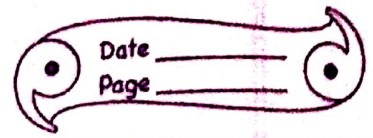


Name: Anuj Sapkota
Class: 8 'G'



Pressure

Work

1) What is Pressure? Write down the value of standard atmospheric pressure.

→ Pressure is the force acting ~~upon~~ perpendicularly on a unit area of a surface.

→ The value of standard atmospheric pressure is 760mmHg or 101300 N/m^2 .

2) Write any 4 advantages of atmospheric pressure.

→ It helps to fill ink in a fountain pen.

→ It helps to fill medicine in a syringe.

→ It helps to ~~drink~~ ^{suck} soft drinks through a straw.

→ It helps to lift water by using a water pump.

3. Calculate the density ^{and relative density} of an object having mass 25kg and volume 4 m^3 .

→ Soln

Here,

$$\text{Mass (m)} = 25 \text{ kg}$$

$$\text{Volume (V)} = 4 \text{ m}^3$$

$$\text{density (d)} = ?$$

We know,

$$d = \frac{m}{V} = \frac{25 \text{ kg}}{4 \text{ m}^3} = 6.25 \text{ kg/m}^3$$

Now,

$$\text{RD [Relative Density]} = \frac{6.25 \text{ kg/m}^3}{1000 \text{ kg/m}^3}$$

$$\therefore \text{RD} = 0.00625$$

∴ density is 6.25 kg/m^3 and relative density is 0.00625 .

4.) How much pressure is exerted by kerosene kept in a container up to a height of 8 m ?

→ Soln

Here,

density $[d] = 800 \text{ kg/m}^3$

height $[h] = 8 \text{ m}$

~~gravity $[g] = 9.8$~~

pressure $[P] = ?$

We know,

$$P = dgh$$

$$= 800 \times \cancel{8} \times 9.8 \times 8$$

$$= 62720 \text{ pa}$$

∴ The Pressure exerted by kerosene is 62720 pa .

5.) A container of 10 m is half filled with water. Find out the pressure exerted by water at the base of container.

→ Soln

Here,

$$\text{Height } [h] = 10/2 = 5 \text{ m}$$

$$\text{Density } [d] = 1000 \text{ kg/m}^3$$

Now,

$$P = dgh$$

$$= 1000 \times 9.8 \times 5$$

$$= 49,000 \text{ Pa}$$

∴ Answer is 49,000 Pa.

6. A small iron nail sinks ^{but} ~~in~~ large piece of wood floats. Why?

→ ... Because the density of iron is more compared to the density of wood.

7. A gas balloon burst after reaching to a high altitude. Give reason.

→ ... Because the gas balloon can't resist the atmospheric pressure of the high altitude.

8. An egg floats in salty water ~~but~~ but sinks in pure water. Why?

→ ... because ~~the~~ the density of egg is higher ~~than~~ than density of pure water and less than salty water.