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a solid surface can exert pressure but fluids i e liquids or gases can also exert pressure this might seem strange if you think about it because it s hard to imagine hammering in a nail with liquid to make sense of this imagine being submerged to some depth in water this physics video tutorial provides a basic introduction into pressure and fluids pressure is force divided by area the pressure due to weight of a fluid can be calculated by finding the a fluid is a state of matter that yields to sideways or shearing forces liquids and gases are both fluids fluid statics is the physics of stationary fluids density is the mass per unit volume of a direction of pressure in a fluid fluid pressure has no direction being a scalar quantity whereas the forces due to pressure have well defined directions they are always exerted perpendicular to any surface the reason is that fluids cannot withstand or exert shearing forces 14 1 fluids density and pressure a fluid is a state of matter that yields to sideways or shearing forces liquids and gases are both fluids fluid statics is the physics of stationary fluids density is the mass per unit volume of a substance or object defined as  $\rho = \frac{m}{V}$  the si unit of density is  $\text{kg m}^{-3}$  a solid in contact with a fluid experiences a force all over its outer surface pressure is the ratio of the force applied to the area over which it is exerted direction of pressure in a fluid fluid pressure has no direction being a scalar quantity whereas the forces due to pressure have well defined directions they are always exerted perpendicular to any surface the reason is that fluids cannot withstand or exert shearing forces pressure and pascal s principle part 1 sal explains the difference between liquids and gasses both fluids he then starts a calculation of the work done on a liquid in a u shaped container created by sal khan pressure and pascal s principle part 1 pressure and pascal s principle part 2 pressure at a depth in a fluid finding height of fluid in a barometer what is pressure define pressure and its related si units explain the relationship between

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