

Solutions for the Protons, Neutrons, and Electrons Practice Worksheet:

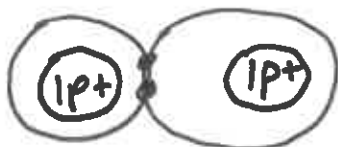
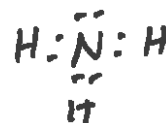
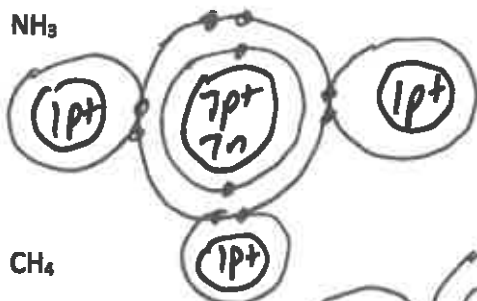
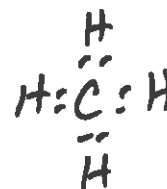
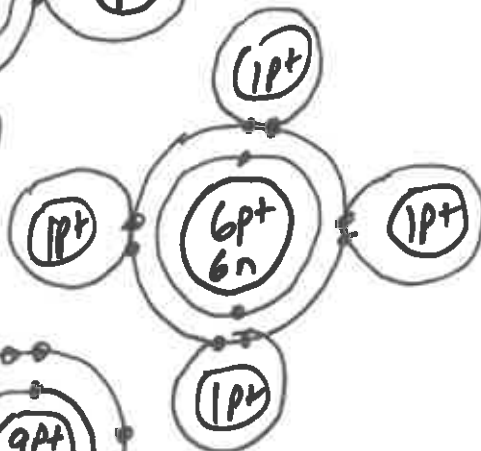
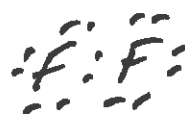
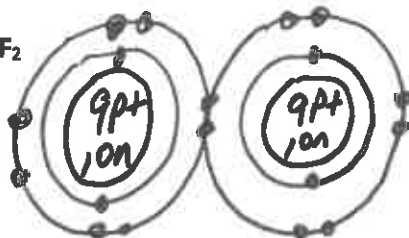
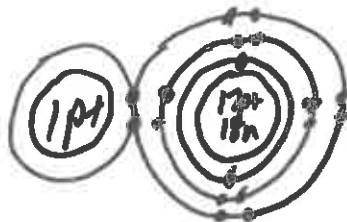
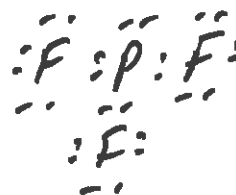
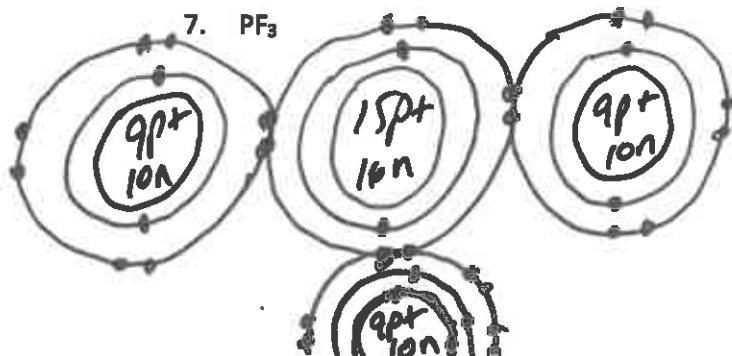
Atomic symbol	Atomic number	Protons	Neutrons	Electrons	Atomic mass
B	5	5	6	5	11
Na	11	11	13	11	24
Ga	31	31	37	31	68
Y	39	39	50	39	89
Cu	29	29	35	29	64
Tc	43	43	57	43	100
Pb	82	82	125	82	207
Yb	70	70	102	70	172
Ac	89	89	136	89	225
Mo	42	42	53	42	95
Tl	81	81	125	81	206
Fm	100	100	159	100	259
No	102	102	159	102	261
Yb	70	70	101	70	172
Sg	106	106	159	106	265

Covalent Bonds/Ionic Bonds and Bohr/Lewis Dot Structures

Name: _____

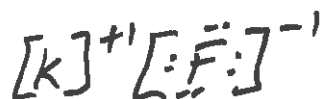
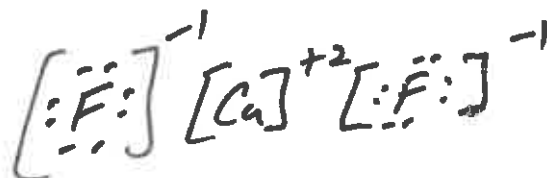
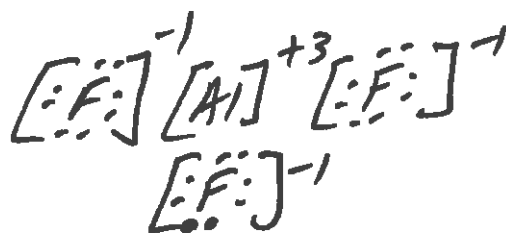
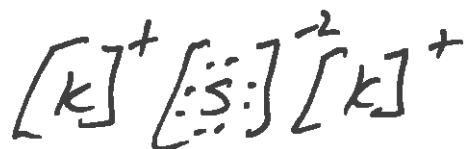
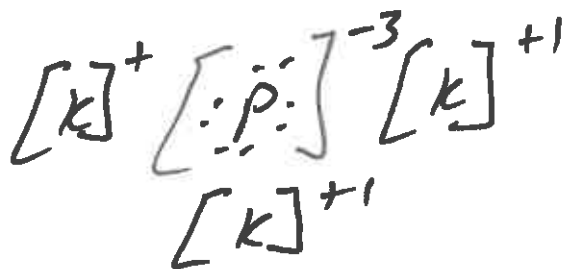
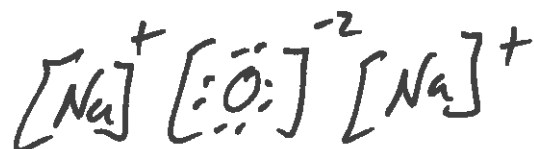
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Draw the Bohr diagrams and Lewis Dot structures for the following molecules (covalent bonds).

1. H_2 2. H_2O 3. NH_3 4. CH_4 5. F_2 6. HCl 7. PF_3 

Draw the Lewis dot diagrams for the following ionic compounds (i.e., metal/non-metal).

8. KF

9. CaF₂10. AlF₃11. K₂S12. K₃P13. Na₂O

Use with textbook pages 186–196.

Chemical names and formulas of ionic compounds

1. Write the name for each of the following compounds.

(a) BeS

Beryllium sulfide

(k) Ni(OH)₂

Nickel (II) hydroxide

(b) Hg₃N₂

Mercury (II) nitride

(l) K₂Cr₂O₇

Potassium dichromate

(c) Cu(NO₃)₂

Copper (II) nitrate

(m) ScF₃

Scandium fluoride

(d) Ag₂O

Silver oxide

(n) NaI

Sodium iodide

(e) CoBr₂

Cobalt (II) bromide

(o) Pb(CO₃)₂

Lead (II) carbonate

(f) Bi₃(PO₄)₅

Bismuth (III) phosphate

(p) RbClO₂

Rubidium chlorite

(g) CaF₂

Calcium fluoride

(q) K₃P

Potassium phosphide

(h) Mn₂O₃

Manganese (III) oxide

(r) Mg(CN)₂

Magnesium cyanide

(i) Cr₂(SO₄)₃

Chromium (III) sulphate

(s) SnS

Tin (II) sulfide

(j) ZnCl₂

Zinc chloride

(t) NaHCO₃

Sodium hydrogen carbonate

OR Sodium bicarbonate

2. Write the chemical formula for each of the following compounds.

(a) aluminum bromide

AlBr₃

(k) cadmium(II) hydroxide

Cd(OH)₂

(b) platinum(II) sulphide

PtS

(l) zinc phosphate

Zn₃(PO₄)₂

(c) strontium sulfite

SrSO₃

(m) barium chloride

BaCl₂

(d) scandium oxide

Sc₂O₃

(n) tin(II) permanganate

~~Sn(MnO₄)₂~~ Sn(MnO₄)₂

(e) titanium(IV) nitrite

Ti(NO₂)₄

(o) lithium hypochlorite

LiClO

(f) ammonium sulphate

(NH₄)₂SO₄

(p) gold(III) sulphate

Au₂(SO₄)₃

(g) lithium selenide

Li₂Se

(q) sodium nitrate

NaNO₃

(h) lead(II) hydrogen sulphate

Pb(HSO₄)₂

(r) chromium(III) chloride

CrCl₃

(i) sodium acetate

NaCH₃COO

(s) potassium carbonate

K₂CO₃

(j) cesium chloride

CsCl

(t) iron(II) bisulphate

Fe(HSO₄)₂

Naming Covalent Compounds Worksheet

Write the formulas for the following covalent compounds:

- 1) antimony tribromide omit (It's ionic!)
- 2) hexaboron ^{Mono}silicide B₆Si
- 3) chlorine dioxide ClO₂
- ~~4) hydrogen iodide~~ omit
- 5) iodine pentafluoride IF₅
- 6) dinitrogen trioxide N₂O₃
- 7) ammonia omit
- 8) phosphorus triiodide PI₃

Write the names for the following covalent compounds:

- 9) P₄S₅ tetra phosphorous Pentasulfide
- 10) O₂ Dioxygen or Elemental oxygen
- 11) SeF₆ Selenium Hexafluoride
- 12) Si₂Br₆ Disilicon Hexabromide
- 13) SCl₄ Sulfur tetrachloride
- 14) CH₄ Carbon tetrahydride
- 15) B₂Si diboron Monosilicide
- 16) NF₃ Nitrogen trifluoride

DATE:

NAME:

CLASS:

CHAPTER 4

Chemical Names and Formulas

BLM 2-14

Goal • Review your understanding of chemical names and formulas.

What to Do

Complete the following table.

	Chemical Formula	Ionic or Covalent?	Name of Compound
1.	NH_4Cl	I	Ammonium chloride
2.	K_2S	I	potassium sulphide
3.	Cl_4	C	Carbon tetrachloride
4.	CaO	I	calcium oxide
5.	NH_4Cl	I	ammonium chloride
6.	Li_3N	I	Lithium nitride
7.	$\text{Mg}(\text{OH})_2$	I	magnesium hydroxide
8.	ZnO	I	zinc oxide
9.	CuNO_3	I	Copper (I) Nitrate
10.	OCl_2	C	oxygen dichloride
11.	CuCl	I	Copper (I) chloride
12.	FeCl_2	I	Iron (II) chloride
13.	CBr_4	C	carbon tetrabromide
14.	$\text{Al}_2(\text{CrO}_4)_3$	I	aluminum chromate

Goal • Use this page to identify chemical compounds.

1. Complete the following table.

Name	Formula	Ionic or Covalent?
(a) Sodium chloride	NaCl	I
(b) Magnesium oxide	MgO	I
(c) lithium iodide	LiI	I
(d) carbon dioxide	CO ₂	C
(e) strontium hydroxide	Sr(OH) ₂	I
(f) Potassium sulfide	K ₂ S	I
(g) Copper(II) bromide	CuBr ₂	I
(h) sulphur trioxide	SO ₃	C
(i) Barium Phosphate	Ba ₃ (PO ₄) ₂	I
(j) aluminum hydroxide	Al(OH) ₃	I
(k) oxygen difluoride	OF ₂	C
(l) Ammonium cyanide	NH ₄ CN	I
(m) Iron(III) Nitrate	Fe(NO ₃) ₃	I
(n) gold(III) sulphate	Au ₂ (SO ₄) ₃	I
(o) iron(II) carbonate	FeCO ₃	I
(p) carbon tetraiodide	CI ₄	C
(q) Iron(III) iodide	FeI ₃	I
(r) dinitrogen trioxide	N ₂ O ₃	C

KEY.

Mixed Ionic/Covalent Compound Naming

For each of the following questions, determine whether the compound is ionic or covalent and name it appropriately.

- 1) Na_2CO_3 Sodium Carbonate
- 2) P_2O_5 diphosphorus pentoxide
- 3) NH_3 Nitrogen trihydride
- 4) FeSO_4 Iron (II) Sulfate
- 5) SiO_2 Silicon dioxide
- 6) GaCl_3 Gallium (III) chloride
- 7) CoBr_2 Cobalt (II) bromide
- 8) B_2H_4 Diboron tetrahydride
- 9) CO Carbon monoxide
- 10) P_4 Phosphorus (tetraphosphorus)

For each of the following questions, determine whether the compound is ionic or covalent and write the appropriate formula for it.

- 11) dinitrogen trioxide N_2O_3
- 12) nitrogen N_2 (7+1 Rule)
- 13) methane omit
- 14) lithium acetate LiCH_3COO
- 15) phosphorus trifluoride PF_3
- 16) vanadium (V) oxide V_2O_5
- 17) aluminum hydroxide $\text{Al}(\text{OH})_3$
- 18) zinc sulfide ZnS
- 19) silicon tetrafluoride SiF_4
- 20) silver phosphate Ag_3PO_4