Tender Heart High School, Chandigarh
Date ....

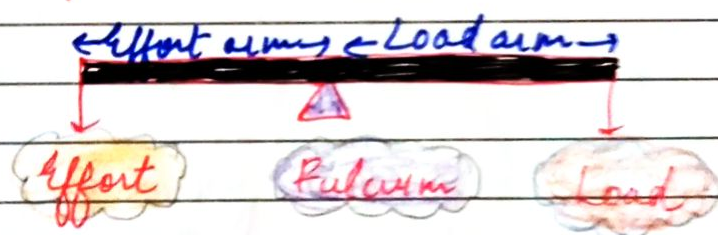Class-VI   Subject: Physics   Date 14.10.24

Teacher: Nimuta L-4 Topic: Simple Machines

Good Morning students!

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 **14 October 2024**

In the last class, we studied about functions of machine. Today, we will study about levers and its types.

Principle of a lever:-

Load × Load Arm = Effort × Effort arm

Mechanical advantage M.A = $\dfrac{Load}{Effort}$ = $\dfrac{Effort\ arm}{Load\ Arm}$

Types of levers:

Lever of Class-I

- Fulcrum is in between the load and effort
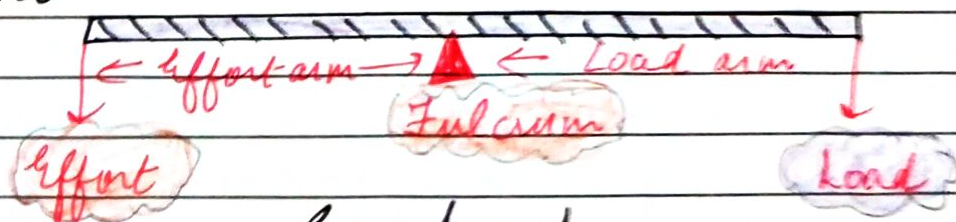
Eg: See-Saw

Date ..!................:....

Class - VI   Subject: Physics Date 14. 10.24
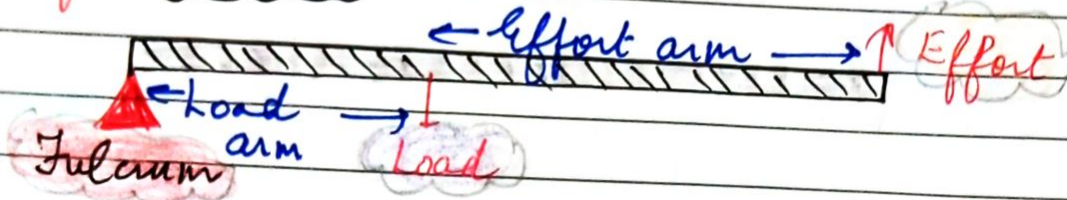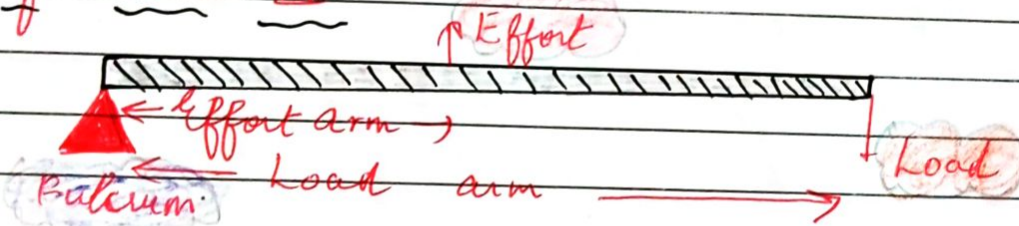Teacher: Nirmita   L - 4 Simple Machines.

Lever of class - II

· Load is in between the fulcrum and the effort. Eg: Nut cracker.

Lever of class - III

· Effort is in between the fulcrum and the load. Eg: Spade.

※ Differences between the three types of lever
↓

Distinction between the three classes of levers		
CLASS I	CLASS II	CLASS III
1. It has the fulcrum between the load and the effort.	1. It has the load between the fulcrum and the effort.	1. It has the effort between the fulcrum and the load.
2. The effort arm can be shorter, equal to or longer than the load arm.	2. The effort arm is always longer than the load arm.	2. The effort arm is always shorter than the load arm.
3. The mechanical advantage can be less than, equal to or greater than 1.	3. The mechanical advantage is always greater than 1.	3. The mechanical advantage is always less than 1.
4. The load and the effort both are in the same direction.	4. The load and the effort are in opposite directions.	4. The load and the effort are in opposite directions.

I am ending today's topic.

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