

Name: _____ Block: _____

6.2 Elements and Compounds

(Read pages 140 – 143 and fill in blanks)

How long have people known about pure substances?

People have investigated pure substances for _____ . Example: Ten thousand years ago, people learned to extract _____ by heating the ore.

What have people discovered about pure substances?

They discovered that some pure substances can be _____ into other pure substances _____ .

For this reason pure substances are classified into two types: _____ , and _____ .

Elements

Are _____ that _____ be broken down into any other pure substance. There are only about _____ elements in the world.

How many kinds of particles make up an element?

Elements are composed of _____ .

For instance, aluminum foil is composed of only _____ .

Compounds

Are pure substances that are _____ . They can be solids, _____ , or gases.

Ex. _____ is a compound that is made up of _____ particles and _____ particles.

Every particle of water is the _____ .

USE TABLE 1 to list the elements combined to make the following compounds:

Baking soda - _____

Table Salt - _____

Carbon Dioxide - _____

Chalk - _____

Do compounds have the same properties as their elements?

_____ ! The properties of compounds can be very _____ from the properties of the _____ .

_____ and _____ are fatal on their own, but combined they make _____ , which you can eat.

Name: _____ Block: _____

The Periodic Table of the Elements

group 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18															
period 1	1 H Hydrogen	2 He Helium																														
2	3 Li Lithium	4 Be Beryllium	5 B Boron	6 C Carbon	7 N Nitrogen	8 O Oxygen	9 F Fluorine	10 Ne Neon																								
3	11 Na Sodium	12 Mg Magnesium	13 Al Aluminum	14 Si Silicon	15 P Phosphorus	16 S Sulfur	17 Cl Chlorine	18 Ar Argon																								
4	19 K Potassium	20 Ca Calcium	21 Sc Scandium	22 Ti Titanium	23 V Vanadium	24 Cr Chromium	25 Mn Manganese	26 Fe Iron	27 Co Cobalt	28 Ni Nickel	29 Cu Copper	30 Zn Zinc	31 Ga Gallium	32 Ge Germanium	33 As Arsenic	34 Se Selenium	35 Br Bromine	36 Kr Krypton														
5	37 Rb Rubidium	38 Sr Strontium	39 Y Yttrium	40 Zr Zirconium	41 Nb Niobium	42 Mo Molybdenum	43 Tc Technetium	44 Ru Ruthenium	45 Rh Rhodium	46 Pd Palladium	47 Ag Silver	48 Cd Cadmium	49 In Indium	50 Sn Tin	51 Sb Antimony	52 Te Tellurium	53 I Iodine	54 Xe Xenon														
6	55 Cs Cesium	56 Ba Barium	57 La Lanthanum	58 Ce Cerium	59 Pr Praseodymium	60 Nd Neodymium	61 Pm Promethium	62 Sm Samarium	63 Eu Europium	64 Gd Gadolinium	65 Tb Terbium	66 Dy Dysprosium	67 Ho Holmium	68 Er Erbium	69 Tm Thulium	70 Yb Ytterbium	71 Lu Lutetium	72 Hf Hafnium	73 Ta Tantalum	74 W Tungsten	75 Re Rhenium	76 Os Osmium	77 Ir Iridium	78 Pt Platinum	79 Au Gold	80 Hg Mercury	81 Tl Thallium	82 Pb Lead	83 Bi Bismuth	84 Po Polonium	85 At Astatine	86 Rn Radon
7	87 Fr Francium	88 Ra Radium	89 Ac Actinium	90 Th Thorium	91 Pa Protactinium	92 U Uranium	93 Np Neptunium	94 Pu Plutonium	95 Am Americium	96 Cm Curium	97 Bk Berkelium	98 Cf Californium	99 Es Einsteinium	100 Fm Fermium	101 Md Mendelevium	102 No Nobelium	103 Lr Lawrencium	104 Rf Rutherfordium	105 Db Dubnium	106 Sg Seaborgium	107 Bh Bohrium	108 Hs Hassium	109 Mt Meitnerium	110 Ds Darmstadtium	111 Rg Roentgenium	112 Cn Copernicium	113 Uut Ununtrium	114 Fl Flerovium	115 Uup Ununpentium	116 Lv Livermorium	117 Uus Ununseptium	118 Uuo Ununoctium

atomic mass
or most stable mass number

1st ionization energy
in kJ/mol

chemical symbol

name

electron configuration
most common first four

alkali metals

alkaline metals

other metals

transition metals

lanthanoids

actinoids

metalloids

nonmetals

halogens

noble gases

unknown elements

radioactive elements have
masses in parentheses

oxidation states
most common first four

55.845 26
762.5 1.83
Fe
Iron
[Ar] 3d⁶ 4s²

electron configuration blocks

notes

- * as of yet, elements 113, 115, 117 and 118 have no official name designated by the IUPAC.
- 1 kJ/mol = 96.485 eV
- all elements are implied to have an oxidation state of zero.