Unit 2

Grades K-3

Finding Energy in Your School and at Home

RENEWABLE ENERGY THE INFINITE POWER OF TEXAS

Awareness

OVERVIEW

In Unit 1, students began to develop an understanding of what energy is and how it works. They explored kinetic and potential energy though a variety of center activities. At the end of Unit 1, children identified objects in their daily lives that use energy.

In Unit 2 children will focus on how energy is used in places closest to them—their school and their home. Activities in this unit allow children to explore their surroundings examining systems where energy is at work (i.e. heating/cooling, cooking, hot water usage, dish washing, clothes drying, cars, etc.).

OBJECTIVE

Students will learn how they use energy every day in their school and at home.

SUGGESTED TIMEFRAME

Days	Time	Activity Title	Content Knowledge	Learning Cycle Components
1	45 minutes	School Scavenger Hunt	Science, Geography,	Engage, Explore
2	45 minutes	Interviews	Language Arts, Communication	Explore, Explain
3	45-60 minutes	Saving Energy Posters	Science, Language Arts	Elaborate
4	30-45 minutes	My Home; Your Home	Language Arts	Elaborate
5	30-45 minutes	A Day Without Energy	Mathematics, Language Arts	Evaluate

MATERIALS FOR THE WEEK

Chart paper, markers

DAILY ACTIVITIES

Day 1: School Scavenger Hunt

Tell students that this week they are going to explore energy in their school and see if they can find the answers to the questions below. Place the following questions on the board or chart paper and review with students.

1. What kind of energy heats our school in winter?
2. What kind of energy cools our school in summer?
3. What kind of energy cooks our food?
4. What kind of energy heats our water?
5. What kind of energy runs our school buses?
6. What kind of energy powers our lights and our computers?
7. What kinds of things does the school recycle?
8. How do we waste energy?
9. How do we save energy?
10. What things can we do to save more energy?

Provide every student with a copy of a map of the school. Take a walk around the school and use a "key" to mark the location of various things that use energy. For example,

Key	
L	Lights
D	Dishwasher
C	Computers
HW	Hot Water
H	Heater
AC	Air Conditioner
P	Projectors
W	Windows
B	School Buses
(Add your own)	

When students return, ask students to analyze their map to see how many different uses of energy they found and what the source of most of the energy was. You may also want to create a class graph to illustrate the sources or uses of energy. Have them write their observations or "learnings" in their science notebook. Review the questions above again and see which questions they can answer. Ask them to add anything they heard in the discussion of the question to their science notebooks.

Let them know that tomorrow they will be talking to people who work at school to see how they use energy to run the school "efficiently." You may want to have students develop a list of questions to ask the custodian, food service personnel, principal, or others in the school that are concerned about energy usage.

Day 2: Interviews

Ask the custodian, food service person and/or others to visit your classroom and talk about how the school uses energy, what they do to help the school use energy wisely, and why they believe that it's important to do so.

For younger students, the teacher should take notes and write the responses to the questions for later use. For older students, encourage them to take notes and write the responses to the questions in their science notebooks. After the interviewees have left, ask students what they were surprised by, what they thought was most interesting and ways in which they think the school could save energy.

Day 3: Saving Energy Posters

Give small groups of students chart paper to create a poster for the school that tells about energy use at school and provides a suggestion to other students about how to save energy. Hang the posters outside your classroom or in the halls for all to see.

Homework: Tell students that people didn't always have energy in their homes except for natural energy like sunlight or candles. Today, however, our houses have dozens of appliances, toys and tools that use energy every day. Their homework is going to be to take an energy inventory of their house and see just how much they depend on energy. Choose three rooms in your house and walk through each room writing down all of the things that use energy. Record your findings on this sheet. This homework is for Day 4. Students should ask an adult to help them fill in the chart below.

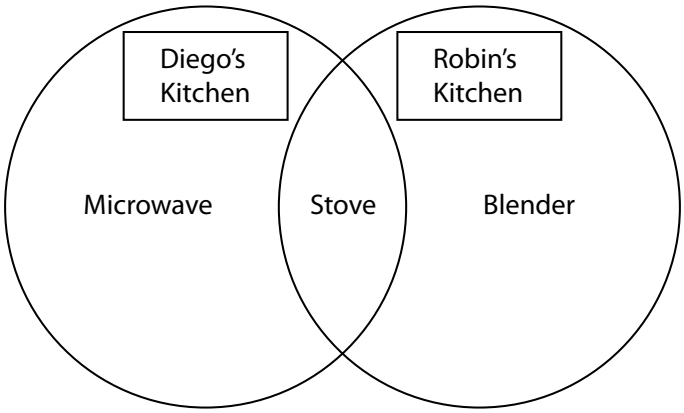
My House (Master)

Instructions: Ask an adult to help you fill in the table below for at least 3 rooms in your house including the kitchen. Find all the things that use energy and determine where the energy is coming from.

Room	Energy Use Item	What is the source of the energy?	How does it get to your home?
Example: Kitchen	Gas Stove	Natural Gas	Gas Company

Day 4: My Home; Your Home

Ask students to share their homework with a friend and fill in the Venn diagram on the next page related to energy items they found that were the same and those that were different. When the Venn Diagrams are complete, have a discussion about how students can save energy at home.

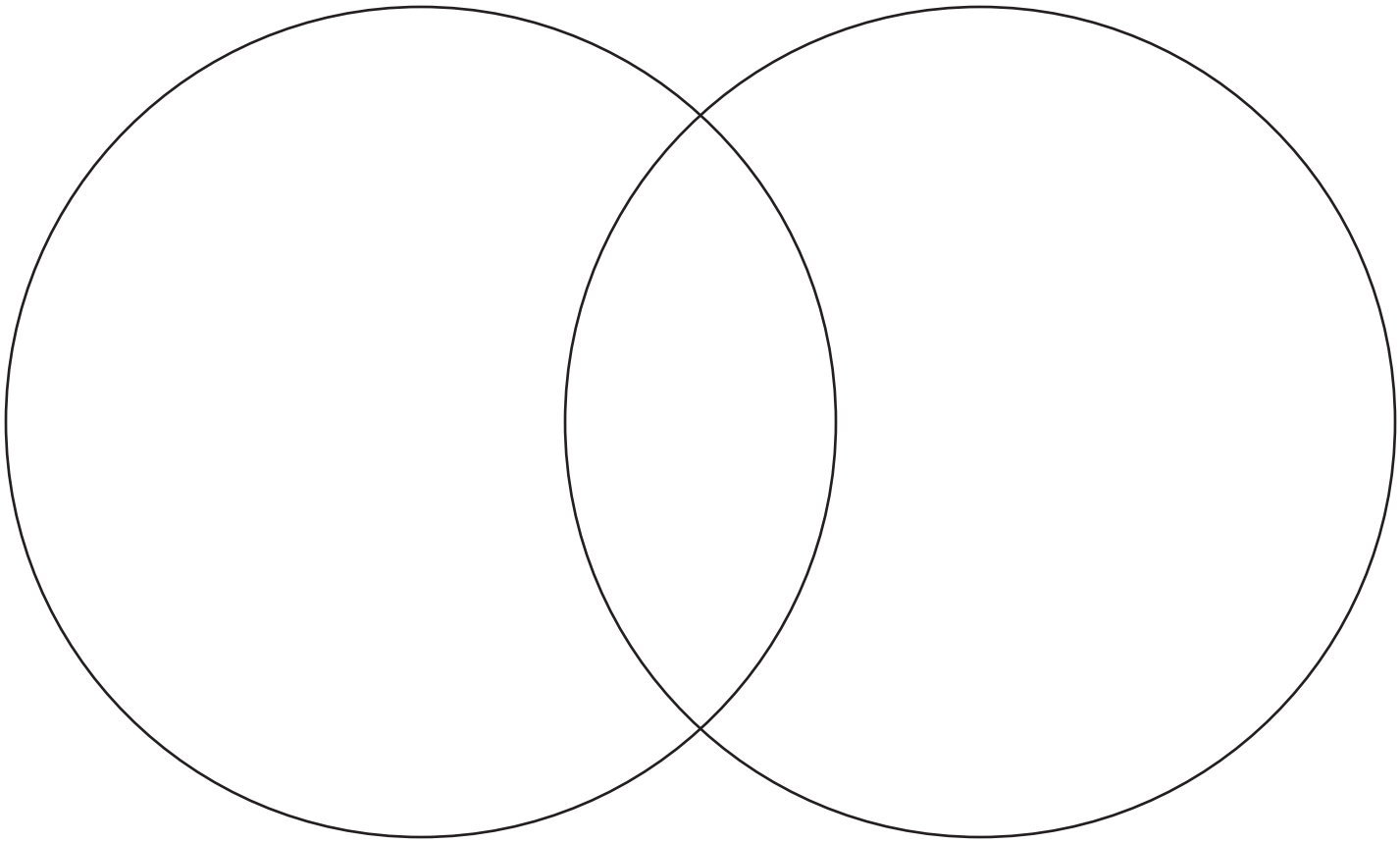


Day 5: A Day without Energy

Have the students imagine a day without energy and write a scenario of that day. (For young students, they could tell the story and the teacher could write a class story on chart paper.) Read the following passage as a story starter:

Imagine how you would spend a day without using any energy. When you wake up (to your wind-up alarm clock) you could mix some water with powdered milk to have with your dry cereal. You could squeeze some oranges for juice. Remember, no electricity to watch TV or use lights: read only during daylight. No gas for the car; walk or bike everywhere. It's okay to use free, natural energy like sunshine to dry your clothes, but be sure to wash them by hand in cold water. What other ways do you use energy? What foods require energy to cook or keep fresh? How will you get to school? Does your classroom have enough windows to provide light? Will the temperature be comfortable without air conditioning or heat? Would meeting outside under a tree be better? Think how you will get through a day without energy.

Venn Diagram Master

Name _____

Name _____