

Gravitational Force

What is Gravity_.mp4

Force of attraction between all objects as a result of their mass and distance between them.

- The gravitational force on earth is 9.8 N/kg. This means that bodies accelerate 9.8 m/s² regardless of mass.
- The force becomes weaker as you move away from the center of the earth.

Misconceptions About Falling Objects.mp4

Mass vs Weight

Mass	Weight
Measures the quantity of matter in an object. What it is made up of.	Measures the gravitational force on the object
Does not vary	Varies depending on the planet or area you are on and measured in N (Newtons)

- Moon's GF = 1.67 N/kg (6x less than earth)
- Sun's GF = 273.65 N/kg (28x more than earth)

Formula to calculate weight in N

$$W = F_g \times m_g$$

W = Weight in N



F_g = gravitational force

m_g = mass in kg

ex: 90 kg to N

$$9.8 \text{ N/kg} \times 90 \text{ kg} = 882 \text{ N}$$

Attachments

-  What is Gravity_.mp4
-  Misconceptions About Falling Objects.mp4