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Crash Course Physics #14: Fluids at Rest

Name: _____ Date: _____

You can access the video here → https://youtu.be/5S5qYsWT4-4?si=ySTN5sS2r_o9M967

- _____ is defined as mass divided by volume and is measured in kilograms per cubic meter.
- The pressure in a fluid increases with _____ due to the weight of the fluid above.
- The equation for pressure due to a fluid's depth is: density $\times$ gravity $\times$ _____.
- _____ exert pressure in every direction.
- The standard atmospheric pressure at sea level is approximately _____ Pascals.
- A _____ fluid is one that is trapped and cannot escape, like water in a closed container.
- _____ Principle states that a change in pressure in a confined fluid is transmitted equally in all directions.
- In hydraulics, the ratio of _____ to input force equals the ratio of output area to input area.
- A _____ is a U-shaped tube used to measure pressure differences.
- Gauge pressure is the difference between _____ pressure and the pressure inside a system.
- _____ pressure is the total pressure inside a system, including atmospheric pressure.
- A _____ uses mercury in a vertical tube to measure atmospheric pressure.
- _____ Principle explains why objects float or sink based on the buoyant force.
- The _____ force on an object in a fluid is equal to the weight of the fluid displaced.
- An object floats when the buoyant force equals the force of _____ acting on it.

Crash Course Physics #14: Fluids at Rest KEY

- Density** is defined as mass divided by volume and is measured in kilograms per cubic meter.
- The pressure in a fluid increases with **depth** due to the weight of the fluid above.
- The equation for pressure due to a fluid's depth is: density $\times$ gravity $\times$ **height**.
- Fluids** exert pressure in every direction.
- The standard atmospheric pressure at sea level is approximately **101,325** Pascals.
- A **confined** fluid is one that is trapped and cannot escape, like water in a closed container.
- Pascal's** Principle states that a change in pressure in a confined fluid is transmitted equally in all directions.
- In hydraulics, the ratio of **output force** to input force equals the ratio of output area to input area.
- A **manometer** is a U-shaped tube used to measure pressure differences.
- Gauge pressure is the difference between **atmospheric** pressure and the pressure inside a system.
- Absolute** pressure is the total pressure inside a system, including atmospheric pressure.
- A **barometer** uses mercury in a vertical tube to measure atmospheric pressure.
- Archimedes'** Principle explains why objects float or sink based on the buoyant force.
- The **buoyant** force on an object in a fluid is equal to the weight of the fluid displaced.
- An object floats when the buoyant force equals the force of **gravity** acting on it.

15 Questions

Answer Key Included

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