

Energy Transfers

Energy can change from one form to another. We commonly change energy from one form to another as we use it. Match each term in the word box to its description. Some terms are used more than once.

radiant	chemical	electrical	thermal
mechanical	sound	nuclear	

- 1 _____ When you shout at a friend, you are changing mechanical energy into this form.
- 2 _____ When you set food under a heat lamp to warm it, you are changing radiant energy into this form.
- 3 _____ When you turn on a CD player, you are using this form of energy to produce sound energy.
- 4 _____ At a power plant nearby, matter is changed into energy to produce this form of energy.
- 5 _____ Eating a healthy breakfast provides this form of energy, which is turned into mechanical and thermal energy as you play, study, and move.
- 6 _____ Plug in a fan to a source of electrical energy. The electrical energy is transformed into this form to move the fan blades.
- 7 _____ Plug a lamp into an electrical socket and you turn electrical energy into this form of energy.
- 8 _____ Radiant energy from the sun is turned into this form when plants undergo photosynthesis.
- 9 _____ As plants decompose, their chemical energy may become stored as coal or natural gas. These chemical energy sources can be turned into this form of energy as they are burned at a power plant.
- 10 _____ As fuel is burned at a power plant, the energy released turns a turbine, whose movement is an example of this kind of energy.
- 11 _____ Energy leaves a power plant in the form of this kind of energy.

From One Form to Another

Energy can change form, but it cannot be created or destroyed. Under some conditions, such as those that produce nuclear energy, matter and energy can change into each other. However, the total amount of matter and energy does not change. Use the phrases in the word box to label the changes in energy forms.

electrical to sound
chemical to thermal
radiant to thermal

radiant to chemical
mechanical to electrical
electrical to mechanical

thermal to mechanical
electrical to radiant

- 1 _____ Plants use energy from the sun in the process of photosynthesis to manufacture glucose.
- 2 _____ Solar panels placed on the top of a roof use the sun's energy to heat water for a swimming pool.
- 3 _____ A lamp is plugged into a wall socket. Once the lamp is turned on, both light and heat come from the lamp.
- 4 _____ The spinning turbine inside a hydroelectric plant generates electricity.
- 5 _____ Some furnaces burn coal to heat buildings.
- 6 _____ An alarm clock begins to beep and the radio turns on. The display shows it is 7:00 a.m.
- 7 _____ Water is heated until it becomes steam. The pressure of the steam turns a turbine or generator.
- 8 _____ Plug a fan into a wall socket. Turn on the fan and the blades begin to spin.