

Tender Heart High School, Chandigarh

Class-VI

Subject - Physics

Date 7.10.24

Teacher: Minnita

Topic - Simple Machines

Good Morning Children! This lesson is of Class-VI for the subject of Physics, Chapter - 4, Simple Machines of your textbook 'Concise Physics', Selina Publications. It is being submitted to you on 7th October 24.

Today, we are going to study about Work, Energy and Machines.

Work:- Work is said to be done if the force applied on the body moves it. If no motion or change in position takes place, no work is said to be done.

Energy:- It is the capacity of the body to do work.

SI unit of work = Joules

Work = Force $\times$ distance

Machines: A machine is a device which helps us to do work more easily by applying less force.

Principle of a Machine:

Effort:- The force applied on a machine is called as effort.

Load: An object that can be moved by effort is called as load.

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★ Efficiency of Machine: $\frac{\text{Work output on load}}{\text{Work input by effort}}$

★ Ideal Machine:-

For this machine, work output = work input.

★ Actual Machine:-

No machine is perfect. Efficiency of actual machine is less than 1, i.e. it is 80% efficient and 20% of work done is wasted in overcoming friction.

★ Functions of a simple machine:-

- It decreases the magnitude of the force required.
- It increases the distance moved by the load.
- It changes the direction of effort in a convenient direction.
- It changes the point of application of effort to a convenient point.

I am ending today's topic.
Thank you!