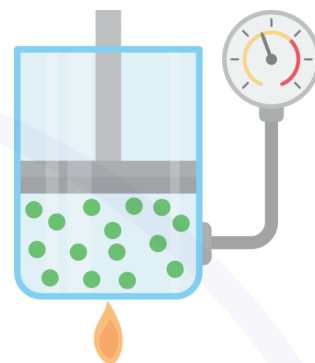


# PRESSURE IN LIQUIDS, GASES, AND SOLIDS

## Key Concepts

- Pressure is the force applied per unit area.
- Pressure acts differently in liquids, gases, and solids.



## Key Facts to Remember

- Pressure = Force  $\div$  Area, measured in pascals (Pa).
- In liquids, pressure increases with depth.
- Gases exert pressure when particles collide with container walls.
- Atmospheric pressure decreases with altitude.
- Solids apply pressure through contact surfaces, e.g., high heels exert more pressure than flat shoes.
- Hydraulic systems use liquid pressure to multiply force.
- Reducing area increases pressure (e.g., a knife blade).
- Vacuum packs remove air to reduce pressure inside the pack.

## Quick Questions

1. What is the formula for pressure?
2. In which unit is pressure measured?
3. What happens to liquid pressure as depth increases?
4. What causes gas pressure?
5. Why does atmospheric pressure decrease with altitude?
6. Give an example of reducing area to increase pressure.
7. What do hydraulic systems use to multiply force?
8. Why are vacuum packs effective?

## Fun Fact

**At the bottom of the Mariana Trench, water pressure is over 1,000 times the pressure at sea level!**