valuable and relevant information for students and families today. Especially in low-income areas.
This message is important. Thank you for helping to spread it!
This program is fantastic! As a teacher, I learned new things and new teaching techniques.
This program reaches and educates not only students and teachers, but parents and families as well.
This was a perfect introduction to our unit on Energy. Energy is also a new Science Standard for 4th grade so it was good for the me as a teacher to help me understand the energy terminology.
This was good for the kids. Very educational.
This was great! It has great student engagement and a great program! Thank you!
Very good and interesting program

What would you like us to tell the program sponsor about the program?

We absolutely love having the WattSmart program presenters come every year! It is such an important discussion that students need to make better energy decisions.
We love having this program presented to our 4th graders. It connects to our science curriculum perfectly and we refer back to it often. The presenters do such a great job and have excellent management skills.
We love it and it does a good job of enriching our curriculum in a fun way.
We love the WattSmart presentation and incentives! My students were very engaged and knowledgeable about conserving electricity after the presentation.
We loved it and would love to have you come back next year!
We really enjoyed the lesson. It went right along with our unit we are studying.
We really like it.
Well presented

Additional comments and recommendations:

Because we had the presentation early in the year, the students were a bit unprepared for the content. I'd like to do it again online as a review or introduction of our science unit on energy. I'd like to have a bit more time for students to pause and think about the question before the presentation moved on. I wasn't always able to pause it and talk about it.
Come every year! Thank you!
Entering the forms online is a great idea but frustrating when the site times out due to slowness.
Fantastic presentation with lots of engaging activities and thorough assessment tools.
Good information. However, we the lessons should come with the supplies such as 22 red uranium in order to do this type of assignment. Ordering and finding some of these things just adds more to our teacher budget that we need to spend.
Great job! :)
I hope you will visit our 4th grade again.
I hope you'll make this available again next year!
I know it would take more time, but I think the students might learn even more if it was presented to each class separately. Whole grade is a little more difficult to maintain student engagement. Overall, the presentation and presenters do a fantastic job.
I liked how they could do a paper version or a digital version of the form.
I missed the presenters. They were fun!
I ran into concerns from parents that their personal information was being gathered. I assured them this was not the case. Maybe this could be explained at the top of the home survey.
I think it would be useful to show the pictures or physical representations of for example tar and other chemicals
I think you could add saving water during 20 second hand-washing, by turning off the tap while rubbing hands.
I thought the presenters did a good job, and kept the student's interest.
I would do this again each year
I would participate in this program next year. It was well done and taught the concepts in a fun way.
It was great. Thanks!
It was very well done.
Keep doing the program!
Keep the program going.
Kids would like to make conductors like the presenters did when they touched fingers.
Maybe there needs to be a tiny bit more emphasis on the fact that nonrenewable resources get used up and won't always be there in the future.
Please invite us again next year!
Please, can we get a copy of the slideshow presentation to reuse in the classroom?
Thank you
Thank you
Thank you again!
Thank you again. We had lots of parents who rent, and it was harder to convince them to do the survey. They can't make some of the changes.
Thank you and I look forward to using it again.
Thank you for offering this resource.
Thank you for providing the opportunity and materials to our students.
Thank you for providing this for us.
Thank you for the very important information on energy.
Thank you so much!
Thank you so much! I know the kids had a good time. I wish the kids had been able to be conductors of electricity, but I understand this part was probably modified for COVID. Thank you for being so accommodating!
Thank you so much! The at home energy page is extremely hard for the kids to complete for some reason.
Thank you! It was so much fun!
Thank you! The kids loved the nightlights!
Thank you! The program is meaningful and valuable!
Thank you. Really enjoyed this collection of ideas especially since this is my first year with teaching energy and electricity. Great start!!!
Thanks a watt! :)
Thanks again! We look forward to this program so much every year. Hopefully it continues into the future!
Thanks for being willing to come visit!
Thanks for helping with this great program!
Thanks, the kids were very engaged.

Additional comments and recommendations:

The instructions for LINGO were a little confusing. My students thought they were playing LINGO during the presentation and were listening for the terms on their card. It kept them engaged. We played again when it was time for the LINGO game.
The instructors were amazing! I plan on having you back annually.
The kids really enjoyed this.
The person that came to our school (I am so sorry that I do not remember her name.) did an amazing job not only teaching but interacting with the students.
The presenters were excellent. Kept the kids engaged and knew their content.
The presenters were fabulous!
The presenters were very engaging!
The student handbook, and teacher guide were a great resource!
The turn around time for the incentive grant is long. Still haven't received mine.
The turn around time for the incentive grant is long. Still haven't received mine.
This was helpful.
We look forward to having you come back to Fremont Elementary!
We will definitely want to have you guys come again next year.
Well done!
you are great
You rock! Thanks for making this so much fun.

Home Energy Worksheet (English)

Submit online at
thinkenergy.org/Wattsmart

Teacher ID:

Teacher Name:

Student First Name:

Home Energy Worksheet

Heating

1. Install and use a programmable or smart 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 or an evaporative cooling 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 F.
 Have done Will do
 Neither
10. Install a high-efficiency shower head.
 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 inefficient bulbs with 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 old freezers/refrigerators and/or dispose of them in an environmentally safe manner.
 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, TVs and game consoles when not in use.
 Currently do Will do
 Neither

Cooking

19. Use a microwave oven, toaster oven, slow cooker or outdoor grill 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



Home Energy Worksheet (Spanish)

Enviar en línea a
thinkenergy.org/Wattsmart

Identificación del profesor(a):

Nombre del profesor(a):

Primer nombre del estudiante:

Verificación de Energía Doméstica

Calefacción

- Instalar y usar un termostato programable o termostato inteligente.

<input type="checkbox"/> Lo hago	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	
- Calafatear ventanas e instalar burletes en el exterior de las puertas.

<input type="checkbox"/> Lo he hecho	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	
- Inspeccionar el aislamiento del ático y agregar aislamiento si es necesario.

<input type="checkbox"/> Lo he hecho	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	
- Mantener los filtros de aire de la calefacción limpios/reemplazarlos regularmente.

<input type="checkbox"/> Lo hago	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	

Enfriamiento

- Reemplazar la unidad de aire acondicionado existente por una unidad de alta eficiencia o un enfriador evaporativo.

<input type="checkbox"/> Lo he hecho	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	
- Cerrar las persianas cuando las ventanas están expuestas al sol.

<input type="checkbox"/> Lo hago	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	
- Usar un ventilador en lugar del aire acondicionado.

<input type="checkbox"/> Lo hago	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	
- Participar en el programa "Cool Keeper" de Rocky Mountain Power.

<input type="checkbox"/> Lo hago	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	

Calentadores de agua

- Programar el calentador de agua a 120 F.

<input type="checkbox"/> Lo he hecho	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	
- Instalar un cabezal de ducha de alta eficiencia.

<input type="checkbox"/> Lo he hecho	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	
- Tomar duchas de 5 minutos.

<input type="checkbox"/> Lo hago	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	

- Lavar cargas llenas en los lavaplatos y las lavadoras de ropa.

<input type="checkbox"/> Lo hago	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	

Iluminación

- Reemplazar los focos ineficientes con focos LED.

<input type="checkbox"/> Lo he hecho	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	
- Apagar las luces cuando no estén en uso.

<input type="checkbox"/> Lo hago	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	

Refrigerador

- Reemplazar el refrigerador viejo e ineficiente con un modelo de ENERGY STAR®.

<input type="checkbox"/> Lo he hecho	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	
- Desenchufar refrigeradores/congeladores viejos y/o desecharlos de una manera ambientalmente segura.

<input type="checkbox"/> Lo he hecho	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	
- Mantener las bobinas del refrigerador y del congelador e inspeccionar el sello de las puertas dos veces al año.

<input type="checkbox"/> Lo hago	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	

Electrónicos

- Apagar computadoras, televisores y consolas de juegos cuando no estén en uso.

<input type="checkbox"/> Lo hago	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	

Cocinar

- Usar un horno microonda, un horno eléctrico, un olla de cocimiento lento o una parrilla al aire libre en lugar del horno convencional.

<input type="checkbox"/> Lo hago	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	

Reciba paga siendo Wattsmart

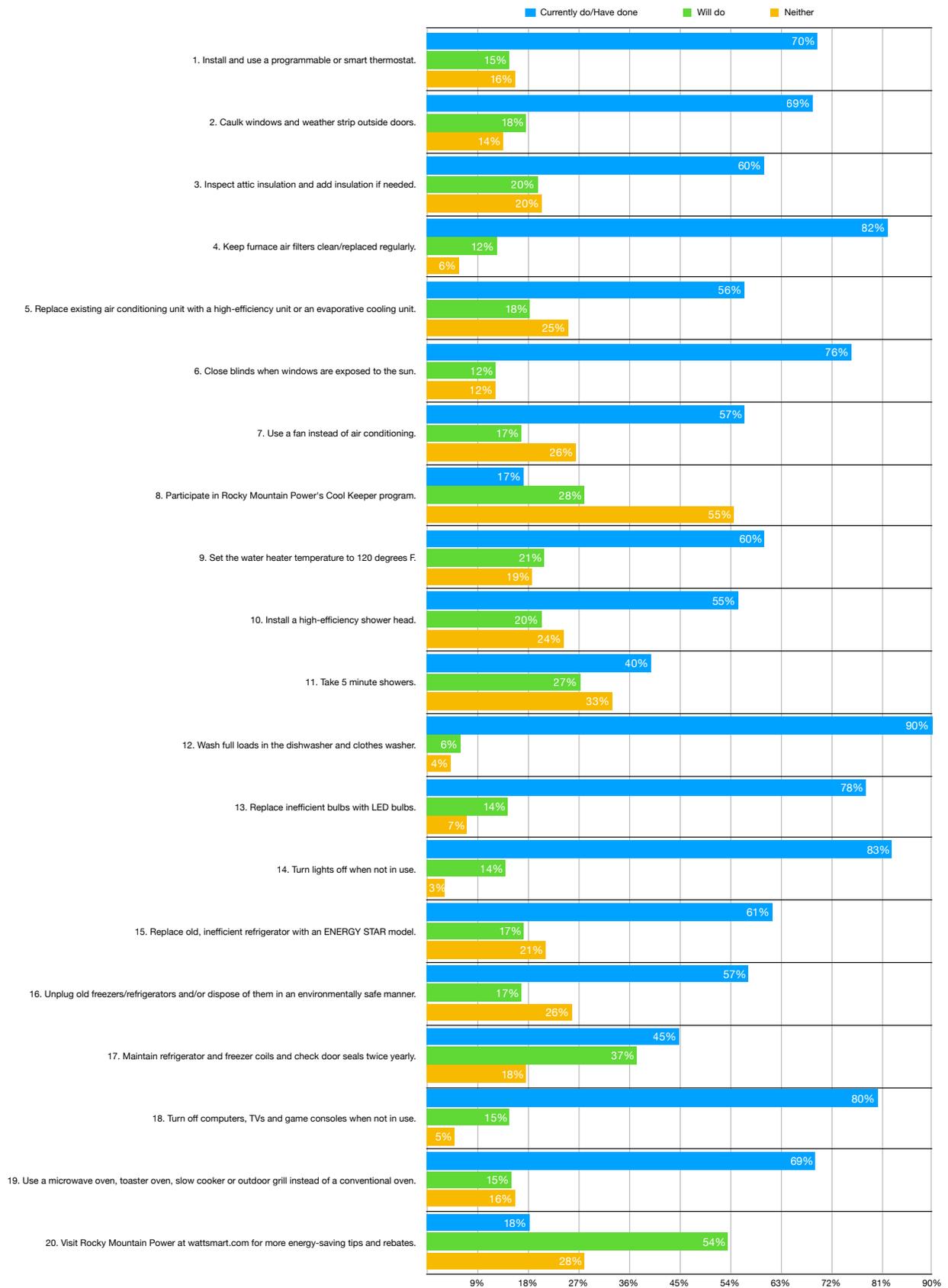
- Visite Rocky Mountain Power en Wattsmart.com para obtener más consejos y rebajas de ahorro de energía.

<input type="checkbox"/> Lo he hecho	<input type="checkbox"/> Lo haré
<input type="checkbox"/> Ninguno	



Home Energy Worksheet Summary – Rocky Mountain Power

Energy Efficient Activity	Currently do/Have done	Will do	Neither
1. Install and use a programmable or smart thermostat.	70%	15%	16%
2. Caulk windows and weather strip outside doors.	69%	18%	14%
3. Inspect attic insulation and add insulation if needed.	60%	20%	20%
4. Keep furnace air filters clean/replaced regularly.	82%	12%	6%
5. Replace existing air conditioning unit with a high-efficiency unit or an evaporative cooling unit.	56%	18%	25%
6. Close blinds when windows are exposed to the sun.	76%	12%	12%
7. Use a fan instead of air conditioning.	57%	17%	26%
8. Participate in Rocky Mountain Power's Cool Keeper program.	17%	28%	55%
9. Set the water heater temperature to 120 degrees F.	60%	21%	19%
10. Install a high-efficiency shower head.	55%	20%	24%
11. Take 5 minute showers.	40%	27%	33%
12. Wash full loads in the dishwasher and clothes washer.	90%	6%	4%
13. Replace inefficient bulbs with LED bulbs.	78%	14%	7%
14. Turn lights off when not in use.	83%	14%	3%
15. Replace old, inefficient refrigerator with an ENERGY STAR model.	61%	17%	21%
16. Unplug old freezers/refrigerators and/or dispose of them in an environmentally safe manner.	57%	17%	26%
17. Maintain refrigerator and freezer coils and check door seals twice yearly.	45%	37%	18%
18. Turn off computers, TVs and game consoles when not in use.	80%	15%	5%
19. Use a microwave oven, toaster oven, slow cooker or outdoor grill instead of a conventional oven.	69%	15%	16%
20. Visit Rocky Mountain Power at wattsmart.com for more energy-saving tips and rebates.	18%	54%	28%

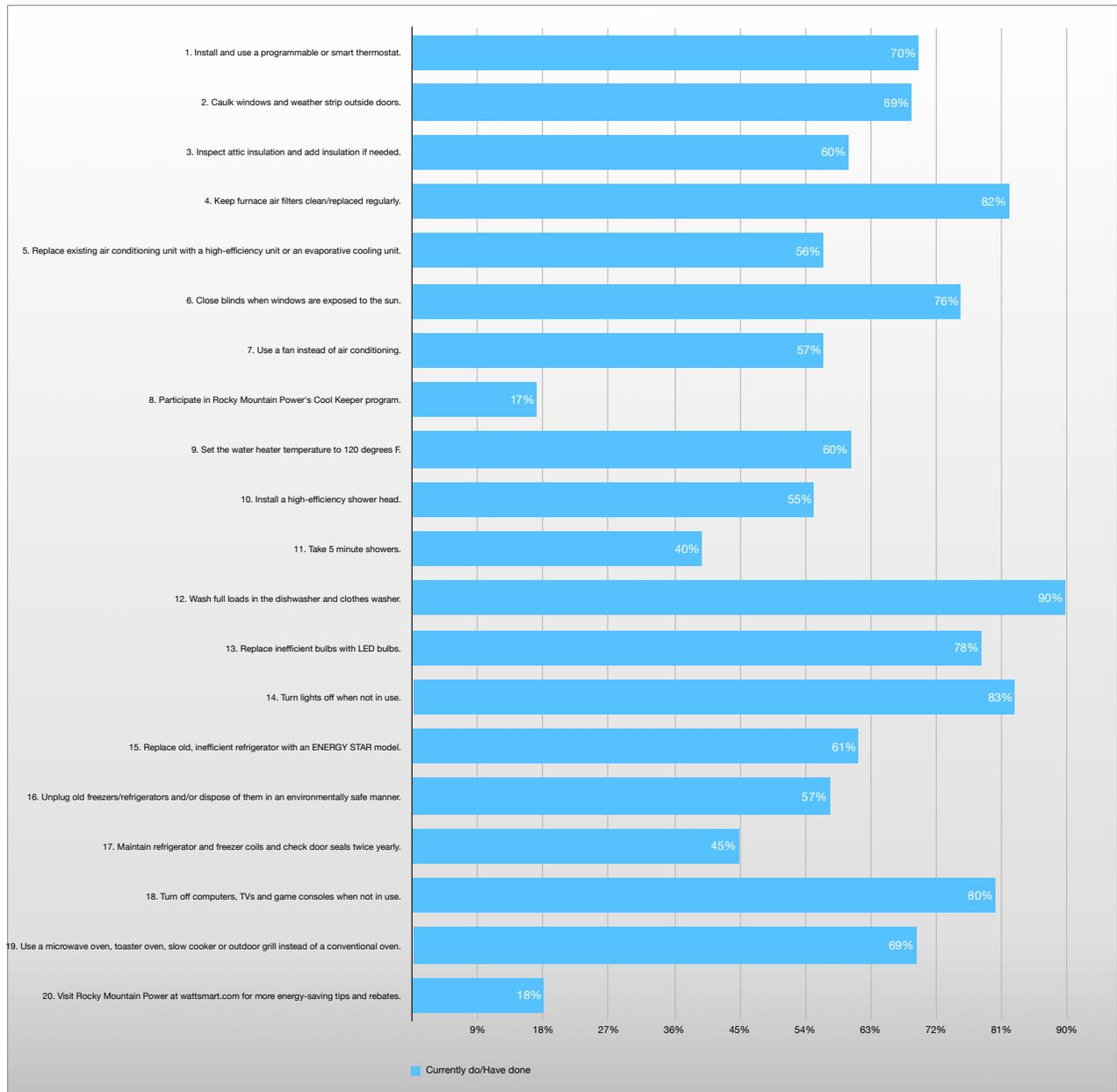


Data Numbers

Energy Efficient Activity	Currently do/Have done	Will do	Neither	Total Responses
1. Install and use a programmable or smart thermostat.	5143	1084	1163	7390
2. Caulk windows and weather strip outside doors.	5030	1300	996	7326
3. Inspect attic insulation and add insulation if needed.	4381	1432	1492	7305
4. Keep furnace air filters clean/replaced regularly.	6012	907	412	7331
5. Replace existing air conditioning unit with a high-efficiency unit or an evaporative cooling unit.	4146	1352	1843	7341
6. Close blinds when windows are exposed to the sun.	5557	905	896	7358
7. Use a fan instead of air conditioning.	4151	1235	1941	7327
8. Participate in Rocky Mountain Power's Cool Keeper program.	1251	2051	3995	7297
9. Set the water heater temperature to 120 degrees F.	4393	1532	1372	7297
10. Install a high-efficiency shower head.	4078	1494	1793	7365
11. Take 5 minute showers.	2925	1994	2419	7338
12. Wash full loads in the dishwasher and clothes washer.	6650	438	315	7403
13. Replace inefficient bulbs with LED bulbs.	5747	1065	536	7348
14. Turn lights off when not in use.	6015	1019	221	7255
15. Replace old, inefficient refrigerator with an ENERGY STAR model.	4516	1276	1556	7348
16. Unplug old freezers/refrigerators and/or dispose of them in an environmentally safe manner.	4211	1241	1889	7341
17. Maintain refrigerator and freezer coils and check door seals twice yearly.	3297	2751	1304	7352
18. Turn off computers, TVs and game consoles when not in use.	5904	1093	365	7362
19. Use a microwave oven, toaster oven, slow cooker or outdoor grill instead of a conventional oven.	5087	1106	1150	7343
20. Visit Rocky Mountain Power at wattsmart.com for more energy-saving tips and rebates.	1338	3954	2072	7364

Wise Energy Behaviors in Rocky Mountain Power Utah Homes

Wise Energy Behaviors in Rocky Mountain Power Utah Homes



Sampling of Thanks a "WATT" Cards

Olivia♥
 Aubrie
 HMTel!!! -g
 Brynleigh♥
 grawey♥
 Jordan
 thanks for coming
 Brexton:
 Bailey
 Hobbs♥
 alicia
 Schofield
 Darren
 Ireland♥
 Harrison
 thank you

Thanks

a "Watt!"

Thank you for providing the **Be Wattsmart, Begin at home** program to our school. We learned how to make a difference, use energy wisely and had fun doing it.

Austar The presentation was a lot of fun + we learned so much!



Auss on ~~WATT~~ Kare Kenlie Thanks :)

LUKE Thank you for coming it was a lot of fun!! Adison



Ave rie Thank you for want you are dowing

Audrey
♥

heeler
THANK YOU!

CADEN



Lily
★

Charlotte
♥

Corambo

Jovi

Paige
Thank
you!

CORA
Thanks
a watt!!!

Thanks

a "Watt!"

Henry
Joe

Harper
♥

Thaden
Kaden

Maddie

Thank you for providing the **Be Wattsmart, Begin at home** program to our school. We learned how to make a difference, use energy wisely and had fun doing it.

heeler
THANK YOU
Carstensen

WATTSMART
BEGIN AT HOME

A.J.

Kaylee
Kaelee

Yaida
Thank
you
♥

max
thank you!

Porter
Makilla



Maddie
Thank You for
offering this great
program!
Heidi Stuart



Thank
you!
♥



Thanks a "Watt!"

Clara
Bea

Thank you for providing the **Be Wattsmart, Begin at home** program to our school. We learned how to make a difference, use energy wisely and had fun doing it.

Romi
it was
so fun!

Adelyn
it was fun!

Stellar

violet

Andrew

We loved the
Caitlyn videos!
She made it so
easy to grasp
the concepts...
in a fun way!
Miss Lexi Jordan

ZACH

Morgan
crew

McKay

WATTSMART
BEGIN AT HOME

WYAG E
I loved your
presintation

A really
great
program.

Blake

Harper
thank you!

Ruby

Eukas

Leah

**ROCKY MOUNTAIN
POWER**

POWERING YOUR GREATNESS



romen

holden

colton
carson

caleb

The presentation was wonderful!!
Thanks!
Lou M Brown
4th grade
H. Lucy Child

Thanks a lot

James Brown

THANK YOU - Parker

Thank you - Karbin

Thanks

thank you for fighting world # - Talia

a "Watt!"

Thank you for teacher-ing me about electricity!

Thank you I learned so much - Alisha

Thank you - Bekah

Thank you for providing the **Be Wattsmart, Begin at home** program to our school. We learned how to make a difference, use energy wisely and had fun doing it.

Thank you a watt for teaching us! Chloe M.

Chloe
Thank you for everything!
-Chloew 4th brown
Lynn Robe

Missy you guys are the best

Thank you so much for are technical skills



Thank you for everything

Carson you do Jamik a

THANKS

Thank you for everything
Aubree & All

Thank you

Thank you
Joel

thanks for everything APPLE :)



Thank you - Oscar

Bodee Powell



Thank you -

Thank you for everything!
Alvin Aryan

王语尧
王语尧
王语尧

王语尧

刘海明

石骏驰

柯远海

Thanks

a "Watt!"

浩文

王语尧

何雅琪

Thank you for providing the **Be Wattsmart, Begin at home** program to our school. We learned how to make a difference, use energy wisely and had fun doing it.

黄老师
曹迪文

WATTSMART
BEGIN AT HOME

马舒怡

任正杰

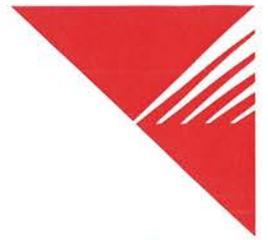
百合

石悦美
马浩十
朱王心
出



陶雯菲
柯利雨

Randon Isaiah Payton



Miles

Farah
Thanks

Sadie

a "Watt!"

GAVIN

Jacobi

Adrianna

Rosary

Thank you for providing the **Be Wattsmart, Begin at home** program to our school. We learned how to make a difference, use energy wisely and had fun doing it.

Kiki Carson

Jodi

Olivia

Wimmering

Bridger

Hannah

Hugo



Alex

Kaydenella

Charles

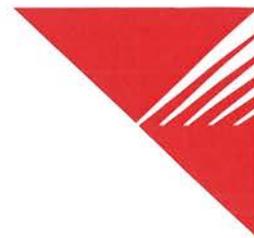
Gretta

Eli

Charlie



Rebekah Hailer



Thanks a “Watt!”

Thank you for providing the **Be Wattsmart, Begin at home** program to our school. We learned how to make a difference, use energy wisely and had fun doing it.

WATT**SMART**[®]
BEGIN AT HOME

Thank you for coming
and teaching us at Olene
Walker Elementary!



2/Mrs. Peterson's
Class

