

Naming Ions
 Chemistry: <http://www.weebly.com>
 Stop in for help every day at lunch and Tues & Thurs after school!



ANSWERS
 Name _____
 Period _____



1. This is a pretty good drawing of what Thomson thought a Plum Pudding NEUTRAL hydrogen atom looked like. It shows a positive circle with one electron in it.

		SO_4^{2-}	NH_4^+	He
This is (choose one) <input checked="" type="radio"/> a) an anion <input type="radio"/> b) neutral <input type="radio"/> c) a cation	This is (choose one) <input type="radio"/> a) an anion <input type="radio"/> b) neutral <input checked="" type="radio"/> c) a cation	This is (choose one) <input checked="" type="radio"/> a) an anion <input type="radio"/> b) neutral <input type="radio"/> c) a cation	This is (choose one) <input type="radio"/> a) an anion <input type="radio"/> b) neutral <input checked="" type="radio"/> c) a cation	This is (choose one) <input type="radio"/> a) an anion <input checked="" type="radio"/> b) neutral <input type="radio"/> c) a cation

2. Go through the boxes below and do the following:

- circle any metal that has a variable charge
- cross out any polyatomic ion
- write the name of each. for example, Cu^{2+} is "copper(II)" for example, SO_4^{2-} is "sulfate" ACCORDING TO YOUR HANDOUT SHEET GIVEN THURSDAY on the back of the periodic table

CO_3^{2-}	Al^{3+}	Fe^{2+}	PO_4^{3-}	Au^+
carbonate	aluminum	iron(II)	phosphate	gold(I)

3. Do the same as you did in #2 to these

NO_3^-	Pb^+	V^{2+}	Au^{3+}	NH_4^+
nitrate	lead(I)	vanadium(II)	gold III	ammonium

4. In Gold(III) Oxide, what does the III tell us? (how many gold atoms? the charge of one gold atom? the total charge of all the gold atoms put together? the total charge of the compound?)

5. In Manganese(II) carbonate, what is the TOTAL charge of the compound? zero!!

6. In Manganese(II) carbonate, what is the charge of just the CO_3 ? (look it up) 2-

7. Calcium is a (metal / nonmetal) _____

8. Aluminum is a (metal / nonmetal) _____

9. Name the only alkali metal in Period 2: Lithium
 10. What is the charge of copper in CuCO_3 ? 2+ (this is found by first looking up the charge of carbonate: CO_3^{2-})

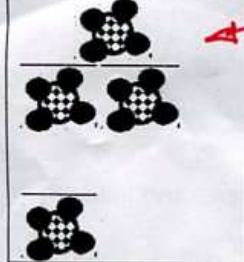
11. What is the charge of copper in Cu_2O ? +1

When in doubt, draw it out



you know oxygen is minus two from periodic table.

Key to understanding the cartoons on this sheet:				
1 chlorine atom	1 hydrogen atom	1 oxygen atom	1 nitrogen atom	1 carbon atom



12. How many atoms, total, are in this box? twenty in the box to the left
13. How molecules are in this box? four
14. What is the formula of this compound? CH₄

Go through the eight formulas below and circle any that have a metal with an unpredictable charge. Then name each compound.

15. Na₂CO₃ Sodium carbonate
16. PbNO₃ Lead(I) nitrate
17. Al₃(CO₃)₂ Aluminum carbonate **NO NUMBER!**
18. VCO₃ Vanadium(II) carbonate
19. Fe(NO₃)₂ iron(II) nitrate
20. (NH₄)₂CO₃ ammonium carbonate
21. Au(NO₃)₃ gold(III) nitrate
22. Fe₃(PO₄)₂ IRON(II) PHOSPHATE

23. What's the formula of each?

Copper (II) bromide CuBr₂

Pure bromine (remember wacky 7 diatomic):

ANSWER: Br₂

24. In the table below, fill in the formula of the ionic compound below its name.

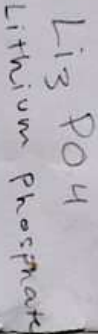
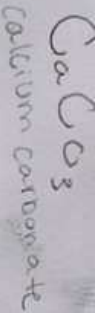
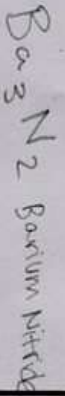
WHEN IN DOUBT, DRAW IT OUT.

Zinc sulfate <i>Draw it out if you are stuck.</i> <u>ZnSO₄</u>	Cobalt (II) carbide <u>SKIP</u> <i>CARBON IS AMBIGUOUS</i>	Silver selenide	Ammonium sulfide <u>(NH₄)₂S</u>
Lead (II) nitrate <u>Pb(NO₃)₂</u>	Silver oxalate <u>Ag₂C₂O₄</u>	Lead (IV) oxide <u>PbO₂</u>	Magnesium oxide <u>MgO</u>
Copper (I) sulfate <u>Cu₂SO₄</u>	Copper (II) sulfite <u>CuSO₃</u>	Sodium bicarbonate <u>NaHCO₃</u>	Strontium hypochlorite
Iron (III) oxide <u>Fe₂O₃</u>	Copper (I) chromate <u>Cu₂CrO₄</u>	Tin (II) sulfate <u>SnSO₄</u>	Potassium bisulfate

25. Which is a molecular substance? (C₃H₈ / NaBr) no metal, so it must be molecular

26. Which is an electrolyte when dissolved in water? (C₈H₈O₂ / AuNO₃) Because it has a metal

27. Which is difficult to melt? (C₃H₈ / NaBr) Because it has a metal element → it's ionic. Ionic's are difficult to melt.



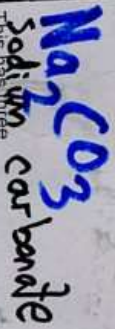
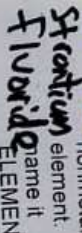
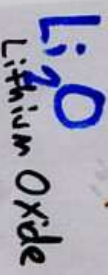
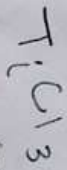
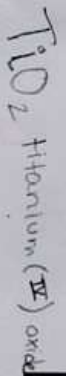
This has one metal and one nonmetal element. name it ELEMENT + ELEMENT + IDE

This has three or more elements. You MUST use the polyatomic names from the back of your periodic table handout

This has a metal element with unpredictable charge, from the middle of the periodic table. You must assign a Roman Numeral.

Non metal with nonmetal we will learn to name Tuesday
???

When in doubt draw it out

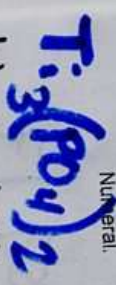


This has one metal and one nonmetal element. name it ELEMENT + ELEMENT + IDE

This has three or more elements. You MUST use the polyatomic names from the back of your periodic table handout

This has a metal element with unpredictable charge, from the middle of the periodic table. You must assign a Roman Numeral.

Non metal with nonmetal we will learn to name Tuesday



1/28/2016/7:55 AM

-1x2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
H hydrogen 1.01	He helium 4.00	Li lithium 6.94	Be beryllium 9.01	B boron 10.81	C carbon 12.01	N nitrogen 14.01	O oxygen 16.00	F fluorine 19.00	Ne neon 20.18	Na sodium 22.99	Mg magnesium 24.31	Al aluminum 26.98	Si silicon 28.09	P phosphorus 30.97	S sulfur 32.06	Cl chlorine 35.45	Ar argon 39.95
K potassium 39.10	Ca calcium 40.08	Sc scandium 44.96	Ti titanium 47.88	V vanadium 50.94	Cr chromium 52.00	Mn manganese 54.94	Fe iron 55.85	Co cobalt 58.93	Ni nickel 58.71	Cu copper 63.55	Zn zinc 65.38	Ga gallium 69.72	Ge germanium 72.59	As arsenic 74.92	Se selenium 78.96	Br bromine 79.90	Kr krypton 83.80
Rb rubidium 85.47	Sr strontium 87.62	Y yttrium 88.91	Zr zirconium 91.22	Nb niobium 92.91	Mo molybdenum 95.94	Tc technetium (99)	Ru ruthenium 101.07	Rh rhodium 102.91	Pd palladium 106.4	Ag silver 107.87	Cd cadmium 112.40	In indium 114.82	Sn tin 118.69	Sb antimony 121.75	Te tellurium 127.60	I iodine 126.90	Xe xenon 131.30
Cs cesium 132.91	Ba barium 137.34	La lanthanum 138.91	Hf hafnium 178.49	Ta tantalum 180.95	W tungsten 183.85	Re rhenium 186.2	Os osmium 190.2	Ir iridium 192.22	Pt platinum 195.09	Au gold 196.97	Hg mercury 200.59	Tl thallium 204.37	Pb lead 207.2	Bi bismuth 208.98	Po polonium (210)	At astatine (210)	Rn radon (222)
Fr francium (223)	Ra radium (226)	Ac actinium (227)	Rf rutherfordium (261)	Db dubnium (262)	Bh bohrium (262)	Hs hassium (265)	Mt meitnerium (266)	Ds darmstadtium (269)	Rg roentgenium (272)	Cn copernicium (285)	Uut ununium (284)	Uuq ununquadium (289)	Uuh ununhexium (291)	Uus ununseptium (293)	Uuo ununoctium (294)	Uuq ununquadium (289)	Uuh ununhexium (291)
Ce cerium 140.12	Pr praseodymium 140.91	Nd neodymium 144.24	Pm promethium (145)	Sm samarium 150.4	Eu europium 151.96	Gd gadolinium 157.25	Tb terbium 158.93	Dy dysprosium 162.50	Ho holmium 164.93	Er erbium 167.26	Tm thulium 168.93	Yb ytterbium 173.04	Lu lutetium 175.97	Yt yttrium 88.91	Hf hafnium 178.49	Ta tantalum 180.95	W tungsten 183.85
Th thorium 232.04	Pa protactinium 231.04	U uranium 238.03	Np neptunium 237.05	Pu plutonium (242)	Am americium (243)	Cm curium (247)	Bk berkelium (247)	Cf californium (251)	Es einsteinium (252)	Fm fermium (257)	Md mendelevium (258)	No nobelium (259)	Lr lawrencium (260)	Th thorium 232.04	Pa protactinium 231.04	U uranium 238.03	Np neptunium 237.05

Atomic Masses to .01