

Survey exam

⑥  $\sigma$  Sigma bond  
 $\pi$  Pi bonds

$\sigma$ Single bond, $2e^-$	x	x	$\sigma$
$\sigma + 1\pi$ double	$4e^-$	xv xx	$\sigma$ $\pi$
$\sigma + 2\pi$ triple	$6e^-$	xvv xxx	$\sigma$ $\pi$ $\pi$

Sep 9-8:00 AM

⑧  $\frac{1 \text{ mole}}{6 \times 10^{23} \text{ particles}}$  ,  $\frac{? \text{ moles O atoms}}{1 \times 10^{22} \text{ molecules SO}_3}$

H  $\rightarrow$  flammable  
 O  $\rightarrow$  combustible

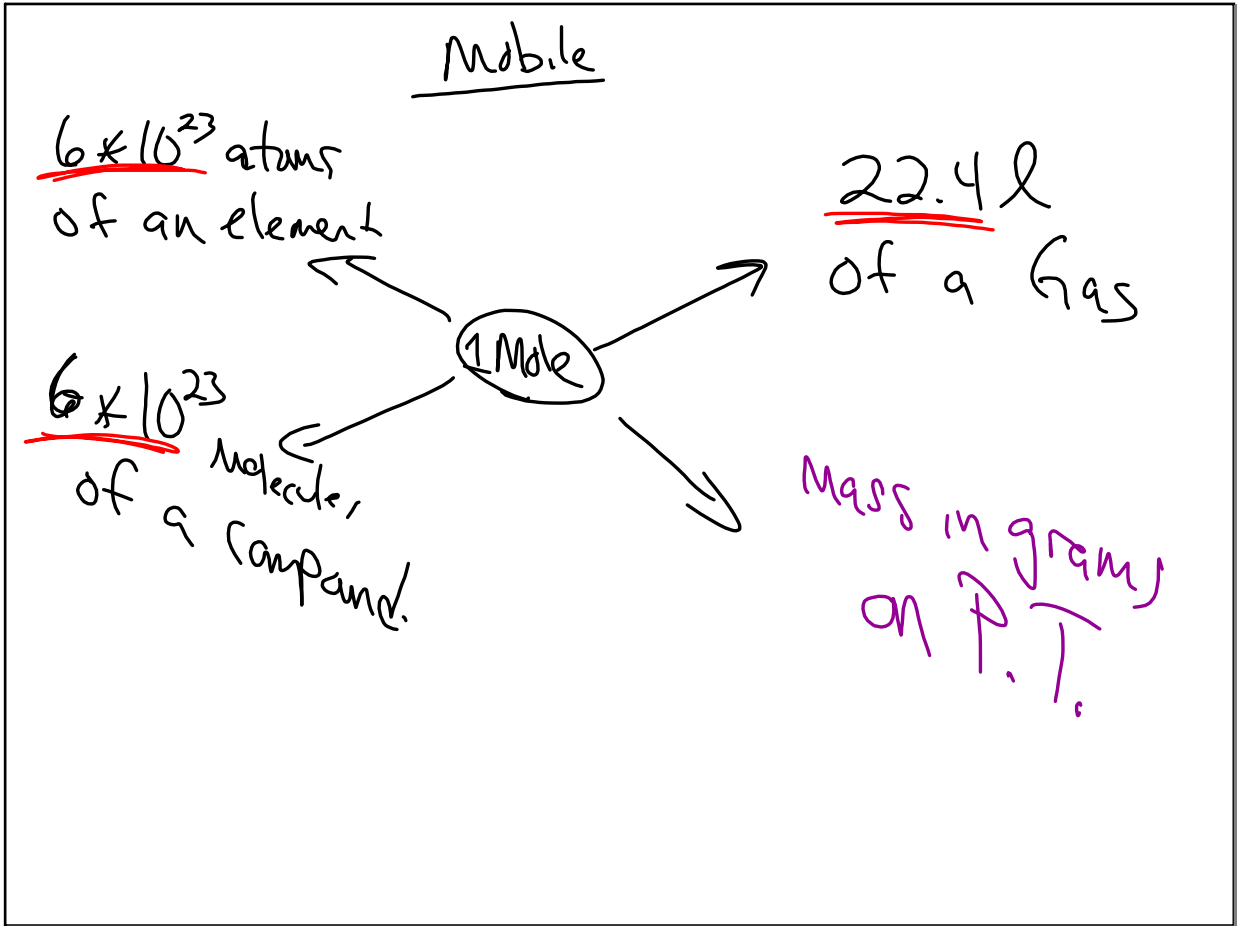
Combine  $\downarrow$  Chemical change, new properties

Elements  $\rightarrow$  Atoms (Smallest part, same prop.)

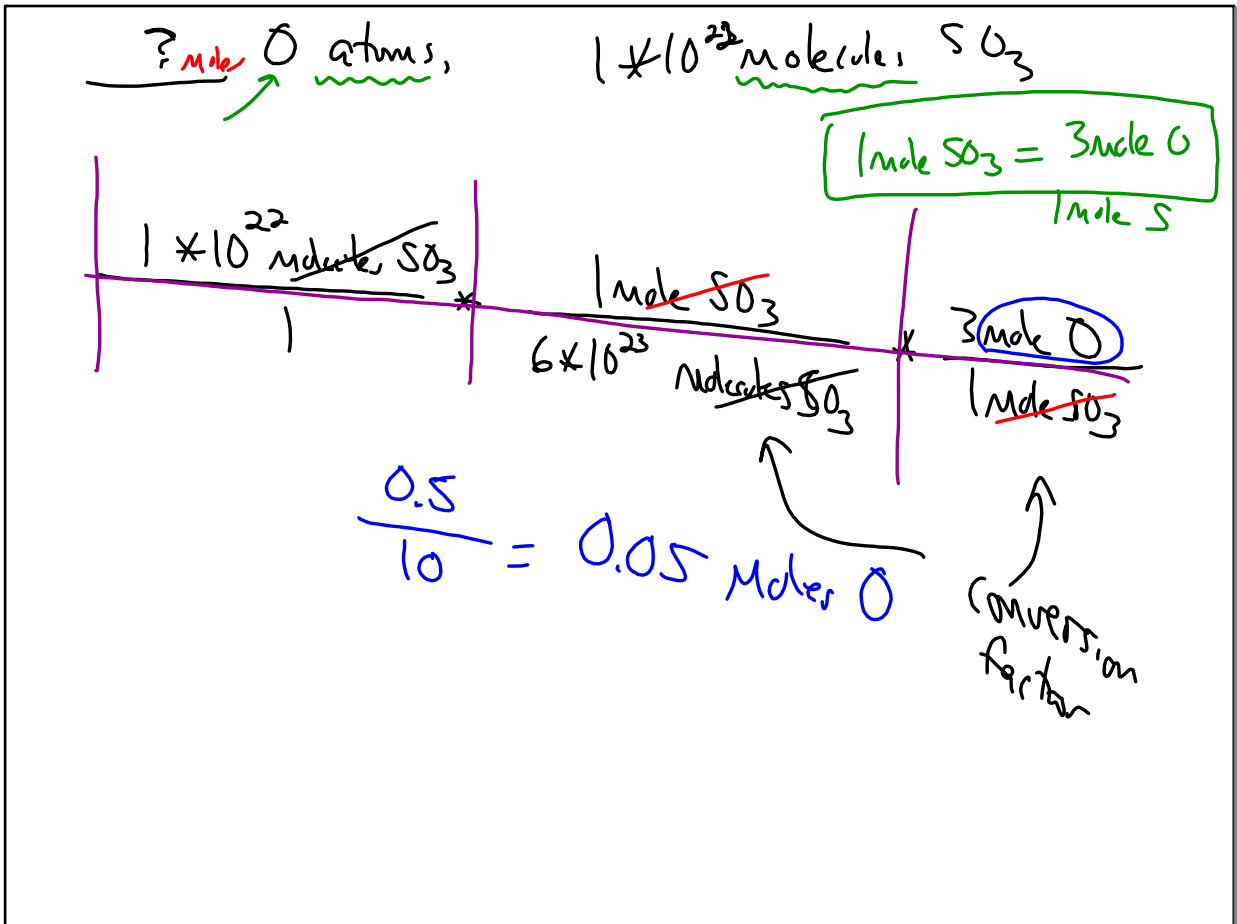
Compound  $\rightarrow$  Molecule (Smallest part of compound, same prop.)

H<sub>2</sub>O puts out fire

Sep 9-8:27 AM



Sep 9-8:45 AM



Sep 9-8:51 AM

(13)  $6 \times 10^{22}$  molecules  $H_2O = \text{---} g H_2O$

<del><math>6 \times 10^{22}</math></del> molecules <del><math>H_2O</math></del>	1	moles <del><math>H_2O</math></del>	18	g <del><math>H_2O</math></del>
	<del><math>6 \times 10^{23}</math></del>	Molecules <del><math>H_2O</math></del>	1	Moles <del><math>H_2O</math></del>

10

1.8 g  $H_2O$

Sep 9-9:00 AM

(14) Molarity  $\frac{M}{1} = \frac{\text{Moles of solute}}{\text{l of solution}}$

Moles =  $M \times l$

Sep 9-9:05 AM

15 Dilution

Moles start = Moles end

$$M * l = M * l$$

$$(0.2) * (0.150) = (1) * (l)$$

Sep 9-9:08 AM

Matter

homogeneous  
Same Throughout  
homogeneous mixture = solution  
(ex) atoms, elements  
molecules, compounds

heterogeneous  
Mixture  
*separate*

[Same]

0.9% NaCl (aq)  
Normal Saline

Sep 9-9:11 AM

## Separate

- ① Filter
- ② Distillation  $\rightarrow$  by BP.
- ③ Types of bond properties, Polar/NonPolar  
H<sub>2</sub>O / 0.1
- ④ Chromatography
- ⑤ Evaporation

Sep 9-9:21 AM

# seconds in yr.

<del>yr</del>	365.25 days	24 <del>hours</del>	60 <del>min</del>	60 <del>sec</del>	=
<del>yr</del>		1 day	1 <del>hr</del>	1 <del>min</del>	

Sep 9-9:24 AM

$$\frac{\$2.79}{1 \text{ gal}} = \frac{? \text{ ¢}}{? \text{ l}} \quad \left. \vphantom{\frac{\$2.79}{1 \text{ gal}}} \right\} 1 \text{ gal} = 3.78 \text{ l}$$

<del>\$2.79</del>	100 <del>¢</del> ✓	1 gal
1 gal	<del>1 ¢</del>	3.78 l ✓

Sep 9-9:27 AM

HW

1 / 44 a+b  
 45 b+d

Sep 9-9:31 AM