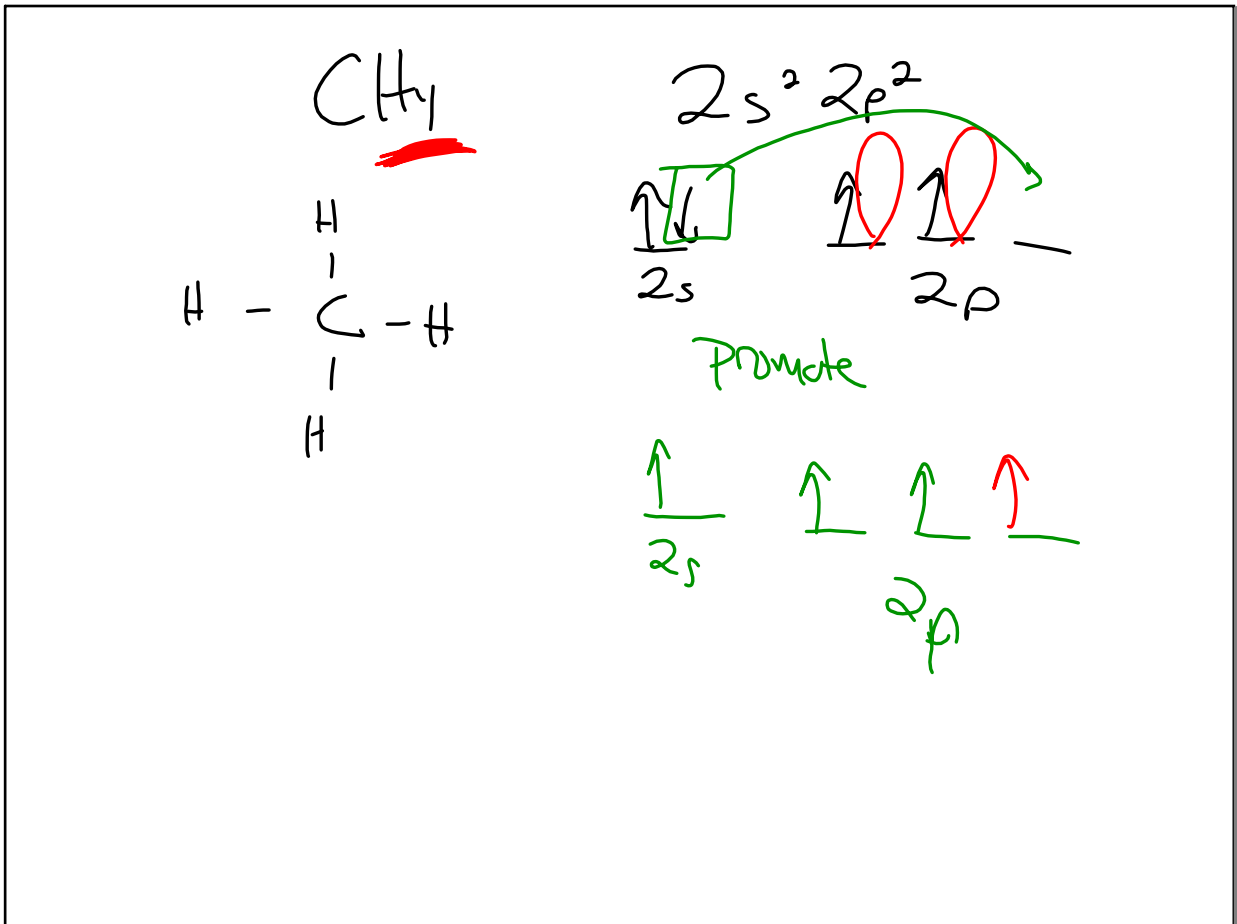


Dec 15-8:04 AM



Dec 15-8:13 AM

~~N (2s)~~

Per 2 S + P  
 $sp, sp^2, sp^3$

2s<sup>2</sup> 2p<sup>3</sup>

Wait until 3<sup>rd</sup> Period  
 $sp^3 d$      $sp^3 d^2$

$\uparrow\downarrow$      $\uparrow$      $\uparrow$      $\uparrow$   
 2s            2p

No d sublevel  
in the 2<sup>nd</sup> PER  
No "2d"

Dec 15-8:16 AM

10/20b

785 <del>torr</del>	101.35 kPa	
		760 <del>torr</del>

=

$1.323 \times 10^5 \text{ Pa} = 1.323 \times 10^2 \text{ kPa}$

$1.323 \times 10^2 \text{ kPa}$	1 kPa	1 atm	=	1.306 atm
	$1000 \text{ Pa}$	$101.325 \text{ kPa}$	=	

Dec 15-8:23 AM

10.73c

0.985 atm

74.86 - 52 = 22.86 mmHg

$P_{atm} > P_{gas}$   
by 52cm

52cm

76cm

1 atm

74.86cm P<sub>atm</sub>

Dec 15-8:28 AM

Gas Laws

$P, V, T$

① Boyle's

$P_1 V_1 = \text{constant}$

$P_1 V_1 = P_2 V_2$

↑ ↓

Mult = indirect

② Charles

$\frac{V_1}{T_1} = \text{constant}$

$\frac{V_1}{T_1} = \frac{V_2}{T_2}$

division = direct

③ Gay-Lussac

$\frac{P}{T} = \text{constant}$

$\frac{P_1}{T_1} = \frac{P_2}{T_2}$

Combined Gas Law

$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$

Never  $\phi$

T must be in Kelvin

Dec 15-8:32 AM

Gas

$1 \text{ mole} = 22.4 \text{ L at STP}$

$0^\circ \text{C}$  or  $273 \text{K}$ .

IF Not STP

ATM

↑

L

↑

**MOLES**

↓

↑

Universal Gas Constant

↑

K

$$PV = nRT$$

Ideal Gas eqn

$0.08206 \frac{\text{L} \cdot \text{atm}}{\text{mole} \cdot \text{K}}$

Dec 15-8:36 AM

$* PV = nRT *$

$\frac{PV}{1} = \left( \frac{g}{\text{MW}} \right) RT$

$PV = nRT$

$\frac{\text{MW}}{1} = \frac{gRT}{PV}$

$\frac{n}{1} = \frac{P}{RT}$

$M = \frac{P}{RT}$ 

Molar mass

$\frac{\text{Moles}}{1} = \frac{g}{\text{MW}}$

Dec 15-8:39 AM

$$PV = nRT$$

$$\frac{PV}{1} = \frac{gRT}{MW}$$

$$\text{density} = \frac{g}{V} = \frac{P(MW)}{RT}$$

$$\text{density} = \frac{\text{mass}}{\text{Volume}} = \frac{g}{V}$$

Dec 15-8:42 AM

$$10 / 40 + 50$$

Dec 15-8:44 AM