

PHYSICS: ASSIGNMENT 4:

THRUST, PRESSURE, ARCHIMEDES PRINCIPLE,

RELATIVE DENSITY

1. Explain:
 - (a) Railway tracks are laid on large sized wooden or iron sleepers.
 - (b) A sharp knife is more effective in cutting the object than a blunt knife.
 - (c) A camel walks easily on a sandy surface than a man inspite of the fact that a camel is much heavier than a man.
 - (d) A sharp needle pierces the wood easily but not a blunt knife although the force applied on both the needles is same.
2. A cubical block of mass 2 kg with each side of 2 cm is lying on ground. Calculate pressure exerted by block on ground.
3. The pressure exerted by weight of a cubical block of side 3 cm on surface is 5 Pa. calculate weight of the block. Force = weight.
4. Explain:
 - (a) A bucket filled with water appears to be lighter inside the water.
 - (b) A balloon filled with hydrogen rises up.
 - (c) A small iron needle sinks in water but a ship made of iron floats in water.
 - (d) A heavy stone can be lifted easily when immersed in water.
 - (e) How does a submarine dives and then resurfaces above the water?
 - (f) Explain the floating of ice-bergs in the sea water.
 - (g) Why does the iron ball sink in the water but rubber ball floats in water?