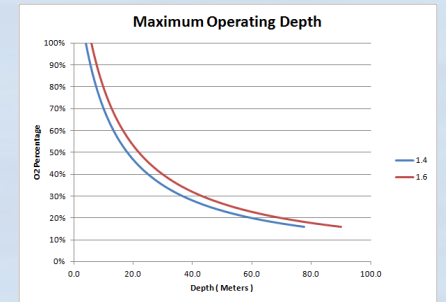
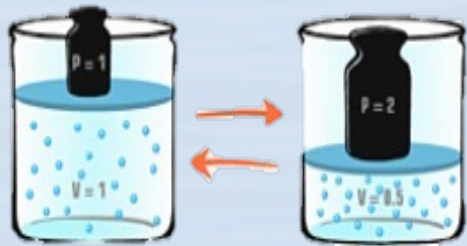


Calculating Partial Pressure

For Air / Nitrox Diving



Calculating Partial Pressure For Air / Nitrox Diving

- Its essential that the Dive Supervisor can calculate the Partial Pressures his divers are breathing.
- How would you work out the ppO_2 & ppN_2 in a 40/60 Nitrox mix if your Nitrox dive is to 20 msw?
- **Daltons Law $pp = AP \times \% \div 100$**



Calculating Partial Pressure For Air / Nitrox Diving



- **Oxygen example**
- When pp = partial pressure
- AP absolute pressure depth $20 \div 10 = 2 \text{ bar} + 1 \text{ bar} = 3 \text{ bar}$
- $\% = O_2$
- $ppO_2 = 3 \text{ bar} \times 40 \div 100$ Therefore $= 3 \times 0.40 = 1.2$ Therefore $ppO_2 = \mathbf{1.2 \text{ bar}}$

Calculating Partial Pressure For Air / Nitrox Diving



- **Nitrogen example**
- When pp = partial pressure
- AP absolute pressure depth $20 \div 10 = 2 \text{ bar} + 1 \text{ bar} = 3 \text{ bar}$
- $\% = N_2$
- $ppN_2 = 3 \text{ bar} \times 60 \div 100$ Therefore $= 3 \times 0.60 = 1.8$ Therefore $ppN_2 = \mathbf{1.8 \text{ bar}}$.

Calculating Partial Pressure For Air / Nitrox Diving



- **Calculating a % using Daltons Law**
- How to calculate the % of O₂ in air if you did not know that there is 21% O₂ in air, but you did know that at 50 msw the ppO₂ is 1.26 bar.
- $\% = \text{ppO}_2 \times 100 \div \text{AP}$
- $\% = \text{O}_2$
- AP absolute pressure depth $50 \div 10 = 5 \text{ bar} + 1 \text{ bar} = 6 \text{ bar}$
- $\text{ppO}_2 = 1.26$
- $\% = 1.26 \times 100 \div 6$ Therefore $\% = 126 \div 6 = \mathbf{21\%}$

You would never have to work this out being a Air Supervisor its more just to show how to calculate a percentage and it basically proves the law works.

Calculating Partial Pressure

For Air / Nitrox Diving

