

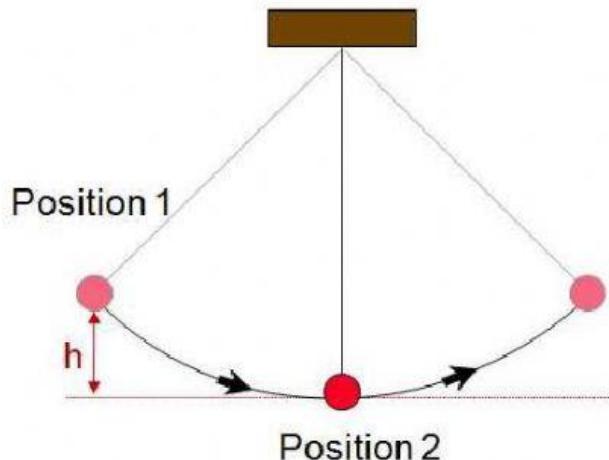
Energy Transfer, Transformation, and Efficiency

1) A lamp is designed to convert _____ energy to _____ energy.



2) A pendulum is swinging from side to side. Which of the options match the position with the correct type of energy.

Position 1:



Position 2:

3) Energy transfer involves moving energy from one place to another.

True

False

4) If we ignore the effect of friction, a rollercoaster car's energy _____ as it goes down hill.

- a. Increases over time.
- b. Decreases over time
- c. Stays constant, but converts from kinetic to potential energy
- d. Stays constant, but converts from potential to kinetic energy

5) The law of conservation of energy states that in any closed isolated system, the total kinetic energy of all objects remains constant.

True False

6) Heating a bowl of chicken noodle soup on a stove takes 167 kJ of energy. A microwave oven uses 200. kJ of energy to heat the same bowl of soup. What is the percent efficiency of the microwave? *Answer with units and the correct number of significant figures*

7) What is the amount of useful energy of a pulley system if its energy efficiency is 50.0% and the amount of energy consumed is 4.5 kJ?

8) What is the difference between the thermal energy of a substance and the temperature of a substance?

	Temperature	Thermal Energy
A	A measure of the average kinetic energy of all the particles in a sample of matter	A measure of the total energy of all of the particles in a sample of matter
B	A measure of the total energy of all of the particles in a sample of matter	A measure of the average kinetic energy of all the particles in a sample of matter

9) When you put ice cubes into a glass of water, in which direction is the transfer of heat?

- a. Water warms up the ice
- b. Ice cools off the water

10) Which of the following has the highest amount of thermal energy?

- a. A gram of ice
- b. A gram of steam
- c. A gram of cold water
- d. A gram of hot water

