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Class : 8 'G'

Date
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Pressure
Work

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

→ Pressure is the force acting ~~uper~~ 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 $4m^3$.

→ Soln
Here,
Mass(m) = 25kg
Volume(V) = 4m³
density (d) = ?

We know,

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

Now,

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

∴ RD = 0.00625

∴ density is 6.25kg/m³ and relative density is 0.00625.

4.25|6.
30 2
-24 5
10
-8
20
-20
x

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

→ Soln
Here,

density [d] = 800 kg/m^3
height [h] = 8m
~~gravity [g] = 9.8~~
pressure [P] = ?

We know,

$P = dgh$

$= 800 \times 9.8 \times 8$

$= 62720$ pa

∴ The Pressure exerted by kerosene is 62720 pa.

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

→ Sol^n

Here,

Height [h] = 10/2 = 5m

Density [d] = 1000 kg/m^3

Now,

$P = dgh$

$= 1000 \times 9.8 \times 5$

$= 49,000$ Pa

∴ Answer is 49,000 Pa.

6. A small iron nail sinks but 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 density of egg is higher ~~than~~ than density of pure water and less than salty water.