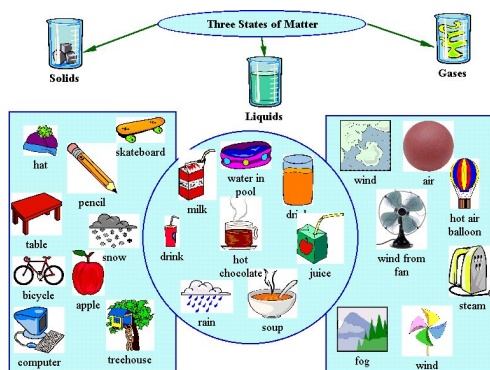


SCIENCE 1206

UNIT II: CHEMICAL REACTION Text: Chapters 5-8

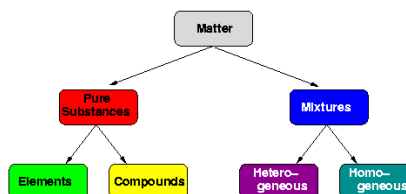


Sep 9-9:17 PM

Nov 17-8:19 PM



Classification of Matter as Pure Substances or Mixtures:



Oct 20-2:39 PM

Sep 13-12:31 PM

Pure Substances have constant composition; all the particles that make up the substance are the same.



Mixtures:
 -have variable composition
 -composed of 2 or more pure substances.



Sep 13-12:32 PM

Sep 13-12:32 PM

Homogeneous mixture



Heterogeneous mixture












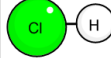
Sort the substances into their proper categories [click here to drag](#)

	Heterogenous Mixture	Homogenous Mixture
air		
sugar		
carbonated soda		
Fe		
Pb		
He		
Mg		
baking soda		
sweetened tea		
chicken noodle soup		
garden salad		

Nov 17-8:30 PM

Element Properties

Sort the substances into their proper categories [click here to go back](#)

Element	Compound	Heterogenous Mixture	Homogenous Mixture
	 this is rust, Fe ₂ O ₃		 tap water has compounds dissolved in it.
 He Helium	 this is salt, NaCl	carbonated soda	 this is a bronze statue
 Na	sugar		sweetened tea
Mg		chicken noodle soup	stainless steel
Pb	baking soda	garden salad	air

http://www.youtube.com/watch?v=cqeVEFFzz7E&safety_mode=true&persist_safety_mode=1&safe=active

Properties and Changes of Matter:

Physical Property:

Physical Change:

Element Properties

Sep 13-12:33 PM

Chemical Property:

Chemical Change:

Evidence of Chemical Change:

change in **color**, **odor**, **energy** (temperature change, light)

change in **state**:

bubbles = new gas produced

precipitate = new solid produced

Sep 13-12:33 PM

Sep 13-12:35 PM



ELEMENTS & THE PERIODIC TABLE

Group	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Period 1	1	2																	10
Period 2	3	4												5	6	7	8	9	10
Period 3	11	12											13	14	15	16	17	18	
Period 4	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	
Period 5	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	
Period 6	55	56	57	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	
Period 7	87	88	89	104	105	106	107	108	109	110	111	112	114	116	118				

*Lanthanides: 58 Ce, 59 Pr, 60 Nd, 61 Pm, 62 Sm, 63 Eu, 64 Gd, 65 Tb, 66 Dy, 67 Ho, 68 Er, 69 Tm, 70 Yb, 71 Lu
 **Actinides: 90 Th, 91 Pa, 92 U, 93 Np, 94 Pu, 95 Am, 96 Cm, 97 Bk, 98 Cf, 99 Es, 100 Fm, 101 Md, 102 No, 103 Lr

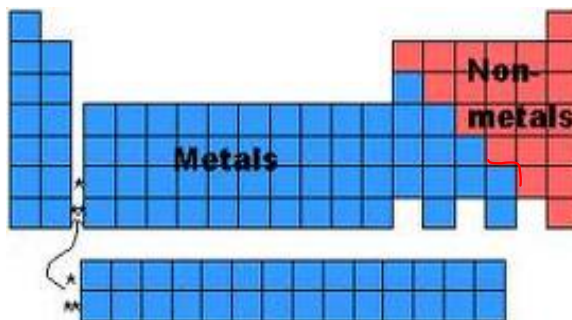
Oct 20-2:31 PM

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The information provided by the periodic table for each element.
Ex 1:

molybdenum	← element name
42	← atomic number number of protons (Z)
Mo	← atomic symbol
95.94	← atomic mass A (this is an average mass)

All elements are classified as metals or nonmetals



Nov 22-7:10 PM

Nov 22-7:30 PM

Elements

<http://chemmac1.usc.edu/java/ptable/ptable.html>

All elements are classified as metals or nonmetals, depending on their properties.

PROPERTY	METALS	NONMETALS
LUSTRE	shiny	dull
MALLEABILITY	malleable (bendable)	brittle
CONDUCTIVITY OF HEAT & ELECTRICITY	good conductors	poor or nonconductors
STATE AT ROOM TEMPERATURE	all solids except mercury, Hg = liquid	most are gases, some are solids and bromine, Br = liquid
REACTIVITY WITH ACID	mostly yes	no
LOCATION (PERIODIC TABLE)	left of staircase line	right of staircase line

Nov 21-3:06 PM

Sep 13-12:38 PM

METALLOIDS (Semimetals)



CHEMICAL FAMILIES (GROUPS):

Groups of elements in the same vertical column that have similar physical and chemical properties.

1. **Alkali Metals:** - Group 1, IA



2. **Alkaline Earth Metals:** - Group 2, IIA



Sep 13-12:39 PM

Sep 13-12:40 PM

3. Halogens: - Group 17, VIIA



4. Noble Gases: - Group 18, VIIIA



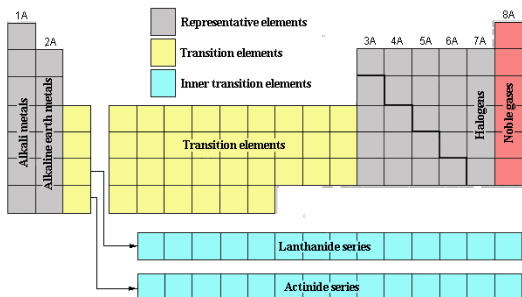
SERIES OF ELEMENTS:

1. **Representative Elements:** A groups or groups 1, 2, 13-18
2. **Transition Elements:** B groups or groups 3-12

Sep 13-12:40 PM

Sep 13-1:07 PM

The families and the series of elements on the periodic table



HYDROGEN:

- the lightest element and most abundant element in the universe
- doesn't really belong to any group
- it sometimes behaves like an alkali metal, sometimes like a halogen and at other times in its own unique way ie. as an acid

PERIODS: horizontal rows of the periodic table

Nov 22-7:15 PM

Nov 22-7:15 PM

Nov 14-2:45 PM