

WELCOME TO THE ONLINE CLASS

SESSION NO.: 16

CLASS: 5

SUBJECT: SCIENCE

CHAPTER NUMBER: 11

CHAPTER NAME: FORCE AND ENERGY

SUB TOPIC: SIMPLE MACHINES- THE INCLINED PLANE, THE PULLEY

CHANGING YOUR TOMORROW

LEARNING OBJECTIVE

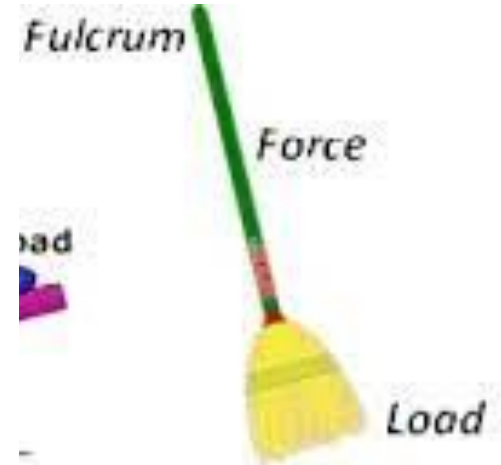
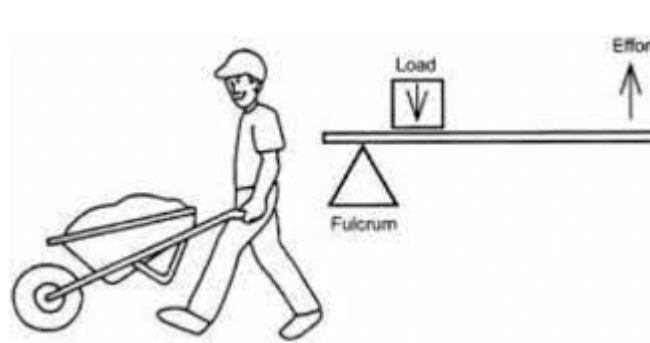
To enable the learner to:

- **understand about machines.**
- **identify the types of simple machines commonly used.**
- **understand the importance of machines in real life.**

LET'S RECAP

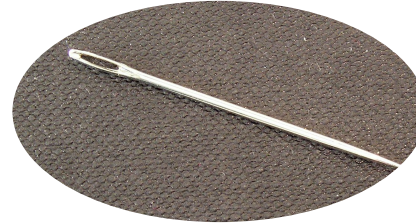
- Identify the type of lever shown in the pictures below:

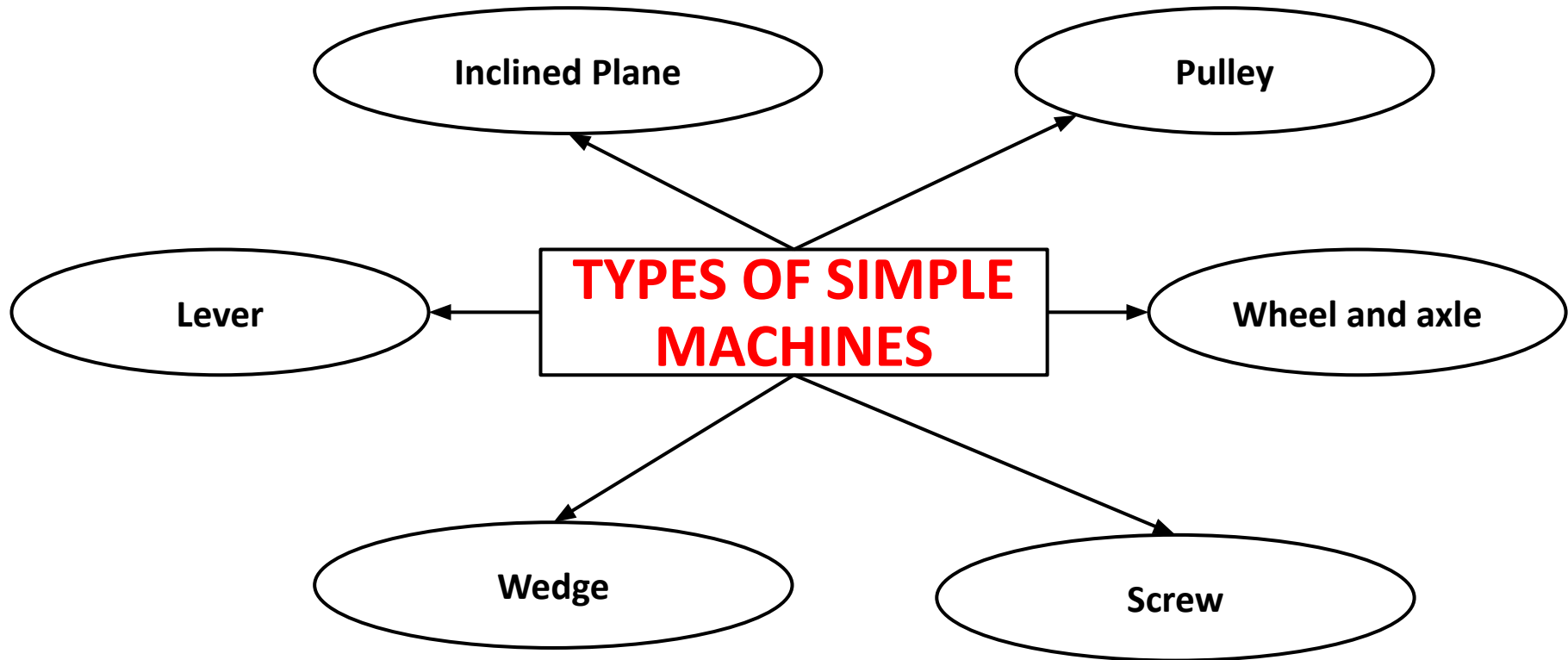
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SIMPLE MACHINES

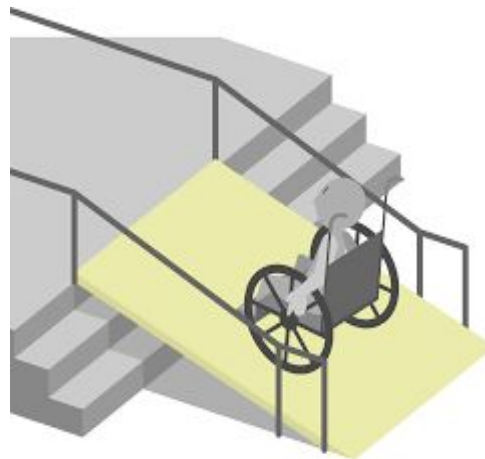
- Tools which make our work easier and faster are called machines.
- Simple machines help us to do work by applying force at a convenient point which either changes the direction of force or increases the force applied.





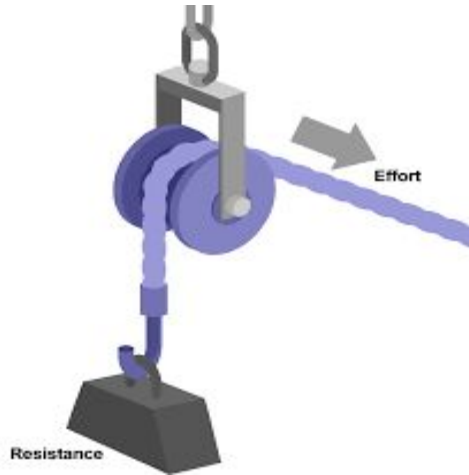
INCLINED PLANE

- An inclined plane is a slope which makes work easier.
- E.g.: workers can easily load or unload on a truck using a plank of wood.
- In hospitals and some other buildings inclined planes called ramps are provided next to stairs which helps them in pushing up wheelchairs.

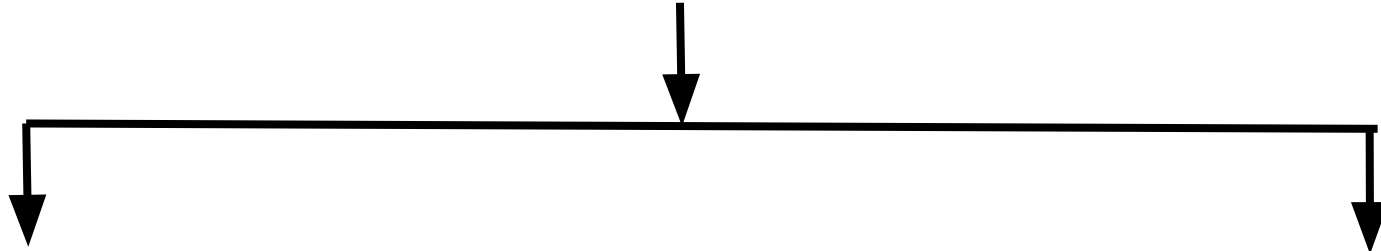


PULLEY

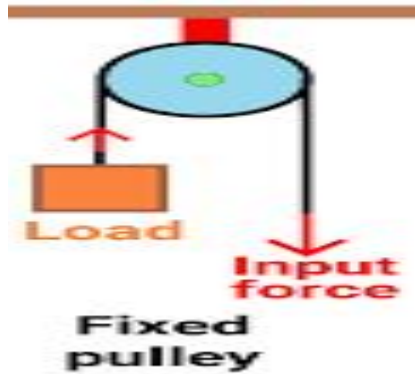
- A pulley is a small wheel with a groove around its outer edge that can hold a rope in position.
- A pulley together with a chain or a rope is used to lift heavy objects.



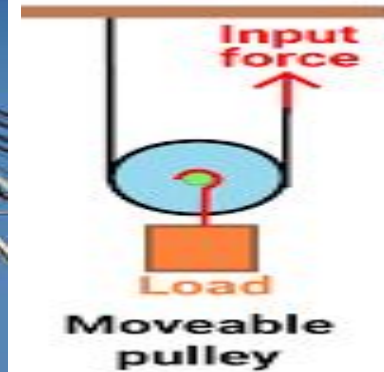
TYPES OF PULLEY



Fixed pulley

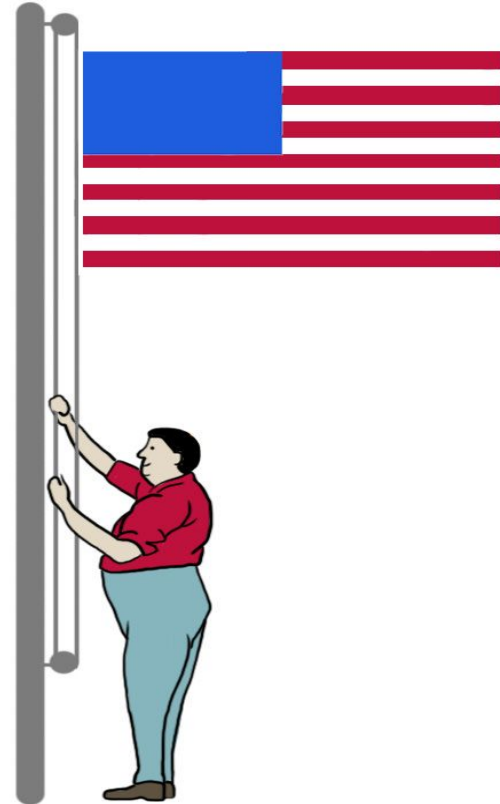


Movable pulley



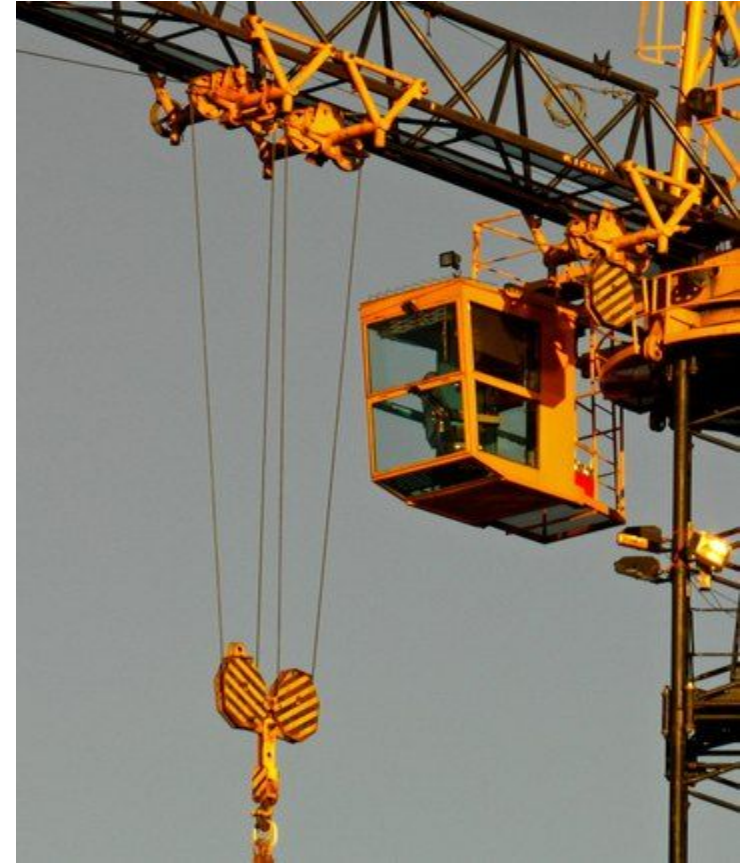
FIXED PULLEY

- When pulley is fitted to some support and does not move, then it is called a fixed pulley.
- It is used to change the direction of the force needed to lift a load.
- A force is exerted downward in order to lift the load upward.



MOVABLE PULLEY

- A movable pulley is a pulley that is attached to a support and can move such that its axis of rotation is not fixed.
- It can move up and down.
- E.g.: construction cranes, modern elevators etc.



SUMMARY

- **An inclined plane is a slope which makes work easier.**
- **A pulley is a small wheel with a groove around its outer edge that can hold a rope in position.**
- **When pulley is fitted to some support and does not move, then it is called a fixed pulley.**
- **A movable pulley is a pulley that is attached to a support and can move such that its axis of rotation is not fixed.**

READY FOR A
QUIZ ?

1. Ramps are examples of _____.

Ans: Inclined plane

2. A _____ is a small wheel with a groove around its outer edge that can hold a rope in position.

Ans: Pulley

3. Which type of pulley is used to draw water from the well.

Ans: Fixed pulley

HOMEWORK

Mention the names of all the simple machines and write a use of each in our daily life.

LEARNING OUTCOME

The learner will be able to:

- **understand about machines.**
- **identify the types of simple machines commonly used.**
- **understand the importance of machines in real life.**

THANKING YOU
ODM EDUCATIONAL GROUP