

H/W
06/09/2021

HOME ASSIGNMENT

1- How is work related to energy?

A- There is a direct relationship between work and energy.

The work done on the body in changing its state is said to be the energy possessed by the body.

2 ~~15~~ - What is potential energy? State its unit.

A- The energy stored in a body or a system by virtue of its position or by its configuration is called potential energy. Its unit is joule (J)

3- Give 1 example of a body that has potential energy in each of the following

- a. Due to its position at a height. - A stone at a height, ^{Falling ball}
- b. Due to its elongated stretched state. - catapult

4- State 2 factors on which the potential energy of a body at a certain height above the ground depends.

A The mass of the body greater the mass, greater is the P.E. of the body.

• The height of the body above the ground.

5a- The force needed to lift the body.

A- ~~Force~~ Force applied = weight of body
Force on mass $\cdot m = m \times g = mg$

b- Work done = Force \times displacement
= Work done = mgh

c- Potential energy = mgh

6-a- A moving cricket ball. - Kinetic Energy

b- A stone at rest on the top of a building. - Potential Energy

c- A compressed spring. - Potential Energy

d- A moving bus. - Kinetic Energy

e- A bullet fired from a gun. - Kinetic Energy

f- Water flowing in a river. - Kinetic Energy

g- A stretched rubber band. - Potential Energy