

10.54  $\text{CaH}_2(s) + 2\text{H}_2\text{O}(l) \rightarrow \text{Ca(OH)}_2(aq) + 2\text{H}_2(g)$

2.38 mole $\text{H}_2$	1 mole $\text{CaH}_2$	42 g $\text{CaH}_2$
	2 mole $\text{H}_2$	1 mole $\text{CaH}_2$

Molar ratio

49.98 g  $\text{CaH}_2$

$V = 53.5 \text{ l}$   
 $P = 814 \text{ torr}$   
 $T = 21^\circ\text{C}$

$PV = nRT$   
 $n = \frac{PV}{RT} = \frac{\left(\frac{814}{760}\right)(53.5)}{(0.08206)(294)}$

$n = 2.38 \text{ Mole, H}_2$

Jan 6-8:05 AM

10.58  $\text{Ca}(s) + 2\text{H}_2\text{O}(l) \rightarrow \text{Ca(OH)}_2(aq) + \text{H}_2(g)$

0.752g

0.752 g $\text{Ca}$	1 mole $\text{Ca}$	1 mole $\text{CaH}_2$
	64 g $\text{Ca}$	1 mole $\text{Ca}$

0.01175 mole  $\text{H}_2$

$V = \text{--- l}$   
 $T = 23^\circ\text{C}$   
 over water!

$P_T = 745 \text{ torr}$

$P_T = P_{\text{H}_2} + P_{\text{H}_2\text{O}}$

$745 = P_{\text{H}_2} + 21.07$

$P_{\text{H}_2} = 723.93 \text{ mmHg}$

$P_{\text{H}_2} = 0.953 \text{ atm}$

$PV = nRT$   
 $V = \frac{nRT}{P} = \frac{(0.01175)(0.08206)(296)}{0.953}$   
 $V = 0.2995 \text{ l} \approx 0.3 \text{ l}$

Jan 6-8:24 AM

Chap 11 - Inter-Molecular Forces  
(IMF) **MAGNET**

Force **BETWEEN** molecules

Ionic / Covalent  $\Rightarrow$  forces within a molecule  
Intermolecular force

Jan 6-8:34 AM

150 lbs  
Person

Person

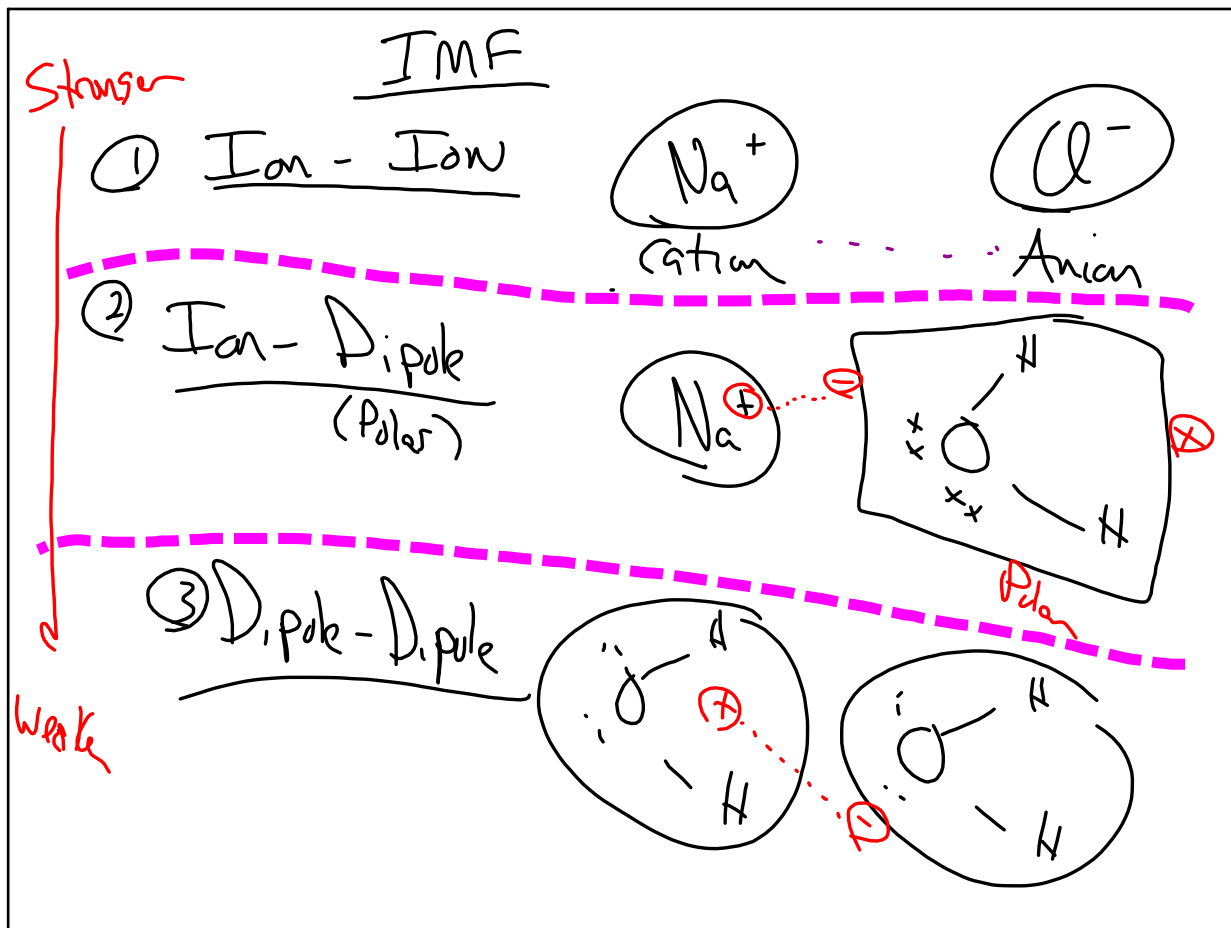
Van der Waals  
size.

50 lbs  
Person

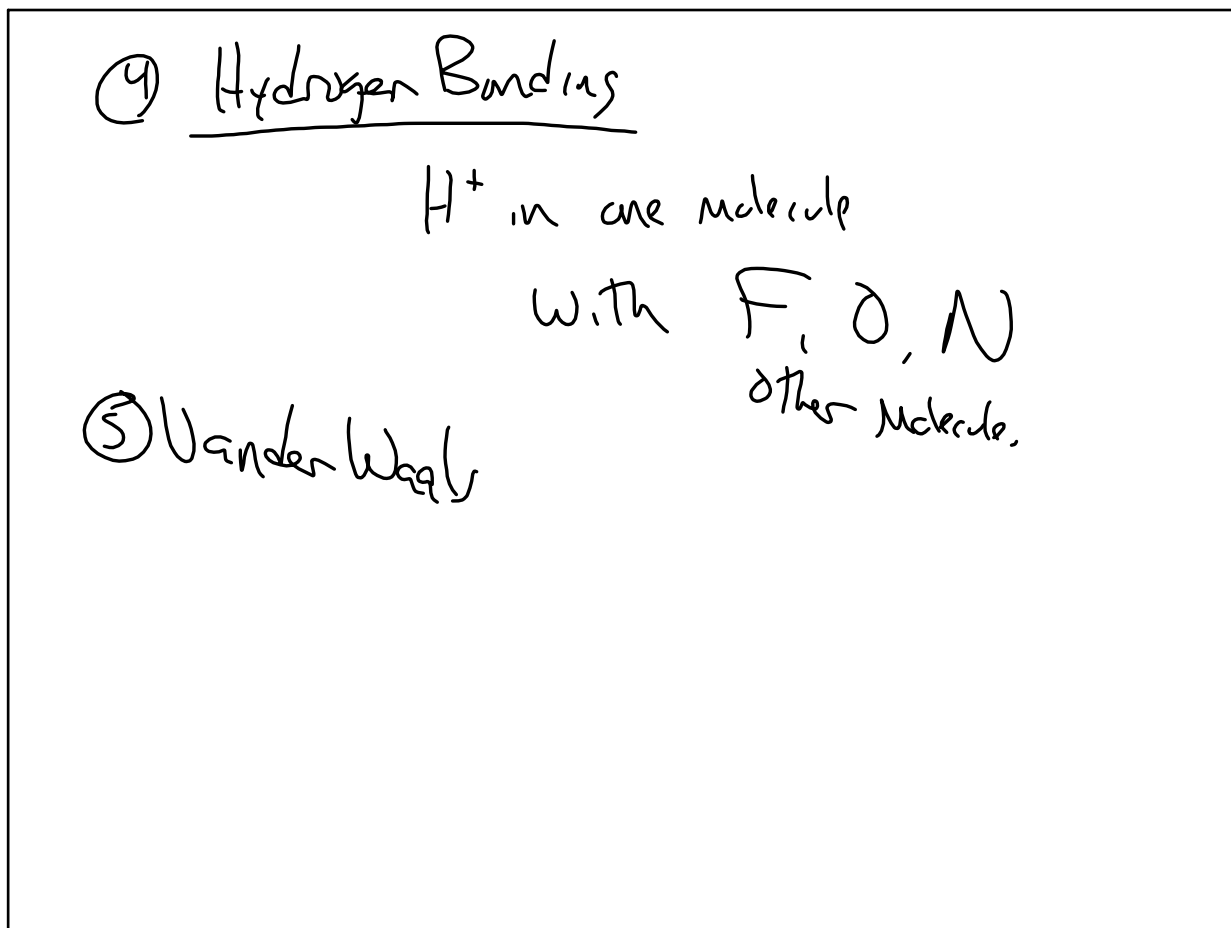
Earth

Person

Jan 6-8:39 AM



Jan 6-8:42 AM



Jan 6-8:45 AM

$$11 / 13 + 20$$

Jan 6-8:47 AM