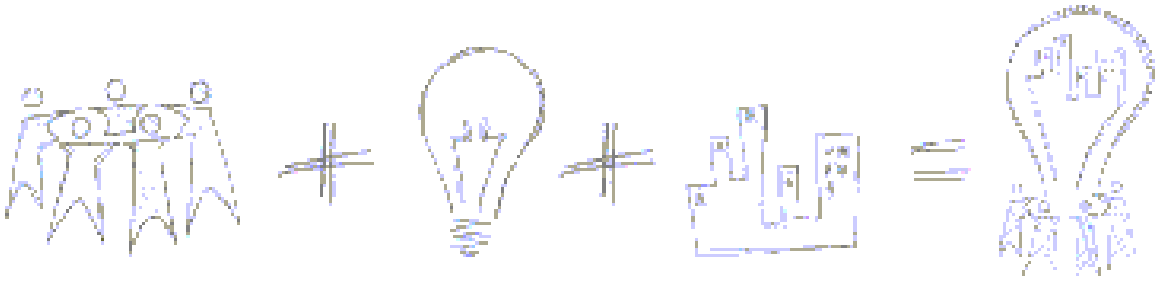
Energy



We often take energy for granted – assuming it'll always be there, easily assessable and affordable. But recently with the power outages and rising cost of energy we need to think more about conservation and what we can do to better utilize what we have. This is a topic that affects everyone!

During this unit we:

- Heard from People's Energy about the causes of increasing gas prices
- Discussed how to conserve energy in our homes
- Understood the different charges on our gas bill
- Visited museum exhibits that explained different energy sources
- Watched a video that identified renewable energy sources
- Talked about different forms of energy

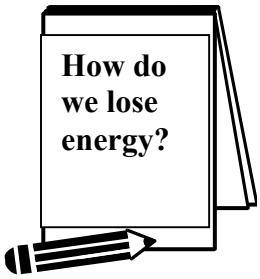
To add to your resources this section will:

- Share your applications
- List additional resources
- Provide sample forms to utilize

Take it From US

#1 This activity will teach: HOW TO SAVE MONEY ON ENERGY USAGE
Skills Utilized: reading, following instructions, making comparisons, addition, subtraction
Resources Needed: gas bill, list of conservation techniques
Activity: • **I had my kids insulate our house for winter, including sealing the window frames and unused doors with plastic. We also reviewed the gas bill over several months to see if our efforts were paying off, literally!** • **One other activity that we did was to learn how to read a meter. I called the gas company and they sent a help sheet that told us how to read the meter correctly. We then read it each month and compared our reading to the one on our bill to make sure we were not being over billed.**
Hints: It would be fun to play a game to find all the ways we lose energy in the house – then brainstorm ways to reduce or eliminate that.

Think about your home and how we use energy to heat, cool and light the house. How are we losing some of that energy? Once you get a list come up with any and all ideas on how you could reduce that loss AND SAVE MONEY



Ways We **LOSE** Energy	How to **REDUCE** that loss
1.	1.
2.	2.
3.	3.

Now that we've talked about energy in our homes let's track how much we are paying and if your ideas help to reduce the cost (See next page).

Our Utility Bills						
	Gas		Electric		Water	
	2001	2001	2000	2001	2000	2001
Jan						
Feb						
March						
April						
May						
June						
July						
August						
Sept						
Oct						
Nov						
Dec						

You can also use these numbers to help figure out your budget in the INCOME/CHOOSING WEALTH section

#2 This activity will teach: CHANGES IN ENERGY USAGE OVER TIME

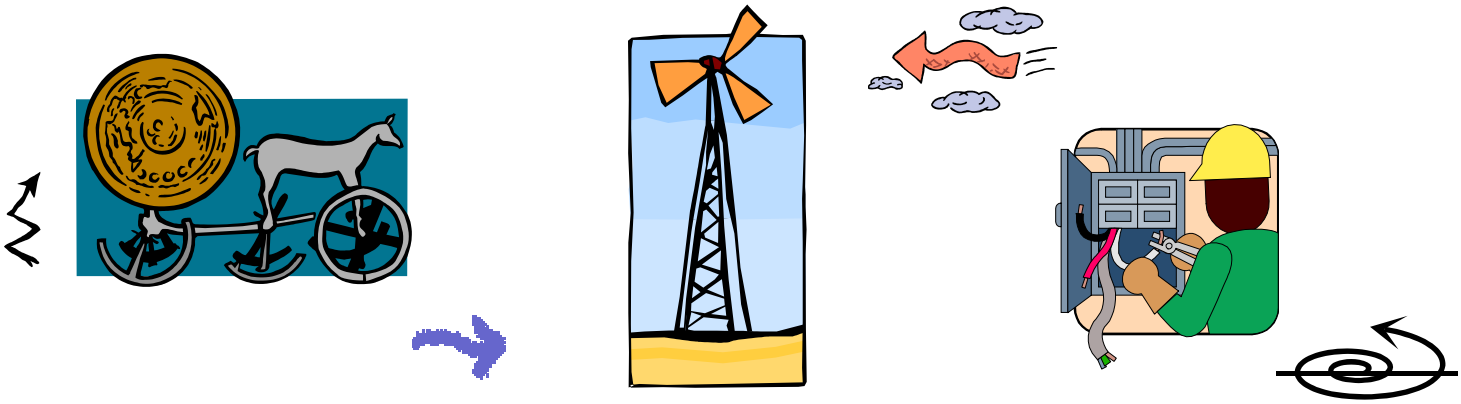
Skills Utilized: reading, listening, making comparisons,

Resources Needed: museum, paper, pencil

Activity:

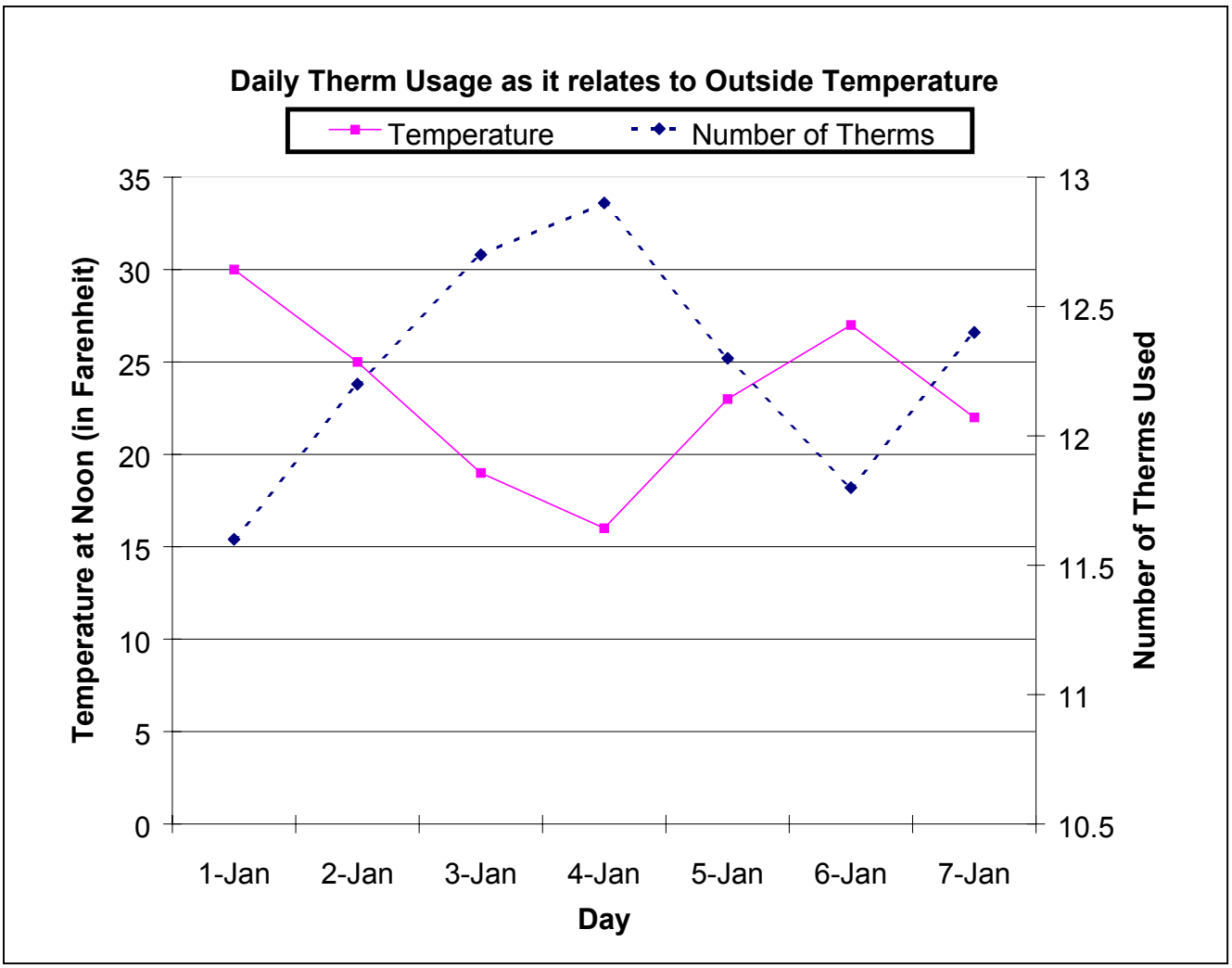
- **My grandkids and I visited the museum to look at exhibits on energy. We stopped to really read the exhibits, ask questions, and take notes. I had them pay special attention to the dates stated in the exhibits we were looking at and think about the progress that has been made in the energy field since then. My grandchildren were surprised to learn that many energy innovations happened in my lifetime. I told them about my experiences with changing energy usage.**

Hints: Pretend to go back before electricity was common. Have your children figure out ways that your family could use sunlight to light up rooms instead of electric light when possible. Talk about how taking advantage of natural energy can save money.



#3 This activity will teach: THE DIFFERENT ENERGIES THAT PLANTS NEED TO SURVIVE
Skills Utilized: observation, graphing, consistent plant care
Resources Needed: seeds, dirt, containers, water, paper, ruler, pencil
Activity: • **Choose a plant that grows quickly, such as beans. Plant three different pots of plants. Have your child plant the seeds by putting soil in a pot and placing several seeds well below the surface of the dirt.** - **Pot 1 should receive both types of energy: light and water.** - **Pot 2 should be put in a dark place but watered regularly.** - **Pot 3 should be exposed to plenty of sunlight, but not watered.** **Your child should make a chart for each of the pots and chart their growth each day. They can measure the height of each plant with the ruler, but should also note down if appearances other than height are different among the plants. Talk with your kids about how plants require different types of energy, such as light and water energy to make food and grow, just as we also need food and sleep to grow. You can add that our bodies also absorb vitamins from the sun, just as plants do, that help us grow stronger.**
Hints: Your child can plant additional pots and try alternating positive energy, such as talking favorably to the plant, and sound energy, such as playing music or singing to the plant, with light and water energy to see if these types of energy can also make a difference.

#4 This activity will teach: HOW ENERGY USAGE CORRELATES TO OUTSIDE TEMERATURE
Skills Utilized: reading, graphing, making comparisons, reading a gas meter, subtraction
Resources Needed: gas meter, outdoor thermometer, paper, pencil, ruler
Activity: • **Have your child record the temperature outside everyday at the same time for a month and graph it. Also have your child read the gas meter everyday for the same month. Figure out how much gas is used each day, in therms, and have them graph that on the same chart as they are graphing the temperature. At the end of the month, they can compare how the temperature changes to how your home's energy usage changes. Point out to them that there is a direct correlation, when temperature rises, energy usage lowers, and when temperature lowers, energy usage rises.**
Hints: Compare the relationship between temperature and energy usage to a see-saw. Talk about other inverse relationships that your children may be studying, such as supply and demand.



#5 This activity will teach: ENERGY CONSERVATION
Skills Utilized: reading, making comparisons
Resources Needed: gas bill, 8 100-watt light bulbs, 8 60-watt light bulbs
Activity: • **This activity will extend over a two-month period. For the first month, the youth will replace all the light bulbs in the home with 100-watt bulbs. At the beginning of the second month, the 100-watt bulbs will be replace with 60-watt bulbs. At the end of the two months, compare your electric bills and determine which light bulbs, the 100-watt bulbs or the 60-watt bulbs used the most energy.** 
Hints: Plug in night lights at night instead of leaving an overhead light on.

#6 Topic: ENERGY
This activity will teach: DIFFERENT TYPES OF ENERGY
Skills Utilized: reading, map reading, making comparisons
Resources Needed: museum including exhibits on energy, pencil, paper
Activity: • **Have your children visit the museum with a focus on energy. Have them locate exhibits that explain different types of energy on a museum map and then explore the exhibits. Thoroughly research the different types of energy finding out where different sources are found, how they are obtained, and how they are converted into usable forms. Compare and contrast the different types of energy that you learn about.**
Hints: A great example is the coal mine exhibit in the Museum of Science and Industry.

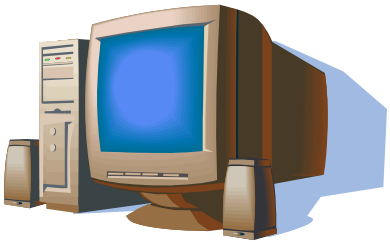
Type of Energy	Where is it found?	How is it obtained?	How is it converted into a usable form?	Similarities and differences with other types of energy

Resources

Written Materials

Energy by: Jack Challoner
Consumer Education Materials

Computer Websites
www.energy.ca.gov/education
www.miamisci.org/af/sln
www.ceco.com/comed (Commonwealth Edison)
www.pecorp.com (People's Energy)



People to Talk to

Commonwealth Edison
People's Energy
Center for Neighborhood Technology – 773-278-4800
Local energy cooperatives