Name_____

Worksheet: Energy

Period_____ Date_____

(Frameworks Code)

1. The law of conservation of energy implies that you usually obtain energy from some source, that is, some other type of energy. To refresh your memory, list the six types of energy below.

a. chemical
b. electrical
c. mechanical
d. electromagnetic (light, sound)
e. Nuclear
f. thermal (heat)

2. Fill in the blank with the type of energy produced by the source given:

a. A battery changes chemical energy into electric energy.
b. An electric motor changes electrical energy into mechanical energy.
c. A light bulb changes electrical energy into electromagnetic (thermal) energy.
d. An natural gas furnace changes chemical energy into heat (thermal) energy.
e. An electrical generator changes mechanical energy into electrical energy.
f. Rubbing your hands together changes mechanical energy into heat energy.
g. A solar cell changes electromagnetic energy into electrical energy.
h. An electric stove changes electrical energy into heat energy.
i. A gas lawn mower changes chemical energy into mechanical energy.
j. heat (thermal) energy is produced when matter is changed into energy in an nuclear reaction.
k. Electromagnetic energy from the sun changes into thermal energy when it strikes a surface. (Hint: what happens when you wear dark clothes on a sunny day?)

Worksheet: Energy Period_____ Date_____

(Frameworks Code)

1. Fill in the blank with the source used to produce the given type of energy:

   a. An electrical mixer changes ___electrical___ energy into mechanical energy.

   b. An automobile engine changes ___chemical___ energy into mechanical energy.

   c. A battery changes ___chemical___ energy into electrical energy.

   d. An natural gas furnace changes ___chemical___ energy into thermal energy.

   e. A fluorescent light changes ___electrical___ energy into electromagnetic energy.

   f. A battery charger changes ___electrical___ energy into chemical energy.

   g. Your body changes ___chemical___ energy (food) into mechanical energy.

   h. A nuclear reactor changes ___chemical___ energy into thermal energy.

   i. Car brakes change ___mechanical___ energy into thermal energy.

   j. Photosynthesis (food production) in green plants changes ___electromagnetic___ energy into chemical energy.

   k. Pounding a nail changes ___mechanical___ energy into thermal energy.

2. Fill in the blanks in the following energy transformations (changes):

   a. Sunlight is ___electromagnetic___ energy, which is changed by a tree during photosynthesis into ___chemical___ energy (the wood), which is changed into ___thermal___ energy when the wood is burned.

3. Fill in the blanks in the following energy transformation chains:

   a. Sunlight is ___electromagnetic___ energy, which is changed into ___chemical___ energy by green plants, which are eaten by children, who change the chemical energy into ___mechanical___ energy of running. The running moves air molecules faster than before, so the energy finally becomes ___thermal___ energy, due to the increased motion of molecules (the body is also radiating thermal energy to the air).