

Worksheet: Energy

(Frameworks Code)

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

- a. An electrical mixer changes _____ energy into mechanical energy.
- b. An automobile engine changes _____ energy into mechanical energy.
- c. A battery changes _____ energy into electrical energy.
- d. An natural gas furnace changes _____ energy into thermal energy.
- e. A fluorescent light changes _____ energy into electromagnetic energy.
- f. A battery charger changes _____ energy into chemical energy.
- g. Your body changes _____ energy (food) into mechanical energy.
- h. A nuclear reactor changes _____ energy into thermal energy.
- i. Car brakes change _____ energy into thermal energy.
- j. Photosynthesis (food production) in green plants changes _____ energy into chemical energy.
- k. Pounding a nail changes _____ energy into thermal energy.

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

- a. Sunlight is _____ energy, which is changed by a tree during photosynthesis into _____ energy (the wood), which is changed into _____ energy when the wood is burned.

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

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

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