NOTES: 2.2-2.3 – Elements, Compounds, and Mixtures

RECALL	
• MATTER = anything that	
Classification of Matter (sketch chart in space	e below):
PURE SUBSTANCES:	
• A pure substance is made of only one kind of	material and has definite properties.
• EXAMPLES:,	
What are the Differences Between an Elemen	t and a Compound?
• <u>ELEMENTS</u> –	that can exist under normal laboratory conditions
Elements	by chemical means
•	for all other substances
• Examples:	
ELEMENTS (continued)…	
• The	_ that has the properties of that element is called an
The Earth's interior is rich in	
Sand is made of	
The ocean waters are made of	&
Atoms are made up of,	,
Protons and neutrons are found in the	roughly at the center
Electrons	<u> </u>
Different kinds of atoms, or elements, are differe	nt because they have
We list the elements by their atomic numbers - the	ne number of protons they have.

COMPOUNDS

• <u>COMPOUNDS</u> = pure substances that can be separated into simpler substances only by chemical means

•_____

• Examples:

CHEMICAL SYMBOLS:

 CHEMICAL SYMBOL – 	- one or two letter	symbol rep	oresenting an	element on the	periodic table

First letter is always capitalized
 Second letter (if present) is always lower case

iron –

 Examples: 	
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sodium – lead – iodine – nickel –

CHEMICAL FORMULAS:

• <u>Chemical formulas</u>: Chemical symbols and numbers indicating the type and number of atoms contained in the basic unit of a substance.

• Examples wat	: er –	sodium chloride –	sucrose –
Interpreting	g Chemical Formulas		
CaCl ₂	 How many calcium ato 	ms? • How many	/ chlorine atoms?
5H ₂ O			
 How many 	hydrogen atoms?	• How many	/ oxygen atoms?
3 (NH4)3P	O 4		
How many	hydrogen atoms?	• How many	/ nitrogen atoms?
s now many		-	
MIXTURES:	<u>.</u>		
• <u>MIXTURE</u>	=		
(that are <u>NC</u>	<u>51</u> chemically combined)		
can be class	ssified as: HOMOGENEOU	JS or HETEROGENEOUS	
Homogene	ous Mixture		
•			:
- Exhibita			throughout the mixture.
 Examples 	:		, mixture consisting of one phase
Heterogene	eous Mixture		
•			;_
• Exhibits			
			,
 Examples mixture cons 	:	s. etc.	, granite, soil,
		,	

How are Mixtures Separated?

Many mixtures can be separated by simple <u>PHYSICAL</u> means: (LIST!)