

Chapter - 10

WORK AND ENERGY

→ What is Work ?

- Work done on an object is defined as the product of the magnitude of the force acting on the body and the displacement in the direction of the force.

$$W = F \cdot s$$

- If a force acting on a body causes no displacement the work done is 0.

Example, pushing a wall.



- The unit of Work is Newton metre (Nm) or Joule (J).

→ 1 Joule is defined as the amount of work done by force of 1N when displacement is 1m.

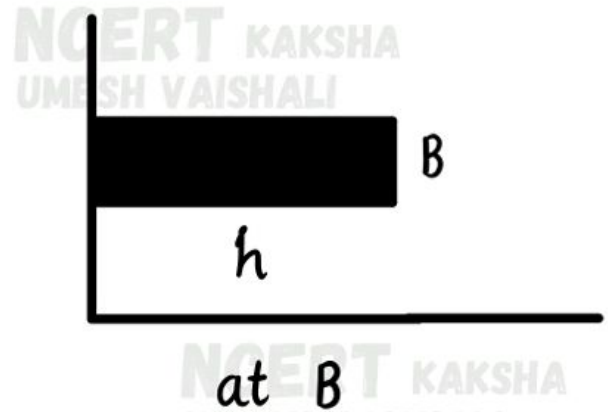
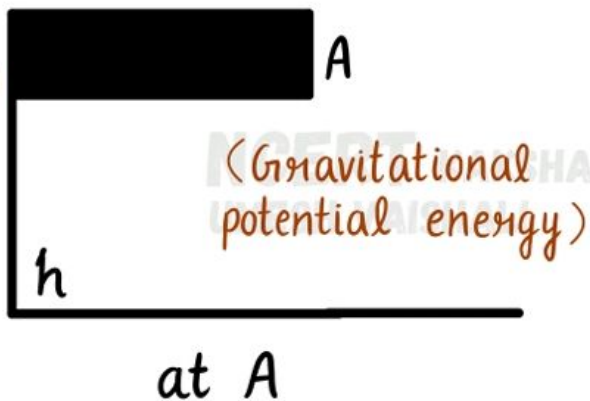
➔ Potential Energy

- The energy possessed by a body due to its position or shape is called its potential energy.

Shape



Position



→ Greater energy due to compression in spring and due to greater height of the object.

→ Less energy due to less compression in spring and due to less height of the object.