

Lesson Outline

LESSON 1

Forms of Energy

A. What is energy?

- 1. _____ is the ability to cause change.
- 2. Energy can cause an object to _____ its position or its motion.

B. Kinetic Energy—Energy of Motion

- 1. Energy due to motion is _____.
- 2. The faster an object moves, the _____ kinetic energy it has.
- 3. The kinetic energy of an object depends on its _____ as well as its speed.
- 4. If two objects move at the same speed, the object with the _____ mass will have more kinetic energy.

C. Potential Energy—Stored Energy

- 1. _____ is stored energy.
- 2. When you are holding a book energy is stored between the book and Earth; this type of energy is called _____ potential energy. This type of potential energy stored between an object and Earth depends on the _____ and _____ of the object.
- 3. Elastic potential energy is energy stored in objects that are compressed or _____.
- 4. When you stretch a rubber band, you are storing _____ potential energy. When you let go of the rubber band, stored elastic potential energy is transformed into _____ energy.
- 5. Food has _____ potential energy, which is the energy stored in the bonds between atoms. This energy is released when _____ occur.

D. Energy and Work

- 1. _____ is the transfer of energy to an object by a force that makes the object move in the direction of the force.
- 2. _____ is sometimes described as the ability to do work.

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Lesson Outline continued

E. Other Forms of Energy

1. Energy can be measured in units of _____.
2. _____ is the total kinetic energy and potential energy in an object or group of objects.
3. The energy carried by sound waves is _____. It is produced by objects that _____.
4. All materials are made of atoms and molecules that are always _____. The sum of kinetic energy and potential energy of the particles in matter due to their random motion is _____.
5. _____ is the energy carried by an electric current.
6. _____, such as microwaves, can travel through a vacuum.
7. The energy of electromagnetic waves is called _____.
8. _____ is stored in the nucleus of an atom.
9. The Sun releases nuclear energy when the _____ of atoms join together.
10. Nuclear power plants release energy by _____ nuclei.