

Teacher's Guide

AGRICULTURE IN THE CLASSROOM - HELPING THE NEXT GENERATION UNDERSTAND THEIR CONNECTION TO AGRICULTURE.

Resource List

U.S. Energy Information Administration

<http://www.eia.doe.gov/kids/index.cfm>

U.S. Department of Energy - Energy
Efficiency and Renewable Energy

Kids Saving Energy

<http://www.eere.energy.gov/kids/>

Touchstone Energy Kid Zone

<http://www.touchstoneenergykids.com/>

The Power Kids - Choptank Electric Cooperative

<http://www.choptankelectric.com/kids/distribution.html>

U.S. Department of Energy - Lose Your Excuse

<http://www.loseyourexcuse.gov/>

U.S. Department of Energy - Energy
Efficiency and Renewable Energy

Teacher's Resources

<http://www1.eere.energy.gov/education/>

Edison's Miracle of Light - PBS

<http://www.pbs.org/wgbh/amex/edison/>

How Stuff Works - Electricity

<http://science.howstuffworks.com/electricity.htm>

National Energy Foundation

<http://www.nef1.org/educators.html>

California Energy Commission

<http://www.energyquest.ca.gov/index.html>

Discovery Channel School - Electricity

<http://school.discoveryeducation.com/curriculum-center/electricity/>

Mineral Information Institute

www.mii.org

Comments, questions, suggestions and
feedback about Wyoming Mini-Readers are
welcome.

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In less than 100 years, electricity has revolutionized our society. Having electricity to power our tools and games is like having water in our home to cook, bathe and drink. We don't think anything about it, unless for some reason it is not there.

ACTIVITY: Have your students work in groups with each group making a list of items powered by electricity in their homes. Next, have them make a list of items powered by electricity in their community. Next, have them identify each item on their list as either being essential or non-essential. Have the groups of students compare their essential list. What do they have in common?

Electricity is unique in that the power you use was created just a fraction of a second earlier. Electricity isn't stored, it is used as it is made. It comes from the grid. According to the National Geography, July 2010, "The Grid Today is more than 150,000 miles of high-voltage transmission lines that carry power from 5,400 generating plants owned by more than 3,000 utilities."

PAGE 2 Answers

How many tons of coal are used by the Jones family? 27,800
divided by 2500 = 11.12 tons

How many pounds does this equal?

$11.12 \times 2000 = 22,240$ pounds

How many pounds does each person use?

$22,240$ divided by $4 = 5,560$ pounds

How many pounds does each person use per day?

5560 divided by $365 = 15.23$ pounds

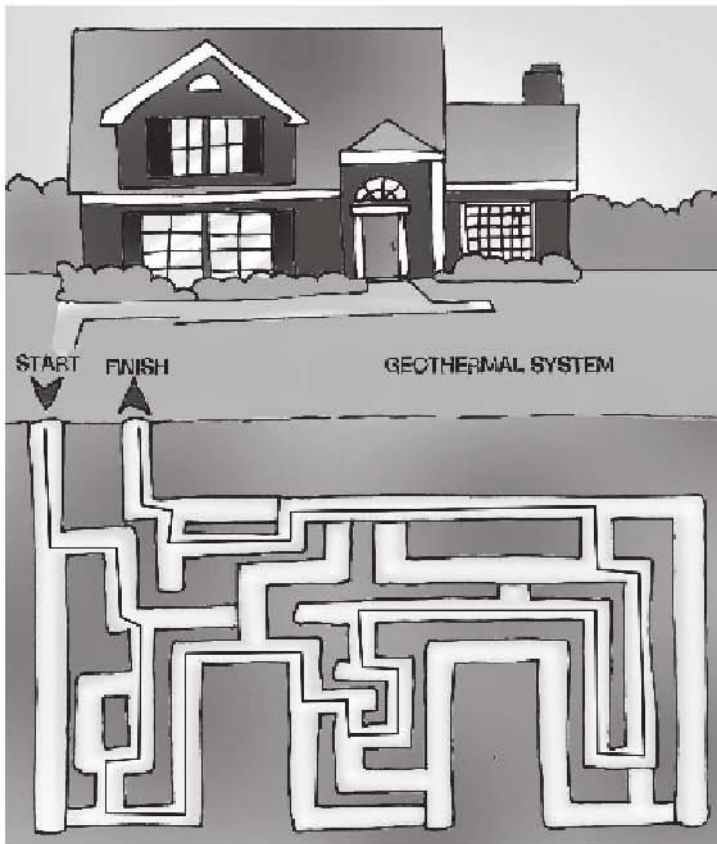
Which appliance takes the most electricity to run each year?
the electric furnace

What percentage of the total kilowatt-hours does the electric
furnace take to run? $18,250/27,800 = 65\%$

ACTIVITIES:

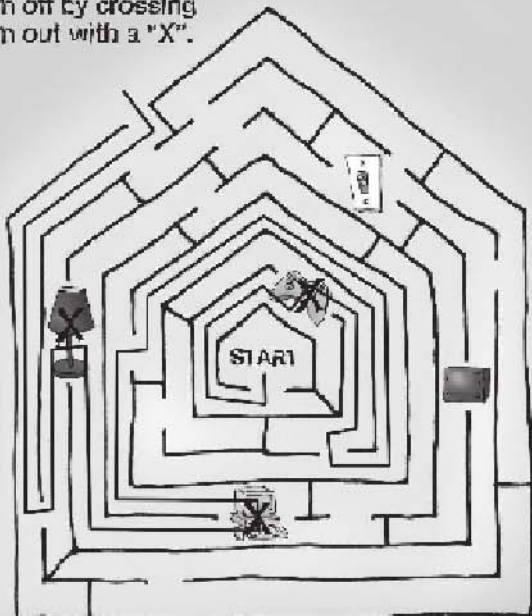
After your students have read this page, have them write a few sentences explaining the difference between a kilowatt and a megawatt. Next have them explain the difference using math.

Have your students write a paragraph describing what their life would be like if there was no electricity. Have students share their paragraphs. Sharing their ideas should give students more insight in the roles electricity plays in their lives. Next, have your students write one page on what their life would be like without electricity. Have them talk to their parents and grand parents to provide input in this writing assignment



The path to saving energy

Sometimes trying to get out of your house can seem like a maze - especially when you have to make sure that everything is turned OFF before you go! It's very important, however, to turn off lights, and TVs, and video games when you're not using them and when you're leaving home. On the way out of this maze you'll see light switches and other electronic equipment that you should "turn OFF" as you pass through them. Turn them off by crossing them out with a "X".



Questions & Answers About Saving Energy

Q. What is energy conservation?

A. It's another way to say "saving energy" - "conserve" means to "avoid using." When we turn off a light, we're conserving energy.

Q. What is energy efficiency?

A. Energy efficiency also means using less energy - but this term means using products that don't waste energy. For example, the ordinary light bulbs you might use at home waste almost all of the energy they use - most of the electricity turns into heat. An energy-efficient light bulb turns almost all of the electricity it uses into light.

Q. Why is it so important to save energy?

A. Energy isn't free. The grown-ups in your house pay for the all the electricity you use. So wasting energy is the same as wasting money - and we know that's not a good idea! Wasting energy isn't good for the environment either. Most of the energy sources we depend on, like coal and natural gas, can't be replaced - once we use them up, they're gone forever.

Q. What's the best way to save energy at home?

A. It takes a lot of energy to heat your house during the winter, so lowering the thermostat a few degrees can make a big difference. During the summer, using a fan instead of turning on the air conditioner will save a lot of electricity.

Q. Which appliances use the most electricity?

A. Of all the big appliances in your house, the refrigerator uses the most energy.

Fun Facts about saving energy

- A heavy coat of dust on a light bulb can block up to half of the light.
- Across America, home refrigerators use the electricity of 25 large power plants every year.
- A hot water faucet that leaks one drop per second can add up to 165 gallons a month. That's more than one person uses in two weeks.
- An energy-smart clothes washer can save more water in one year than one person drinks in an entire lifetime!
- When you turn on a regular light bulb, remember that a compact fluorescent light bulb uses 75 percent less energy than a regular bulb - anytime.

This Mini Edition of Country to Classroom helps achieve the following Wyoming Standards:
 Career/Vocational
 CV4.6.1 Students identify various occupations
 CV4.6.2 Students describe how current learning relates to career options.

Language Arts

Reading: Students use the reading process to demonstrate understanding of literary and informational texts.

LA3.1A Students use the reading process to apply a variety of comprehension strategies before, during and after reading.

LA3.1A.2 Student comprehend main idea and supporting details.

LA3.1A.5 Students make connections among texts and themselves.

LA3.1B Students read and interpret literature.

LA3.1C Students demonstrate understanding of informational texts.

LA3.1C.5 Students follow simple multi-step written directions

LA4.1A Students use the reading process to apply a variety of comprehension strategies before, during and after reading.

LA4.1A.8 Students understand grade-level-appropriate technical and subject specific vocabulary

LA4.1B Students demonstrate an understanding of literary texts.

LA4.1C Students demonstrate an understanding of informational texts.

LA5.1A Students use the reading process to apply a variety of comprehension strategies before, during and after reading.

LA5.1A.2 Student understand grade-level-appropriate technical and subject-specific vocabulary.

LA5.1C Students demonstrate understanding of informational text.

Math

Number operations and concepts: students use numbers, number sense and number relationships in a problem-solving situation.

MA3.1.1 Students use the concept of place value to read and write designated numbers up to 9,999.

MA3.1.4 Students demonstrate computational fluency with basic facts.

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MA5.1.1 Students use the concept of place value to read and write designated numbers up to 9,999.

MA5.1.2 Students demonstrate computational fluency with basic facts for all four operations, including identifying multiples and factors of designated numbers up to 100.

Page 8 Answers

