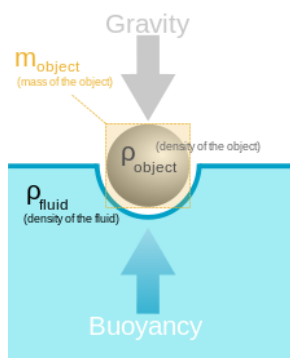


# Archimedes law about buoyand force

In physics, **buoyancy** (/ˈbɔɪənsi, -əntsi, ˈbuːjənsi, -jəntsi/) or **upthrust**, is an upward force exerted by a fluid.

The magnitude of that force (as explained by Archimedes' principle) is equivalent to the weight of the fluid that displaced by the object.

For this reason, an object whose density is greater than that of the fluid in which it is submerged tends to sink. If the object is either less dense than the liquid or is shaped appropriately (as in a boat), the force can keep the object afloat. This can occur only in a non-inertial reference frame, which either has a gravitational field or is accelerating due to a force other than gravity defining a "downward" direction. In a situation of fluid statics, the net upward buoyancy force is equal to the magnitude of the weight of fluid displaced by the body.



1. Směr gravitace
2. Směr vztlaku
3. Hustota tělesa
4. Hustota kapaliny
5. Hmotnost tělesa

The forces at work in buoyancy. Note that the object is floating because the upward force of buoyancy is equal to the downward force of gravity.



Density column of liquids & solids:

- 1... baby oil (dětský olej)
- 2... alcohol (with red food coloring) (líh)
- 3... vegetable oil (rostlinný olej)
- 4... wax (vosk)
- 5... water (with blue food coloring) (voda)
- 6... aluminum (hliník)



A metallic coin (an old British pound coin) floats in mercury due to the buoyancy force upon it and appears to float higher because of the surface tension of the mercury.

The Galileo's Ball experiment, showing the different buoyancy of the same object, depending on its surrounding medium. The ball has certain buoyancy in water, but once ethanol is added (which is less dense than water), it reduces the density of the medium, thus making the ball sink further down (reducing its buoyancy).

*Buoyancy*. (10. 11 2019). Načteno z Wikipedia: <https://en.wikipedia.org/wiki/Buoyancy>

*Jordan*. (10. 11 2019). Načteno z Wikipedia: <https://en.wikipedia.org/wiki/Jordan>