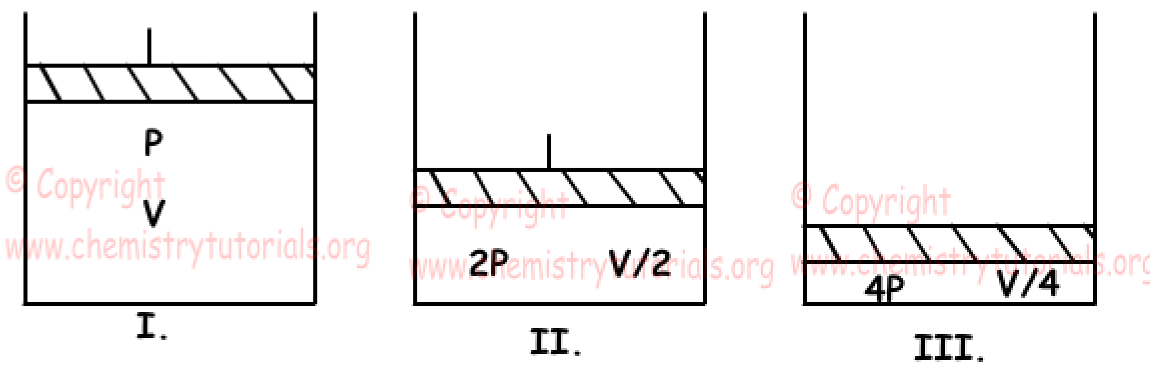
https://youtu.be/WhP6zJbSxec
https://youtu.be/TqLlfHBFY08
https://youtu.be/kOp-3CMb6nY

Remind ourselves that Ideal **Gas Law** is PV=nRT. If you're not given moles or mass, or not asked to calculate Moles or Mass, do not use the Ideal **Gas Law**. If you are given Moles or Mass, or asked to calculate Moles or Mass, the only thing you can use is Ideal **Gas Law**. Make sure you're aware of that.



n first container we have P.V

In second container we have 2P.V/2=P.V

In third container we have 4P.V/4=P.V

As you can see; as we decrease the volume of container, pressure of gas increases with same amount and multiplication of P and V is always constant.

Example: Gas having 150 cm^3 volume has pressure 120 cmHg. If we increase volume of container to 300 cm^3, find final pressure of the gas.

Since $P_1.V_1$ is constant from boyle's law;

$P_1.V_1=P_2.V_2$

$120.150=P_2.300$

P_2=60 cm Hg

As you can see from the example, as we increase volume of gas, pressure decreases with same amount.

Here are all laws dealing with gases.

Gas Law Formula		
Gas Law	**Formula**	**Description**
Boyle's Law	$P_1V_1 = P_2V_2$	At constant *T*, as pressure increases, volume decreases.
Charles' Law	$\frac{V_1}{T_1} = \frac{V_2}{T_2}$	At constant P, as volume increases, temperature increases.
Gay-Lussac's Law	$\frac{P_1}{T_1} = \frac{P_2}{T_2}$	At constant V, as pressure increases, temperature increases.
Combined Law	$\frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2}$	Obtained by combining Boyle's Law, Charles' Law and Gay-Lussac's Law.
Ideal Gas Law	$PV = nRT$	

V = volume in dm^3 T = temperature in K	P = pressure in kPa n = number of moles	R = ideal gas constant