Chemistry 20	Unit 2
Lesson 10 - Review	84 mins

Gas Laws

Boyle's Law - Constant Temperature	$P_1V_1 = P_2V_2$ $\uparrow P = \downarrow V$ $\uparrow V = \downarrow P$
Charles' Law - Constant Pressure	$\frac{V_1}{T_1} = \frac{V_2}{T_2}$ $\uparrow T = \uparrow V$ $\downarrow T = \downarrow V$
Guy Lussac's Law - Constant Volume	$\frac{P_1}{T_1} = \frac{P_2}{T_2}$ $\uparrow T = \uparrow P$ $\downarrow T = \downarrow P$
Combined Gas Law	$\frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2}$
Ideal Gas Law	$PV = nRT$

Ideal Gases

Ideal Gases	Real Gases
- Each molecule takes up no space, volume of each molecule can be described as 0. - Don't change state. Are gases from 0K to 1000K and up… - NO intermolecular forces	- Each molecule takes up space, each molecule has a defined volume, albeit small. - Molecules have intermolecular forces (LDFs mostly)

Real gases will ask like ideal gases at high temperatures and low pressures.

Law of Combined Volumes

$N_2 + (3)H_2 \rightarrow (2)NH_3$ - Similar to unit conversation	1 : 3 : 2 If you have 12 L of H_2 what is the volume of NH_3 produced if N_2 is in excess, (ie WAY more then there is H_2) 12 L of H_2 x $\frac{2\ of\ NH3}{3\ of\ N2}$ = 8.0 L of NH_3