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Energy Use and Conservation



What is energy conservation?

To understand energy conservation, we must first understand why energy needs to be conserved. Energy is everywhere. Energy is used to power lights, alarm clocks, our devices, and more. Energy is used to heat our homes in the winter and cool them in the summer. It is so important! The problem is that people overuse energy and are very wasteful. Leaving lights on when you leave the room is a perfect example of wasting electricity.



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How energy consumption affects us:

Energy consumption is a part of our lifestyle. Most people do not even think about it. We leave the lights on when we leave the room and take long hot showers. We crank up the heat in the winter and blast the air conditioning in the summer. The majority of scientists believe that this use and abuse of energy will lead to (or already has led to) **global warming**. Global warming is when the Earth heats up. This can lead to rising sea levels, melting ice in the Arctic and Antarctic as well as many other things. In the end, global warming will cause animals to lose their homes and our way of life to change.



Fossil Fuels – The remains of a living organism that can be in gas, oil or coal form.

Nonrenewable Resource – Energy resource that can not be replaced over a human lifetime.

Renewable Resource – Energy resource that will be replaced over a human lifetime.

Global Warming – The heating of the Earth caused by human waste.

How to save energy:

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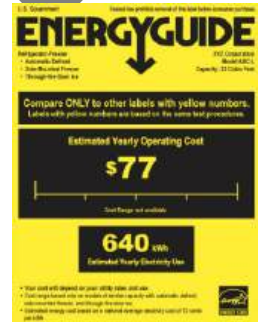
Energy Labels:

Have you ever seen labels on the inside of your fridge or your microwave? They

Interesting Fact:

The average U.S. house uses 10,932 kWh per year. At a cost of \$0.15 per kWh, the average house pays their electric company \$1,639.80 per year!

tell you how much energy your appliance uses per year in kWh. Your electrical company charges you a certain amount of money per kWh (somewhere between 10 to 20 cents per kWh) so you can find out how much your fridge will cost you per year to use. For example, if your fridge uses 700 kWh per year and your electric company charges 20 cents per kWh (\$0.20 per kWh), your fridge will cost you $700\text{kWh} \times \$0.20/\text{kWh} = \$140$ per year to run.



Energy labels also help conserve energy by encouraging manufacturers to create more energy efficient products as people will more likely buy them over less efficient models.

Smart Meters:

Some locations use smart meters that charge you different amounts per kWh depending on the time of the day. This is meant to encourage you to use less electricity during **peak times** to hopefully conserve more energy across the country.



Energy Labels – Labels that show how much electricity an appliance will use in a year.

Peak Times – The most common time for people to use electricity. Usually between 7 a.m. – 11 a.m. and 5 p.m. – 7 p.m.

Reading Comprehension Questions:

1. What
2. Why can't we rely on renewable energy resources alone?
3. What
4. Out of the list of ways to conserve energy, which do you already do?
5. If your stove
6. Why do companies use Smart Meters?

Extension Activity:

7. Make a list of
8. Someone wants to
9. Find an energy label in your own home. Take a picture or draw the label. Ask a parent or guardian how much you are charged per kWh and determine the cost of the appliance per year. If they don't know how much they are charged, use \$0.20 as your cost per kWh.

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TWFSAM

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