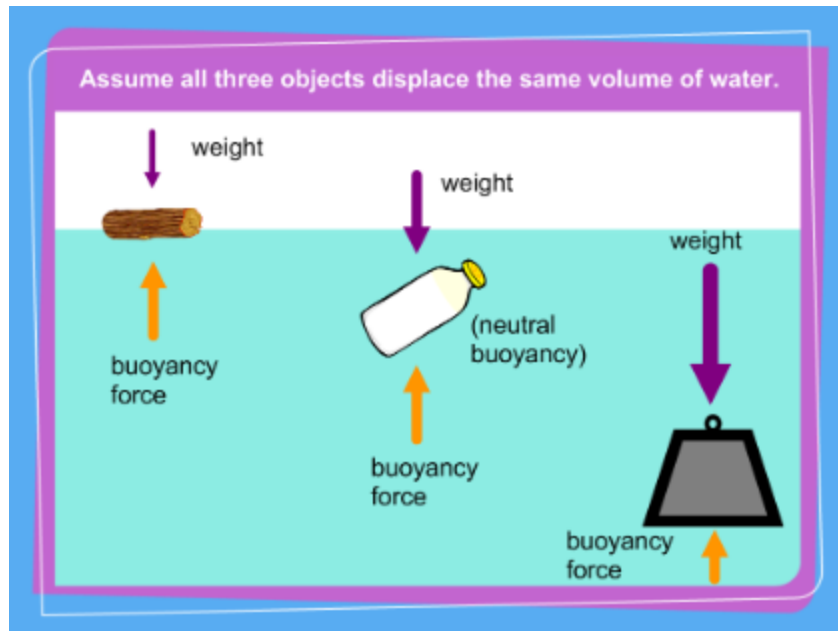


Buoyancy

“an upward force exerted by a fluid that opposes the weight of a sinking object. In a column of fluid, pressure increases with depth as a result of the weight of the overlying fluid. Thus the pressure at the bottom of a column of fluid is greater than at the top of the column.” [Wikipedia]



- **Challenge:**
Some special passengers were stranded on an island when their boat sank. They need your help! You need to build a boat that will carry as many passengers as possible to the mainland using only the supplies available.
- A team gets 12" of masking tape. Students can use only ONE of these materials to make their boats:
 - 10 wooden popsicle sticks
 - 10 LEGO blocks
- Draw final design in student journal
- List materials chosen for boat
- Estimate and record in the journal the number of pennies and their weight that your boat can support. How many cubic inches of water were displaced?
- Record in the journal success or failure. Why did your boat succeed or fail?
- If you have time, try to improve your design.

Water weight per cubic inch in grams 16.4

The mass of a penny was 3.1 grams before 1982, but a penny after 1982 weighs 2.5 grams.