



A modern statement of Avogadro's law is:

For a given mass of an ideal gas, the volume and amount (moles) of the gas are directly proportional if the temperature and pressure are constant.

$$V \propto n$$

For comparing the same substance under two different sets of conditions, the law can be usefully expressed as follows:

$$\frac{V_1}{n_1} = \frac{V_2}{n_2}$$

The equation shows that, as the moles of gas increases, the volume of the gas also increases in proportion. Similarly, if the number of moles of gas is decreased, then the volume also decreases. According to this : Pumping is a process of adding gas (air) in some space (basketball ball or bicycle wheel). Air is a mixture of some gases as molecules. So as the moles of gas increases, the volume of the gas also increases in proportion.