

Three-Level Reading Guide: The Conservation of Energy

1. Check the statements below that you believe agree with what the reading says. Sometimes, the exact words found in the reading are used. At other times, other words may be used to communicate the same meaning.

_____ a. Some energy is always lost forever during an energy transfer.

_____ b. Energy efficiency is the portion of useful energy that results from a transformation.

_____ c. Conservation of Energy and “conserving energy” are the same thing.

2. Check the statements below that you believe represent the intended meaning of the reading.

_____ a. Heat is always beneficial.

_____ b. Energy efficiency depends on the energy types involved and the exact process of the transformation.

_____ c. A consequence of the Law of the Conservation of Energy is that the total energy in the entire universe is constant.

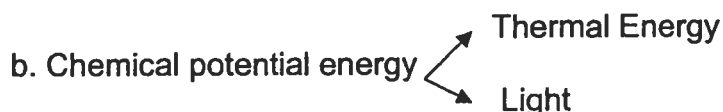
3. Check the statements below that you agree with, and be ready to support your choices with ideas from the reading and from your own knowledge and beliefs.

_____ a. New technology that is more efficient than previous technology always results in energy conservation.

_____ b. Although energy efficient appliances cost more to buy than standard appliances, everyone should be required to use them

Activity 57**The Conservation of Energy – Energy Action****ANALYSIS**

1. Which of the following diagrams accurately applies the Laws of Conservation of Energy to a toaster in use? Explain your choice.



2. Your friend tells you that a “generator makes electricity”. Do you agree or disagree with her statement? Explain why in terms of the Law of Conservation of Energy.
3. Your friend says that when he measured how much electricity was provided by a battery, it was less than the potential energy in the battery. He concluded that they transformation violated the Law of Conservation of Energy. Do you agree? Explain, using the ideas of the Conservation of Energy.
4. Which energy is often called the “graveyard of kinetic energy” and why?
5. What is the efficiency of an engine that gives off 70% thermal energy?