

AP Chemistry Summer Assignment

Welcome to college chemistry!

The required assignment is found below.

Assignment:

Things to buy:

- ✓ Lab Notebook: Lab Notebook 100 Carbonless Pages Spiral Bound; by Barbakam (Author) (about \$18 on Amazon). It can be any brand but this is a common one. Note: If you have a carbonless notebook from another AP science class you can use that if there are at least 50 pages left.
- ✓ Classroom Materials: 3" 3-ring binder, paper, scientific calculator, writing utensils.

Things to Study and Practice:

- ✓ Take the three naming/formula writing practice quizzes sometime near the start of school. Score yourself with the supplied answers. If you scored highly, then you will be ready to take the naming quiz we will have on the second day of school. Use the provided periodic table as a reference.
- ✓ If you want to improve your score, refer to your notes from Honors Chemistry.
- ✓ There is nothing to submit to me for the summer assignment. Just be ready for the quiz as there will be no re-takes.
- ✓ Here are some links to videos that can help you review if necessary. You can google Khan Academy or Crash Course Chemistry and find helpful videos.

Naming ions and ionic compounds	https://www.khanacademy.org/science/chemistry/atomic-structure-and-properties/introduction-to-compounds/v/naming-ions-and-ionic-compounds
Ionic compounds with variable charge metals	https://www.khanacademy.org/science/chemistry/atomic-structure-and-properties/names-and-formulas-of-ionic-compounds/v/naming-ionic-compound-with-polyvalent-ion
Ionic formulas from names	https://www.khanacademy.org/science/chemistry/atomic-structure-and-properties/names-and-formulas-of-ionic-compounds/v/formula-for-ionic-compounds
Ion charges practice	https://www.khanacademy.org/science/chemistry/atomic-structure-and-properties/names-and-formulas-of-ionic-compounds/e/predict-charges-on-monatomic-ions

Naming Ionic compounds practice	https://www.khanacademy.org/science/chemistry/atomic-structure-and-properties/names-and-formulas-of-ionic-compounds/e/naming-ionic-compounds
Finding formulas for ionic compounds practice	https://www.khanacademy.org/science/chemistry/atomic-structure-and-properties/names-and-formulas-of-ionic-compounds/e/find-the-formula-for-ionic-compounds
Naming covalent compounds	https://www.youtube.com/watch?v=DejkvR4pvRw
Naming acids	https://www.youtube.com/watch?v=5Jb2u9ihfm4

Again, welcome to our class. Please contact me at susan.campbell@boone.kyschools.us if you have any questions. During the school year, I will check this e-mail address regularly. During the summer, I plan on not checking e-mail often.

Dr. Campbell

PERIODIC TABLE OF THE ELEMENTS

1	2											3	4	5	6	7	8	9	10						
H 1.008																			He 4.00						
3	4											5	6	7	8	9	10								
Li 6.94	Be 9.01											B 10.81	C 12.01	N 14.01	O 16.00	F 19.00	Ne 20.18								
11	12											13	14	15	16	17	18								
Na 22.99	Mg 24.30											Al 26.98	Si 28.09	P 30.97	S 32.06	Cl 35.45	Ar 39.95								
19	20	21	22	23	24	25	26	27	28	29	30														
K 39.10	Ca 40.08	Sc 44.96	Ti 47.90	V 50.94	Cr 52.00	Mn 54.94	Fe 55.85	Co 58.93	Ni 58.69	Cu 63.55	Zn 65.39	Ga 69.72	Ge 72.59	As 74.92	Se 78.96	Br 79.90	Kr 83.80								
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54								
Rb 85.47	Sr 87.62	Y 88.91	Zr 91.22	Nb 92.91	Mo 95.94	Tc (98)	Ru 101.1	Rh 102.91	Pd 106.42	Ag 107.87	Cd 112.41	In 114.82	Sn 118.71	Sb 121.75	Te 127.60	I 126.91	Xe 131.29								
55	56	57	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86								
Cs 132.91	Ba 137.33	*La 138.91	Hf 178.49	Ta 180.95	W 183.85	Re 186.21	Os 190.2	Ir 192.2	Pt 195.08	Au 196.97	Hg 200.59	Tl 204.38	Pb 207.2	Bi 208.98	Po (209)	At (210)	Rn (222)								
87	88	89	104	105	106	107	108	109	110	111															
Fr (223)	Ra 226.02	†Ac 227.03	Rf (261)	Db (262)	Sg (266)	Bh (264)	Hs (277)	Mt (268)	Ds (271)	Rg (272)															
		*Lanthanide Series										67	68	69	70	71									
												Ce 140.12	Pr 140.91	Nd 144.24	Pm (145)	Sm 150.4	Eu 151.97	Gd 157.25	Tb 158.93	Dy 162.50	Ho 164.93	Er 167.26	Tm 168.93	Yb 173.04	Lu 174.97
		†Actinide Series										99	100	101	102	103									
												Th 232.04	Pa 231.04	U 238.03	Np (237)	Pu (244)	Am (243)	Cm (247)	Bk (247)	Cf (251)	Es (252)	Fm (257)	Md (258)	No (259)	Lr (262)

Practice Quiz 1

Name each compound.

- 1) Na_2CO_3 _____
- 2) NH_4OH _____
- 3) NH_3 _____
- 4) FeSO_4 _____
- 5) SiO_2 _____
- 6) $\text{Ga}(\text{NO}_3)_3$ _____
- 7) H_2SO_4 _____
- 8) B_2H_4 _____
- 9) CO _____
- 10) HClO_4 _____

Write the formulas of the following chemical compounds:

- 11) dinitrogen trioxide _____
- 12) nitrogen _____
- 13) methane _____
- 14) lithium acetate _____
- 15) phosphorus trifluoride _____
- 16) vanadium (V) oxide _____
- 17) aluminum hydroxide _____
- 18) zinc sulfide _____
- 19) carbonic acid _____
- 20) silver phosphate _____

Answers: Practice Quiz 1

Name each compound.

- 1) Na_2CO_3 sodium carbonate
- 2) NH_4OH ammonium hydroxide
- 3) NH_3 ammonia
- 4) FeSO_4 iron (II) sulfate
- 5) SiO_2 silicon dioxide
- 6) $\text{Ga}(\text{NO}_3)_3$ gallium nitrate
- 7) H_2SO_4 sulfuric acid
- 8) B_2H_4 diboron tetrahydride
- 9) CO carbon monoxide
- 10) HClO_4 perchloric acid

Write the formulas of the following chemical compounds:

- 11) dinitrogen trioxide N_2O_3
- 12) nitrogen N_2
- 13) methane CH_4
- 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) carbonic acid H_2CO_3
- 20) silver phosphate Ag_3PO_4

Practice Quiz 2

Name each compound.

- 1) HI _____
- 2) CaSO₄ _____
- 3) C₂Br₆ _____
- 4) Cr(CO₃)₃ _____
- 5) Ag₃P _____
- 6) IO₂ _____
- 7) HCl _____
- 8) PbS _____
- 9) CH₄ _____
- 10) N₂O₃ _____

Write the formulas of the following chemical compounds:

- 11) tetraphosphorus triselenide _____
- 12) potassium acetate _____
- 13) iron (II) phosphide _____
- 14) disilicon hexabromide _____
- 15) titanium (IV) nitrate _____
- 16) diselenium diiodide _____
- 17) copper (I) phosphate _____
- 18) ammonium oxide _____
- 19) nitric acid _____
- 20) phosphorus _____

Answers: Practice Quiz 2

Name each compound.

- 1) HI hydroiodic acid
- 2) CaSO₄ calcium sulfate
- 3) C₂Br₆ dicarbon hexabromide
- 4) Cr(CO₃)₃ chromium (VI) carbonate
- 5) Ag₃P silver phosphide
- 6) IO₂ iodine dioxide
- 7) HCl hydrochloric acid
- 8) PbS lead (II) sulfide
- 9) CH₄ methane
- 10) N₂O₃ dinitrogen trioxide

Write the formulas of the following chemical compounds:

- 11) tetraphosphorus triselenide P₄Se₃
- 12) potassium acetate KCH₃COO
- 13) iron (II) phosphide Fe₃P₂
- 14) disilicon hexabromide Si₂Br₆
- 15) titanium (IV) nitrate Ti(NO₃)₄
- 16) diselenium diiodide Se₂I₂
- 17) copper (I) phosphate Cu₃PO₄
- 18) ammonium oxide (NH₄)₂O
- 19) nitric acid HNO₃
- 20) phosphorus P₄

Practice Quiz 3

Name each compound.

- 1) NaBr _____
- 2) $\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)_2$ _____
- 3) P_2O_5 _____
- 4) HBr _____
- 5) FePO_4 _____
- 6) K_3N _____
- 7) SO_2 _____
- 8) CuOH _____
- 9) $\text{Zn}(\text{NO}_2)_2$ _____
- 10) V_2S_3 _____

Write the formulas for the following chemical compounds:

- 11) silicon dioxide _____
- 12) nickel (III) sulfide _____
- 13) manganese (II) phosphate _____
- 14) silver acetate _____
- 15) diboron tetrabromide _____
- 16) magnesium sulfate heptahydrate _____
- 17) potassium carbonate _____
- 18) ammonium oxide _____
- 19) acetic acid _____
- 20) ammonia _____

Answers: Practice Quiz 3

Name the following chemical compounds:

- 1) NaBr sodium bromide
- 2) $\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)_2$ calcium acetate
- 3) P_2O_5 diphosphorus pentoxide
- 4) HBr hydrobromic acid
- 5) FePO_4 iron(III) phosphate
- 6) K_3N potassium nitride
- 7) SO_2 sulfur dioxide
- 8) CuOH copper(I) hydroxide
- 9) $\text{Zn}(\text{NO}_2)_2$ zinc nitrite
- 10) V_2S_3 vanadium(III) sulfide

Write the formulas for the following chemical compounds:

- 11) silicon dioxide SiO_2
- 12) nickel (III) sulfide Ni_2S_3
- 13) manganese (II) phosphate $\text{Mn}_3(\text{PO}_4)_2$
- 14) silver acetate $\text{AgC}_2\text{H}_3\text{O}_2$
- 15) diboron tetrabromide B_2Br_4
- 16) magnesium sulfate heptahydrate $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$
- 17) potassium carbonate K_2CO_3
- 18) ammonium oxide $(\text{NH}_4)_2\text{O}$
- 19) acetic acid CH_3COOH
- 20) ammonia NH_3