Name _____ Date _____ Class _____

Lesson Outline **LESSON 1**

Forms of Energy

A. Energy

1. _____ influences everything in your life.
2. _____ is the ability to cause change.

B. Potential Energy

1. _____ is stored energy due to the interaction between objects and particles.
2. Objects with _____ energy have the possibility to cause _____.
3. Any object has _____ energy if it has mass and height above Earth's surface.
4. _____ is energy that is stored in and released in the _____ between atoms.
5. _____ is the energy stored in and released from the _____ of an atom.
   - **a.** The energy released from the Sun comes from nuclear _____.
   - **b.** During nuclear fusion, _____ of atoms join together and release large amounts of _____.
   - **c.** During nuclear _____, the nucleus of an atom breaks apart, and _____ is released.
   - **d.** Energy used in nuclear power plants to make electricity comes from nuclear _____.

C. Kinetic Energy

1. _____ is energy due to motion.
2. The kinetic energy of a moving object is related to the mass and the _____ of the object.
   - **a.** An object must have mass and _____ to have kinetic energy.
   - **b.** If two objects have the same _____, the object that moves with _____ speed has greater kinetic energy.
3. _____ is the energy in an electric current.

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Lesson Outline continued

D. Combined Kinetic Energy and Potential Energy

1. A(n) _____ is a collection of interacting objects, parts, or ideas that act together as a(n) _____.
2. In science, the _____ is anything that is not part of the system.
3. The sum of the potential energy and the _____ in a system is _____.
4. _____ is the sum of the kinetic energy and the _____ of the particles that make up an object.

E. Energy Carried by Waves

1. A(n) _____ is a disturbance that transfers _____ from one place to another without transferring _____.
2. _____ is energy carried by sound waves, which are waves that move through _____.
3. Electromagnetic waves are _____ and magnetic waves that move _____ to one another.
   a. The energy carried by electromagnetic waves is _____.
   b. Electromagnetic waves travel through _____ and also through _____ with little or no matter.
   c. Forms of electromagnetic waves include visible light, ultraviolet waves, X-rays, gamma rays, and _____.