Potential energy symbol physics

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Potential energy is mechanical energy acquired by an object due to its position. It is stored energy that depends upon the relative position of the object and a reference point or level. Potential energy can be converted into kinetic energy and vice versa. It is a scalar quantity and a state function.

When was Potential Energy Discovered

Scottish engineer William Rankine coined the term potential energy in 1853.

There are three main types of potential energy.

The gravitational potential energy is due to the Earth"s gravitational force. It is the energy stored in an object due to its height from the surface of the Earth.

Here are some examples of gravitational potential energy found in the home, everyday life, and nature.

The gravitational potential energy depends on two factors - the object"s mass and its height from Earth"s surface. Suppose an object of mass m is at a height h from the surface of the Earth. Then, the potential energy can be calculated from the following equation.

m: mass of the object

h: height of the object from Earth"s surface

g: acceleration due to gravity (= 9.81 m/s2)

From the above equation, it is clear that the more massive an object is, the greater is its potential energy. Also, the potential energy increases as the height increases.

When the object is released, it accelerates downwards due to gravity. It means that gravity does work on the object to move it downwards. Since its height decreases, it loses potential energy. From the law of energy conservation, the loss in potential energy is equal to the gain in kinetic energy.

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