

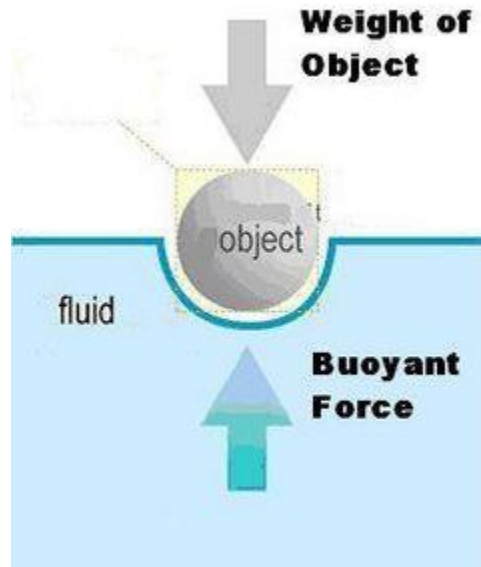
Floating and Sinking

Density

- Comparing densities, you can predict whether an object will float or sink in a fluid.
- If object is more dense than fluid - it sinks (obviously!)
- If object is less dense than fluid - it floats. (no, duh...)
- An object with a density equal to that of the fluid floats at a constant depth.
- **Density = Mass / Volume**
- Density of water = 1.0
- Changing density can explain why an object (like a submarine) floats or sinks.

Buoyancy

- **Buoyancy** is the ability to float.
- Buoyant force is when water and other fluids exert an upward force.
- The buoyant force acts in the direction opposite to the force of gravity, so it makes an object feel lighter.
- The less dense the object is, the greater the buoyant force it experiences.



Archimedes Principle

- Archimedes Principle states that the buoyant force acting on a submerged object is equal to the weight of the volume of fluid displaced by the object.