

Gravity.

GRAVITY IS A NON-CONTACT, PULL FORCE.

All masses have gravity. It is a force that pulls towards their centre.

This force is only noticeable with very large masses, for example, planets.

The Earth's gravity pulls everything on or near the Earth towards its centre.

This stops us and our things floating away!



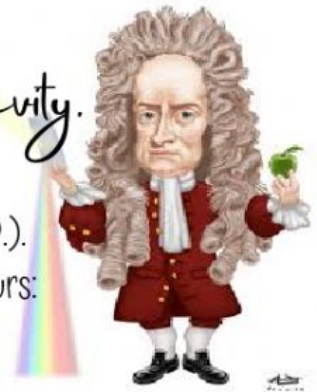
PLANETS HAVE DIFFERENT GRAVITIES. THE EARTH'S GRAVITY IS 9,8 NEWTONS (9,8N).



Isaac Newton Discovered Gravity.

He discovered Gravity while in quarantine for the bubonic plague (peste bubónica, 1666 A.D.).

Newton also discovered why rainbows have colours: the reflection and refraction of light.



What's weight?

Weight (peso) is the force that attract us to the ground.

Mass (masa) is the amount of matter.

Weight depends on GRAVITY (N) and MASS (kg).

$$\text{weight} = \text{mass} \times \text{gravity}$$

For example:

Paula's mass is 30 kg.

Paula's dog's mass is 10 Kg.

On Earth:

The Earth's gravity is 9,8 N

Paula's weight is $9,8\text{N} \times 30\text{Kg} = 294 \text{ N/Kg}$

Paula's dog's weight is $9,8\text{N} \times 10\text{Kg} = 98 \text{ N/Kg}$

On Jupiter:

Gravity on Jupiter is 25N

Paula's weight is $25\text{N} \times 30\text{Kg} = 750 \text{ N/Kg}$

Paula's dog's weight is $25\text{N} \times 10\text{Kg} = 250 \text{ N/Kg}$

Beware of your words!
When we measure in
Kilograms (Kg) we are
talking about mass,
not weight.
Weight is measured in
Newtons per Kilogram (N/Kg).