ODM EDUCATIONAL GROUP
Changing your Tomorrow

FORCE AND PRESSURE

CHAPTER NO.3

SUB: PHYSICS

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LEARNING OUTCOMES

Students will be able to

- Clarify their doubts and form a correct concept of force.
- Understand that forces are due to an interaction.
- Explore more interesting facts about the nature of force.
- Learn about the different effects of force on the state, shape, speed and direction of an object.
- Recall the two main types of forces and their meaning.
- Relate and apply their knowledge about force and its effects in real life situations.

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POINTS TO BE COVERED

- Force
- Units of force
- Turning effect of force

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INTRODUCTION

https://youtu.be/IJWEtCRWGvI

Force And Its Effects

Explain force and its effects by showing a video.

https://youtu.be/B6mi1-YoRT4

https://youtu.be/9tg3csrFVJw

Force

- Pushes and pulls that act on objects are called forces.
- It is denoted by F.
- It is a vector quantity
- It is having both magnitude and direction.

Units Of Force

- Kilogram force: kgf: The force required to lift an object of mass 1 kg vertically upwards is known as 1 kgf.
- Gram force: gf: The force required to lift an object of mass 1g vertically upwards is known as 1 gf.
- 1 kgf = 1000 gf.
- The SI unit of force is newton.
- 1 newton: It is the force required to move an object of mass 1 kg with an acceleration of 1 m/s^2 .
- 1 kgf = 9.8 N.
- CGS unit of force: dyne
- 1 newton = 10^5 dynes.

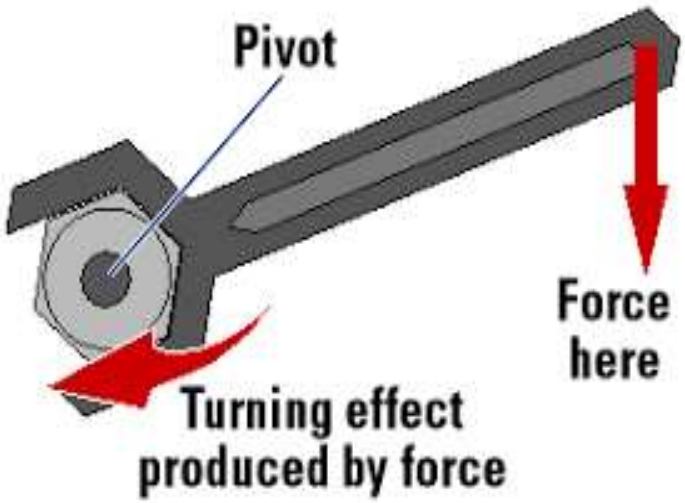
Effects Of Force

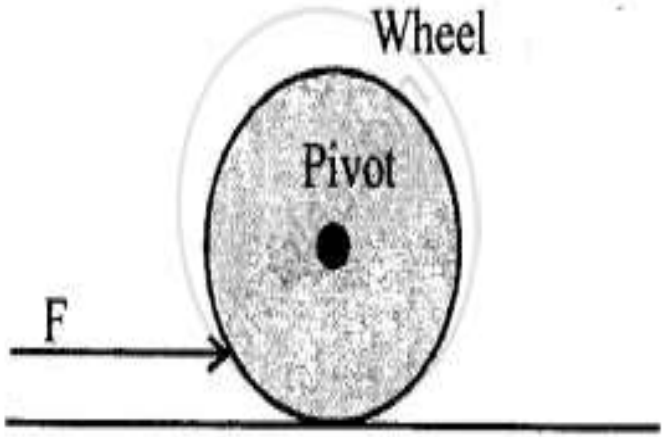
- A force can move a stationary object.
- A force can stop a moving object.
- A force can change the speed of a moving object.
- A force can change the direction of a moving object.
- A force can change the shape and size of an object.
- Force can therefore be defined as the physical quantity which changes or tends to change the state of rest, the state of uniform motion or the shape of an object.

Turning Effects Of Force

- **A force (push or pull) has a turning effect on body which is not free to move in a straight line but is pivoted at a point about which it can turn.**
- A **force** may cause an object to turn about a pivot.
- The **turning effect** of a **force** is called the moment of the **force**.
- Moments act about a pivot in a clockwise or anticlockwise direction.
- The anticlockwise moment acts downward on the left, and the clockwise moment acts downwards on the right.

STATES OF MATTER





HOME ASSIGNMENT

- Exercise: B: 1,2,3,4

THANKING YOU

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