



### Force and pressure solved questions

Fill in the blanks

1. A force can cause a change in state and direction of an object.
2. An interaction between two objects causes a force.
3. Force applied by direct touching an object is called contact force.
4. Gravitational force is an example of non contact force.
5. Liquid exerts pressure in all direction.
6. Air exerts pressure on the earth due to its weight.
7. Atmospheric pressure is measured by using barometer is made by E. Torricelli.
8. Aneroid barometer does not use any liquid
9. Gases and Liquid are collectively called Fluid.

Match the Column

1. Earth revolving around the sun->gravitational force
2. A force applied by touching-> Contact force
3. Force between two charged object->electrostatic force
4. Bloating of the tube of cycle tyre -> air pressure
5. Force applied per unit area-> pressure

State true or false

1. A player kicking football in an example of a non contact force-> F
2. Liquid and gases do not exert pressure-> F
3. Pressure in liquid decreases with depth -> F
4. Like charges repel and unlike charge attract each other-> T





5. Magnetic pole attract magnetic substance like iron-> T

Think Zone

Q. What is the role of air pressure in the filling of a syringe with a liquid medicine, by a doctor?

Answer: The air pressure plays an important role in the filling of syringe as the liquid medicine rushes into the syringe when air pressure inside it decreases on pulling piston out.

Q. Why do people with high blood pressure sweat a lot?

Answer: This is because the pressure of their body fluid becomes more than atmospheric pressure. This forces the water to ooze out easily.

Q. There is a famous saying in Hindi a sword cannot replace a needle. Give reason for the saying in the light of physics

Answer: In the physics, the pressure applied on needle gets concentrated its tip i.e. on very small area and hence it pierces the cloth easily. But to make the sword cut a surface; we have to apply much higher pressure due to large surface area of the cutting edge of the sword. Hence a sword cannot replace a needle.

Q. Every square centimeter of our body experience atmospheric force equal to mass of 100kg that is enough to grind us. Then why do people cannot crushed by atmospheric pressure?

Answer: this is because there is pressure exerted by our body due to flow of blood that equalizes atmospheric pressure.

Q. A plastic comb when rubbed with hair can attract piece of paper. Name force and its nature?

Answer: Electrostatic Force. It is generated when a charged body meets to another charged or by rubbing two uncharged body.

Q. Why it is not easy to walk wearing high heels shoe?

Ans: High heels shoe distribute a large amount force in a Small area hence making her feel uncomfortable while walking on ground.





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Q. Give two uses of fluid pressure?

Ans: Cooling, Cooking, filling LPG in cylinder

Q. Give reason:

(a) A rolling ball stops after moving some distance

Answer: This is because of friction force of the ground that opposes motion.

(b) Every object left above the surface of the earth without a support, fall downwards.

Answer: This is due to gravitational pull of the earth.

(c) If gravitational force act between you and your friend. Then why should not you pull each other?

Answer: Gravity only becomes noticeable when there is a really massive object like a moon, planet or star. Due to small masses no force of gravity is noticed



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