

Catalyst 1/23/13

1. Draw the Lewis dot structure of PH_3 .
2. Create a T-chart. Contrast the differences between ionic and covalent compounds.

Agenda 1/23/13

- Catalyst
- Cheesy Joke of the Day
- Announcements
 - **Packet#7 due THURSDAY, 1/24/13 (TOMORROW!!!)**
 - HW: QuickStudy sheet using Packet#5,#6,#7 material.
 - **Benchmark Exam#2 Tuesday, January 29th.**
 - **Midterm Tuesday, February 5th. (1st and 2nd MP content)**
- Ionic vs. Covalent Compounds Review
- Class Practice
- Exit Slip

Ever run out of good pick up lines? Well, here's one to help you out...

Are you made of
copper and Tellurium?
Because you're

29 Cu Copper 63.546	52 Te Tellurium 127.60
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Class Points

Your class can earn class points if:

everyone in class:

- + Comes to class quietly and on time
- + Stays focused and on task during class
- + Leaves classroom neat and organized
- + Students are teaching other students
- + Majority of class participates

P3: 57 pts (neat room, focused, on time)

P4: 62 pts (focused, on time)

P6: 68 pts (neat room, on time)

Objective 1/23/13

We will be able to

- Write the chemical formula of compounds with polyatomic ions
- Name compounds with polyatomic ions



Ionic vs. Covalent Compounds

□ What are the differences?

Ionic vs. Covalent: Bonding

Ionic

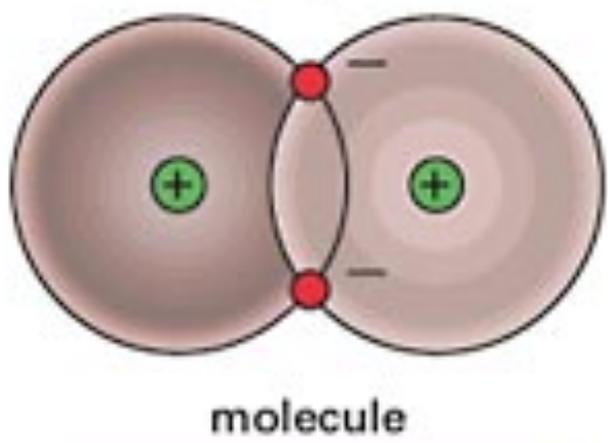
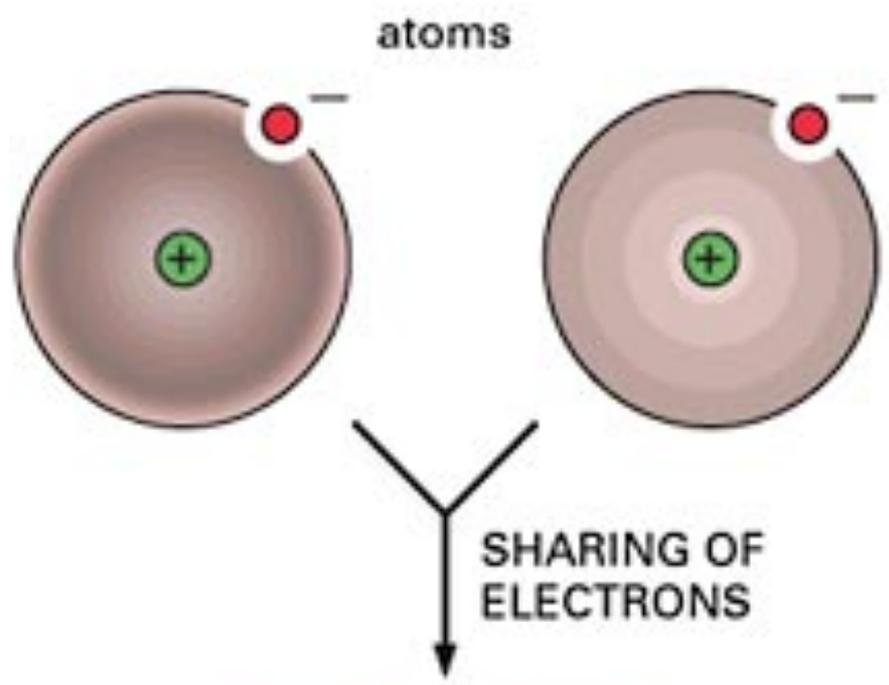
Electrons are **transferred**.

- one atom is oxidized (loses electrons)
- another atom is reduced (gains electrons)

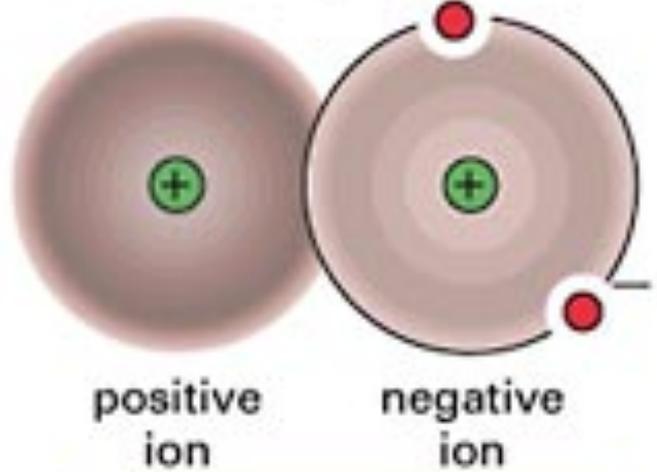
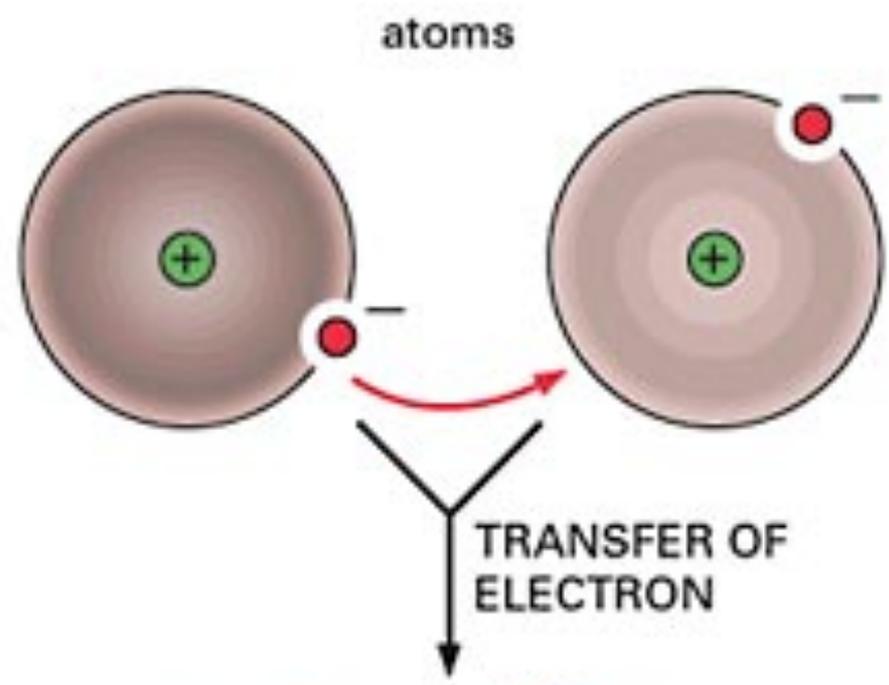
Covalent

Electrons are **shared**.

- polar covalent* = unequal sharing
- nonpolar covalent* = equal sharing



covalent bond



ionic bond

Ionic vs. Covalent: Melting and Boiling Point

Ionic

- High melting point
- High boiling point

Covalent

- Low melting point
- Low boiling point

Ionic vs. Covalent: Electrical Conductivity

Ionic

Good conductor of electricity when dissolved

Covalent

Poor conductor of electricity

Ionic vs. Covalent: Metals, Nonmetals, or Metalloids**

Ionic

Usually between
metals and
nonmetals

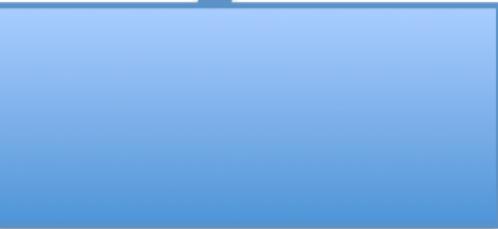
Covalent

Usually between
nonmetals and
nonmetals

Does the compound have a metal?

Ionic
DO NOT Use Prefixes

Covalent
USE PREFIXES



Periodic Table of Elements

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18																																
1 H Hydrogen 1.00794	Atomic # Symbol Name Atomic Mass																2 He Helium 4.002602																																
3 Li Lithium 6.941	4 Be Beryllium 9.012182	<table border="1"> <tr> <td>C Solid</td> <td colspan="4">Metals</td> <td colspan="3">Nonmetals</td> </tr> <tr> <td>Hg Liquid</td> <td>Alkali metals</td> <td>Alkaline earth metals</td> <td>Lanthanoids</td> <td>Transition metals</td> <td>Poor metals</td> <td>Other nonmetals</td> <td>Noble gases</td> </tr> <tr> <td>H Gas</td> <td></td> <td></td> <td>Actinoids</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Rf Unknown</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										C Solid	Metals				Nonmetals			Hg Liquid	Alkali metals	Alkaline earth metals	Lanthanoids	Transition metals	Poor metals	Other nonmetals	Noble gases	H Gas			Actinoids					Rf Unknown								5 B Boron 10.811	6 C Carbon 12.0107	7 N Nitrogen 14.0067	8 O Oxygen 15.9994	9 F Fluorine 18.9984032	10 Ne Neon 20.1797
C Solid	Metals				Nonmetals																																												
Hg Liquid	Alkali metals	Alkaline earth metals	Lanthanoids	Transition metals	Poor metals	Other nonmetals	Noble gases																																										
H Gas			Actinoids																																														
Rf Unknown																																																	
11 Na Sodium 22.98976928	12 Mg Magnesium 24.3050	13 Al Aluminium 26.9815386	14 Si Silicon 28.0855	15 P Phosphorus 30.973762	16 S Sulfur 32.065	17 Cl Chlorine 35.453	18 Ar Argon 39.948																																										
19 K Potassium 39.0983	20 Ca Calcium 40.078	21 Sc Scandium 44.955912	22 Ti Titanium 47.887	23 V Vanadium 50.9415	24 Cr Chromium 51.9961	25 Mn Manganese 54.938045	26 Fe Iron 55.845	27 Co Cobalt 58.933195	28 Ni Nickel 58.6934	29 Cu Copper 63.546	30 Zn Zinc 65.38	31 Ga Gallium 69.723	32 Ge Germanium 72.64	33 As Arsenic 74.92160	34 Se Selenium 78.96	35 Br Bromine 79.904	36 Kr Krypton 83.798																																
37 Rb Rubidium 85.4678	38 Sr Strontium 87.62	39 Y Yttrium 88.90585	40 Zr Zirconium 91.224	41 Nb Niobium 92.90638	42 Mo Molybdenum 95.96	43 Tc Technetium (97.9072)	44 Ru Ruthenium 101.07	45 Rh Rhodium 102.90550	46 Pd Palladium 106.42	47 Ag Silver 107.8682	48 Cd Cadmium 112.411	49 In Indium 114.818	50 Sn Tin 118.710	51 Sb Antimony 121.760	52 Te Tellurium 127.60	53 I Iodine 126.90447	54 Xe Xenon 131.293																																
55 Cs Caesium 132.9054519	56 Ba Barium 137.327	57-71		72 Hf Hafnium 178.49	73 Ta Tantalum 180.94788	74 W Tungsten 183.84	75 Re Rhenium 186.207	76 Os Osmium 190.23	77 Ir Iridium 192.217	78 Pt Platinum 195.084	79 Au Gold 196.966569	80 Hg Mercury 200.59	81 Tl Thallium 204.3833	82 Pb Lead 207.2	83 Bi Bismuth 208.98040	84 Po Polonium (208.9824)	85 At Astatine (209.9871)	86 Rn Radon (222.0176)																															
87 Fr Francium (223)	88 Ra Radium (226)	89-103		104 Rf Rutherfordium (261)	105 Db Dubnium (262)	106 Sg Seaborgium (266)	107 Bh Bohrium (264)	108 Hs Hassium (277)	109 Mt Meitnerium (268)	110 Ds Darmstadtium (271)	111 Rg Roentgenium (272)	112 Uub Ununbium (285)	113 Uut Ununtrium (284)	114 Uuq Ununquadium (289)	115 Uup Ununpentium (288)	116 Uuh Ununhexium (292)	117 Uus Ununseptium	118 Uuo Ununoctium (294)																															

For elements with no stable isotopes, the mass number of the isotope with the longest half-life is in parentheses.

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57 La Lanthanum 138.90547	58 Ce Cerium 140.116	59 Pr Praseodymium 140.90765	60 Nd Neodymium 144.242	61 Pm Promethium (145)	62 Sm Samarium 150.36	63 Eu Europium 151.964	64 Gd Gadolinium 157.25	65 Tb Terbium 158.92535	66 Dy Dysprosium 162.500	67 Ho Holmium 164.93032	68 Er Erbium 167.259	69 Tm Thulium 168.93421	70 Yb Ytterbium 173.054	71 Lu Lutetium 174.968
89 Ac Actinium (227)	90 Th Thorium 232.03806	91 Pa Protactinium 231.03588	92 U Uranium 238.02891	93 Np Neptunium (237)	94 Pu Plutonium (244)	95 Am Americium (243)	96 Cm Curium (247)	97 Bk Berkelium (247)	98 Cf Californium (251)	99 Es Einsteinium (252)	100 Fm Fermium (257)	101 Md Mendelevium (258)	102 No Nobelium (259)	103 Lr Lawrencium (260)

Other Notes

□ For chemical formulas of *covalent compounds*:

□ **DO NOT SIMPLIFY**

□ **DO NOT SWAP NUMBERS**

Example # 1



Example#2



Example#3



During Classwork Time



1. Stay focused on the assignments you are given.
2. Do the questions INDEPENDENTLY (on your own).
3. Keep the noise level down.
4. Ask THREE before you ask ME.
5. You may put earphones on and listen to music quietly as you do your work.
6. **You must finish a certain number of questions** (depends on the person) by the end of the period.



DO NOT FORGET YOUR STAMPS! You cannot get them once you leave the class.

Exit Slip

QUIETLY and INDEPENDENTLY answer the following on **Notability** and **email** it to

gutierrezbr@elizabeth.k12.nj.us with “p4 (or p6) ES 1/22” on the subject line. I must receive it by the

end of the period. **If you are talking or copying, you will not receive credit.**

1. Name the following compounds:



2. Describe the differences between a covalent and ionic compound.