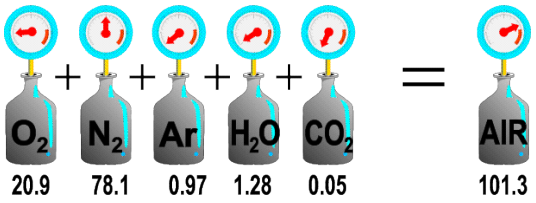
Dalton's Law of Partial Pressures –

In a _____ of gases, each gas exerts a certain _____ as if it were alone. The pressure of each one of these gases is called the _____ pressure. The total pressure of a mixture of gases is the _____ of all of the _____ _____.

$$P_{total} = P_1 + P_2 + P_3 \ldots$$



Example: What is the total pressure of a mixture of gases made up of CO_2, O_2, and H_2 if the partial pressures are 22.3 kPa, 44.7 kPa, and 112 kPa, respectively? _____

1. A tank contains a mixture of O_2 gas and H_2 gas. If the pressure of O_2 in the tank is 1.4 atm and the total pressure in the tank is 6.2 atm, what is the partial pressure of H_2 gas in the tank?

2. The pressure of a mixture of nitrogen, carbon dioxide, and oxygen is 150kPa. What is the partial pressure of oxygen, if the partial pressures of the nitrogen and carbon dioxide are 100. kPa and 24 kPa, respectively?

3. A 3.0 liter container contains 1.0 liter of N_2 gas and 2.0 liters of H_2 gas. If the total pressure of the container is 3.0 atm, what is the partial pressure of each gas in the container (think about the volumes of each gas as they relate to the total volume of the container, then apply this to pressure).