Mechanical Energy

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In the last segment, we learnt about **energy.** In this segment, we are going to understand about mechanical energy.

What is Mechanical energy?

Mechanical energy is the energy that is possessed by an object due to its motion or due to its position or both. Mechanical energy can also be defined as the sum total of potential energy and kinetic energy.

Mechanical Energy = Potential Energy + Kinetic Energy

For example, A moving baseball possesses mechanical energy due to both its high speed and its vertical position above the ground.

What is Potential energy?

It is the energy possessed by an object due to the virtue of its position or state.

Example: A barbell lifted high above a weightlifter's head possesses potential energy due to its vertical position above the ground.

A drawn bow possesses potential energy due to its stretched position

What is Kinetic energy?

The kinetic energy (KE) of an object is the energy that it possesses due to its motion.

Example 1: A hammer is a tool that utilizes Kinetic energy to do work. The Kinetic energy of a moving hammer gives the hammer its ability to apply a force to a nail in order to cause it to be displaced.

Example 2: The Kinetic energy of a moving bowling ball gives the ball the ability to apply a force to a bowling pin in order to cause it to be displaced.

Example 3: High-speed winds are used to do work on the blades of a turbine at the so-called wind farm. The Kinetic energy of the moving air gives the air particles the ability to apply a

force and cause a displacement of the blades.

Summary

Mechanical Energy	The energy that is possessed by an object due to its motion or due to its position or both.
Potential Energy	The energy possessed by an object due to the virtue of its position or state.
Kinetic Energy	The energy possessed by an object due to its motion.

Did you know?

Only 10 percent of the energy in a light bulb is used to create light. Ninety percent of a light bulb's energy creates heat.

What's next?

In our next Class 9 Science segment, we shall learn more about **Kinetic energy** with the help of a few examples.