
What is energy transformation in science?

Energy Transformations. An **energy transformation** is the change of **energy** from one form to another. **Energy transformations** occur everywhere every second of the day. There are many different forms of **energy** such as electrical, thermal, nuclear, mechanical, electromagnetic, sound, and chemical.

Some examples of transformation of energy are given below.

- ❖ Light energy of the sun is transferred to chemical energy of food during the process of **photosynthesis**.
- ❖ The water stored in dams possesses potential energy which gets transformed into kinetic energy while falling. This kinetic energy is used to rotate the blades of turbines that **produces electrical energy with the help of generators. The electricity thus generated is called hydroelectricity.**

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- ❖ When a car engine runs, the chemical energy of the fuel transformed into kinetic, heat and sound energy.
 - ❖ The elastic potential energy of the stretched elastic of a catapult gets transformed into kinetic energy of the pellet released from the catapult.
 - ❖ When an electric bulb is switched on, electrical energy changes to heat and light energy.
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Examples of Transformation of Energy

1. Photosynthesis	Light energy to chemical energy
2. Table fan	Electrical energy to mechanical energy
3. Tube light and bulbs	Electrical energy to light energy
4. Door bell	Electrical energy to sound energy
5. Electric motor	Electrical energy to mechanical energy
6. Dry cell	Chemical energy to electrical energy
7. Heater	Electrical energy to heat energy
8. Loudspeaker	Electrical energy to sound energy
9. Microphone	Sound energy to electrical energy
10. Electromagnet	Electrical energy to magnetic energy

11. Washing machine	Electrical energy to mechanical energy
12. Mixer grinder	Electrical energy to mechanical energy
13. Generator	Mechanical energy to electrical energy
14. Solar cell	Light energy to electrical energy
15. Burning of wood, coal, etc.	Chemical energy to heat energy
16. Windmill	Mechanical energy to electrical energy
17. Photo voltaic cell	Light energy to electrical energy
18. Steam engine	Heat energy to mechanical energy
19. Biogas	Chemical energy to heat energy
20. Automobile engine	Chemical energy to mechanical energy
21. Cooking gas (LPG)	Chemical energy to heat energy

Law of conservation of energy

“Energy cannot be created or destroyed it only can be transformed from one form into another”

Energy Transformations



Chemical



Motion



Radiant



Chemical



Chemical



Motion



Electrical



Thermal

Some examples of conservation of energy are given below.

- ❖ When a body falls from a certain height, its potential energy gradually changes into kinetic energy but the total sum of both the energies at every point during the motion always remains constant.
- ❖ In a roller coaster, the sum of potential energy and kinetic energy of the car at any point is always constant. So, the total energy is always conserved. When the car is at the top of the coaster, it has its maximum potential energy. When the car is at the bottom of the coaster, it has its maximum kinetic energy. When the car is going up or coming down, the potential and kinetic energies readily change from one form to another.



A roller coaster

Home Work

- 1. Give an example where electrical energy gets converted to sound energy.**
- 2. State the law of conservation of energy.**
- 3. What do you understand by the transformation of energy?**
- 4. Explain the conservation of energy in a roller coaster.**
- 5. Name the energy possessed by a flowerpot placed at the rooftop of a building.**