(R)Amp Up the Efficiency

There are some things that use energy that nearly all of us must do. We all wash clothes, keep perishable food cold, and cook raw foods before eating them. All of these things require energy, but we don't all use energy equally. The amount of energy used to do a task is related to the efficiency of the machine doing the task. Essentially, efficiency is the proportion of useful energy out of a machine compared the amount of energy going in. More efficient machines do the same work as less efficient machines, but use less energy to do the work.

EnergyGuide labels are large, yellow and black stickers on devices that allow you to compare the efficiency of different appliances and electronics. Often the more efficient appliances have a higher purchase price, and this may mislead some into thinking they're more expensive overall. However, as an EnergyGuide label often shows, a more efficient appliance is less expensive to operate, and over time the difference in operating cost can more than make up for the difference in purchase price. This is called the payback period, and it is the amount of time required for the lower operating cost to make up for the higher purchase price. This is an important factor to consider when shopping for an appliance.

ENERGY STAR® rated appliances and electronics are the most efficient of their class. When you purchase an ENERGY STAR® device, you know that you are buying the most efficient product available.

Materials

- Internet access to an appliance retailer or a trip to an appliance store
- Calculator

Procedure

1. Decide what appliance or electronic device you want to comparison shop. Some good suggestions are refrigerators, water heaters, washing machines, televisions, and computers.
2. Find two very similar appliances to compare. Make sure they are the same size or capacity. For example, the same number of gallons for a water heater, or the same style and size of refrigerator. Make sure one is ENERGY STAR® rated, and the other is not.
3. Record the purchase price for each item.
4. Locate the EnergyGuide label for each item and record the annual energy use and operating cost for each.
5. Calculate the life cycle cost for both devices through ten years of operation.

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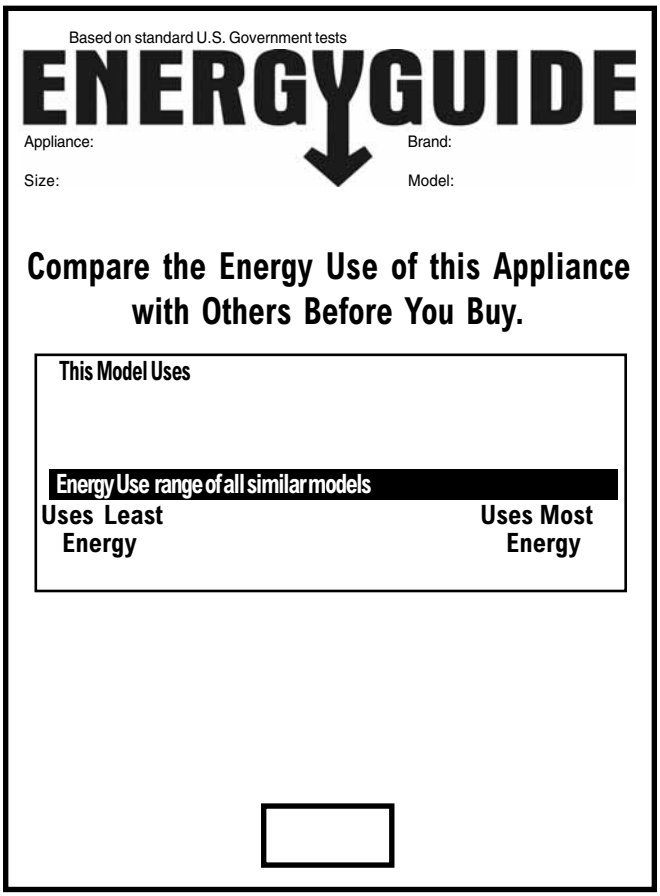
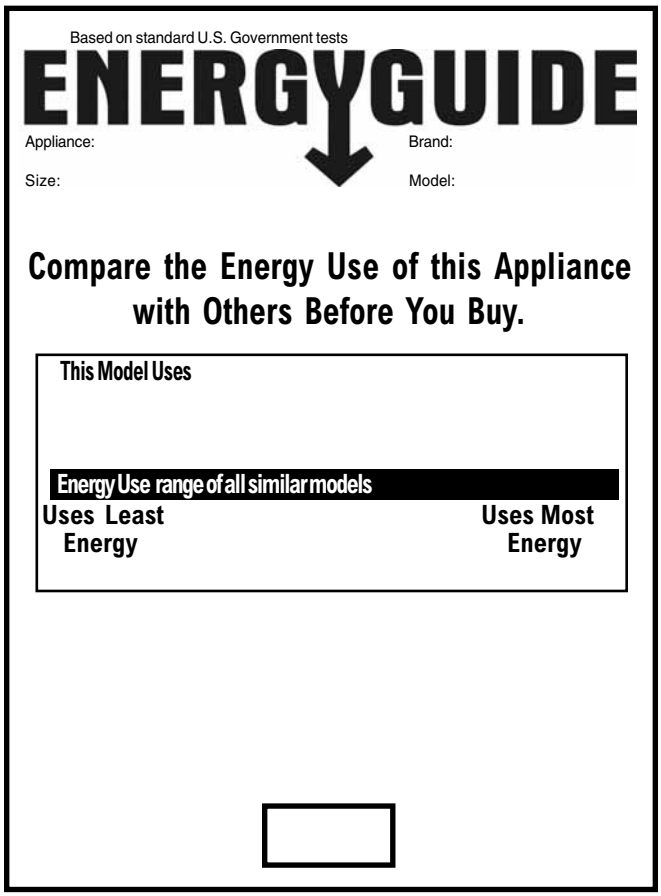
Data

Appliance or Electronic Device: _____





APPLIANCE 1	EXPENSES	COST TO DATE		APPLIANCE 2	EXPENSES	COST TO DATE
Purchase Price				Purchase Price		
Year One				Year One		
Year Two				Year Two		
Year Three				Year Three		
Year Four				Year Four		
Year Five				Year Five		
Year Six				Year Six		
Year Seven				Year Seven		
Year Eight				Year Eight		
Year Nine				Year Nine		
Year Ten				Year Ten		

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Discussion

1. What is the payback period for the device you selected? _____

2. How long do most people own this device before replacing it? Does this payback period make sense for you and your household?

3. What are some other factors, besides purchase price, that you should consider when shopping for appliances or electronics?