
Lesson N°2

The energy is an important and fundamental concept in science. It links almost all the natural phenomena. When we say that a body has energy, we mean that it has the ability to do work. Water running down the stream has the ability to do work, so it possesses energy. The energy of running water can be used to run water mills or water turbines. Energy exists in various forms such as mechanical energy, heat energy, light energy, sound energy, electrical energy, chemical energy and nuclear energy etc. Energy can be transformed from one form into another. **A body possesses energy if it is capable to do work.**

Mechanical energy possessed by a body is of two types: kinetic energy and potential energy.

Kinetic energy: Moving air is called wind. We can use wind energy for doing various things. It drives windmills and pushes sailing boats. Similarly, moving water in a river can carry wooden logs through large distances and can also be used to drive turbines for generating electricity. Thus a moving body has kinetic energy, because it can do work due to its motion. The body stops moving as soon as all of its kinetic energy is used up. The energy possessed by a body due to its motion is called its kinetic energy.

Potential energy: Often a body has the ability to do work although it is at rest. For example, an apple on a tree is capable to do work as it falls. Thus, it possesses energy due to its position. The kind of energy which a body possesses due to its position is called its potential energy. **The energy possessed by a body due to its position is known as its potential energy.** Let a body of mass m be raised up through height h from the ground. The body will acquire potential energy equal to the work done in lifting it to height h . Thus potential energy $(U)=m.g.h$

Questions:

- 1- Give a title to the text.
- 2- Define energy; give the types of energy, and what is its SI unit?
- 3- Give the synonym of the underline word in text.
- 4- Extract from the text five adjectives.
- 5- Summarize the text.