We sometimes confuse weight with mass. When you step on a scale at home you are getting your mass.

Copy

Force - is a push or pull.

Gravity - is a natural force that causes an object to move toward the center of the earth.

Weight - is the force of gravity exerted on an object.

- Measured in Newtons (N)

Copy

The pull of gravity everywhere on an earth' surface is the same. It is a downward force of 9.8 N for every kilogram of its mass. (9.8N/kg)

Copy

Ex) A bag of sugar has a mass of 2kg

$2\ kg \times \frac{9.8\ N}{1kg} = 19.6\ N$ BUT weighs 19.6 N

You Try $1kg = 9.8N$

Assume you have a mass of 50 kg. What would be your weight on earth?

9.8×50 half

9.8×100

980

$50kg \times \frac{9.8N}{1kg} = 490N$

Supplies soon needed for activity

Density Formula

Density of a substance can be determined by calculating its mass-to-volume ratio.

Density = $\frac{\text{mass}}{\text{volume}}$

Shorthand: $D = \frac{m}{V}$

Rearranged: $V = \frac{m}{D}$ $m = V \times D$

-For liquids density is measured in g/mL or g/L

-For solids density is measured in g/cm^3

Density of water is 1.00 g/mL

A substance that had a density of 2.85 g/mL would sink in water. It is more dense than water. (more than water 1.0 g/mL)

A substance that had a density of 0.82 g/mL would float in water. It is less dense than water. (less than 1.0 g/mL)

Attachments

Archimedes story.docx

Chapter 5 Review Questions Pg 160.docx