

Chapter - 9

GRAVITATION

→ What is Gravitation ?

- Gravitation is the force of attraction between any two objects/bodies in the Universe.
- This means that every object in this universe attracts every other object.
- It means that you are attracting a pen without even touching it, just by holding your finger close to it.
- Then why doesn't stick to the finger ?
- Because this force of attraction is extremely weak. Infact, Gravitation is the weakest force of attraction.



→ Weight of an object is given as ,

$$W = mg$$

$$\text{Where } W = \frac{GMm}{R^2}$$

⇒ Let weight of object on earth be given as :

$$W_e = \frac{GM_e m}{R_e^2}$$

Where G = Gravitation constant

M_e = Mass of earth

R_e = Radius of earth

And m = Mass of object

And, weight of object on moon be given as :