Of course. Here is a quick snapshot of the key formulas and concepts from the chapter on Pressure for your revision.

Key Concepts 📝

- [cite_start]**Pressure Definition**: Pressure is the force acting per unit area[cite: 18, 21]. [cite_start]Its unit is the **Pascal (Pa)**, which is equal to one newton per square meter (N/m^2) [cite: 22].
- [cite_start]**Pressure and Area**: The effect of a force depends on the area over which it acts[cite: 8].
  - [cite_start]A **large area** decreases the pressure (e.g., skis on snow, wide tractor wheels)[cite: 16, 25].
  - [cite_start]A **small area** increases the pressure (e.g., sharp nails)[cite: 26].
- **Liquid Pressure**: The pressure in a liquid has several key properties:
  - [cite_start]It increases with **depth**[cite: 64].
  - [cite_start]It increases with the **density** of the liquid[cite: 88].
  - [cite_start]It acts **equally in all directions** at a specific depth[cite: 66].
- [cite_start]**Hydraulic Machines**: These machines, like jacks and car brakes, use a liquid to transmit pressure[cite: 116, 147]. [cite_start]They work because liquids are almost **incompressible**[cite: 115]. [cite_start]They act as force multipliers, where a small force on a small area creates a large force on a larger area[cite: 127].
- [cite_start]**Dams**: Dam walls must be built **thicker at the bottom** because the water pressure is much greater at deeper levels[cite: 96, 101].

Key Formulas ➗

- **Pressure**
  [cite_start]$p = \frac{F}{A}$ [cite: 19]
  - **p** = Pressure (in Pa)
  - **F** = Force (in N)
  - **A** = Area (in m^2)
- **Pressure in a Liquid**
  [cite_start]$\Delta p = \rho g \Delta h$ [cite: 176]
  - **Δp** = Change in pressure (in Pa)
  - **ρ** = Density of the liquid (in kg/m^3)

- **g** = Gravitational field strength (in N/kg)
- **Δh** = Depth (in m)

- **Hydraulic Machines**

  [cite_start]$F = f \times \frac{A}{a}$ [cite: 126]
  - **F** = Output force (on the large piston)
  - **f** = Input force (on the small piston)
  - **A** = Area of the large piston
  - **a** = Area of the small piston