

Using Energy Wisely in Your Community



Problem Solving and Critical Thinking

OVERVIEW

This unit, designed primarily for grades 2 and 3, will broaden and strengthen students' thinking about energy in the community and how energy can be used wisely through good decision-making. This unit will focus on how communities use energy. The unit will include activities that allow young children to explore energy use as a community and understand where communities are using renewable energy sources with solar and wind energy.

OBJECTIVE

The objective is for second- and third-grade students to begin to make connections with energy use in their community.

SUGGESTED TIMEFRAME

Days	Time	Activity Title	Content Knowledge	Process Skills
1	45-60 minutes	Community Walk	Social Studies, Science	Engage, Explore
2	30-45 minutes	Be a Reporter	Language Arts	Explore, Explain
3	30-45 minutes	Energy Efficiency for Your Community	Social Studies, Science, Language Arts, Math	Elaborate
4	30-45 minutes			
5	30-45 minutes	Hydro-Electric Power for Your Community	Social Studies, Language Arts	Evaluate

MATERIALS FOR THE WEEK

Daily Activities

DAILY ACTIVITIES

Day 1: Community Walk

Take a walk around your school and make notes about where you find signs of energy usage, (power lines, neon signs, phone lines, office buildings or stores, street lamps, cars). Ask students where they think the energy comes from. Do they think it is renewable or non-renewable?

Tell students that tomorrow you will have a guest speaker or guest panel and they will need to act as reporters. Brainstorm a list of questions students might want to ask. Tell them that, at the conclusion of the presentation, they will be asked to write a newspaper report about what they heard.

Day 2: Be a Reporter

Invite someone from your local power company as a guest speaker or a panel of speakers, such as a power company representative, an architect or home builder, a "green" company representative, etc. Ask them to explain where the community's energy comes from and what they are thinking about related to renewable energy....what are the things they are trying? What is working? What are the obstacles?

At the conclusion of the presentation, ask students to write a newspaper article about what they heard. They should be able to answer all the "who, what, when, where, how, now what" questions in their article. The article can only be 200-250 words.

Day 3 and 4: Energy Efficiency for Your Community

Tell students that every time they buy new heating or cooling equipment, appliances, consumer electronics or office equipment for their home, their choices affect the environment. Smart buying choices not only help the air we breathe but also reduce our energy bills. Their family can save money and the environment by understanding the basics about home energy use and by selecting the most energy efficient products.

Tell students they want to buy a new clothes washer. Give students the information on the four washing machines listed below. At first glance, which one would they buy (give them one minute to decide). Now explain to students about the various categories for comparison, including Energy Star. Tell them that when buying an appliance, remember that it has two price tags: what you pay to

take it home and what you pay for the energy and water it uses. ENERGY STAR qualified appliances incorporate advanced technologies that use 10–50 percent less energy and water than standard models. The money you save on your utility bills can more than make up for the cost of a more expensive but more efficient ENERGY STAR model.

In small groups (families), ask students to take more time and decide as a group which washing machine they would buy. Ask each group to present their decision. Ask them how they made their decision; what factors figured most in their decision; and what else would they like to know. Where could they go to find out more information?

Then ask the whole class to come to consensus on which one they would buy as a whole community.

Try the exercise again with the refrigerators.

Washing Machines

OVERVIEW				
Description	Epic™ Front-Load Washer	Front-Load Washer	Centennial Top-Load Washer	Centennial Top-Load Washer
Type	Front-Load	Front-Load	Top-Load	Top-Load
Price (MSRP)	\$999.00	\$699.00	\$579.00	\$499.00
GENERAL				
Fuel Type	Electric	Electric	Electric	Electric
Energy Star	X	X		
CAPACITY				
Total Capacity	3.8 cu. ft.	2.4 cu. ft.	3.2 cu. ft.	3.2 cu. ft.
CONTROLS				
Time Remaining Indicator	X	X		
End of Cycle Indicator	Chime	Chime		
Lockout Option	X	Child Lock		
DISPENSERS				
Detergent Dispenser	Automatic	Automatic		
Bleach Dispenser	Automatic	Automatic	Automatic	Automatic
Fabric Softener Dispenser	Automatic	Automatic	Automatic	Automatic
FEATURES				
Agitator			Flexcare Agitator	Flexcare Agitator
Internal Water Heater	1000			
DIMENSIONS				
Height	37 3/8 Inches	33 1/4 Inches	44 Inches	44 Inches
Width	27 Inches	23 3/4 Inches	26 7/8 Inches	27 Inches
Depth	31 1/2 Inches	25.2 Inches	25 1/2 Inches	27 Inches

Refrigerators

OVERVIEW				
Description	Side by Side Refrigerator	Wide-by-Side Side by Side Refrigerator	Wide-by-Side Side by Side Refrigerator	Side by Side Refrigerator
Type	Side by Side	Side by Side	Side by Side	Side by Side
Price (MSRP)	\$1699.00	\$1549.00	\$1299.00	\$1099.00
APPEARANCE				
Colors	High-Gloss White High-Gloss Black Stainless Steel	White Black Stainless Steel	White Black Bisque Stainless Steel	UltraFinish™ Steel
GENERAL				
Fuel Type	Electric	Electric	Electric	Electric
Energy Star	X	X		X
CONTROLS				
FREEZER COMPARTMENT				
Automatic Ice maker	X	X	X	X
Freezer Lights	X	X	X	X
Wire Freezer Shelf		2		
Fixed Shelf	2			3
Wire Freezer Shelves			4	
Adjustable Pick-Off Freezer Door Bins				4
Adjustable Pick-Off Door Bins		2		
FREEZER DOOR CAPACITY				
Total Capacity	25.6 cu. ft.	25.6 cu. ft.	25.6 cu. ft.	25.6 cu. ft.
REFRIGERATOR COMPARTMENT				
Fixed Shelf	2			3
Spill-Catcher™ Glass Crisper Shelf	1	1	1	
Sealed Glass Crisper Shelf				1
Adjustable Spill-Catcher™ Shelves				3
Easy-Glide Tempered Glass Shelves	2			
Adjustable Spill-Catcher™ Easy-Glide Shelves		2	3	

REFRIGERATOR COMPARTMENT (continued)				
Snack Drawer			1	
Egg Bin With Lid	Removable	Removable		
Egg Tray with Handle			Removable	
Two Liter Tilt-Out Door Bin	1			
Pick-Off Gallon-Plus Door Bins	2	3	5	
DIMENSIONS				
Height	70 Inches	70 Inches	70 Inches	70 Inches
Width	35 5/8 Inches	35 5/8 Inches	35 5/8 Inches	35 5/8 Inches
Depth	33 1/4 Inches	33 1/4 Inches	33 1/4 Inches	33 1/4 Inches

Day 5: Wind Power for Your Community

Pose the following problem to your students:

You own a home in the country. The local government officials have proposed building wind turbines on your ranch that would benefit the entire city. As a homeowner, you are really worried that the turbines will take away from the beauty of your land. You are also concerned about the effect the wind turbines on birds and other wildlife that use the ranch for their habitat. Another concern is that your property may lose some of its value for resale. You realize that your city needs to supply electric power to all its citizens as cost-efficiently as possible. Should you:

- hire a lawyer and prepare to sue the city for loss of property value;
- form a group of homeowners to meet with the city planners and explore possible alternatives;
- sell your property before the project is begun;
- decide the needs of the city are more important than either the consequences to you personally or the ecological costs; or
- do something else.

In small groups, ask students to think about what they would do and present their decision to the whole class.