

WKS
Naming & Formulas of Covalent
Compounds & Acids WS

NAME Answer Key
 Period _____ Date _____

1. What is a binary molecular compound?

A covalently-bonded compound composed of only two kinds of non-metal elements, that does not start with H (those compounds are acids).

2. In the table below, fill in the prefix corresponding to the number of atoms in the formula:

Number	Prefix	Number	Prefix
1	mono-	6	hexa-
2	di-	7	hepta-
3	tri-	8	octa-
4	tetra-	9	nona-
5	penta-	10	deca-

In the table below, determine the formula of the binary covalent compound or acid from its name, or the name of the compound from the formula.

Name to Formula		Formula to Name	
3. antimony tribromide	SbBr_3	14. P_4S_5	tetraphosphorous pentasulfide
4. iodine pentafluoride	IF_5	15. SeO_3	selenium trioxide
5. dinitrogen trioxide	N_2O_3	16. Si_2Br_6	disilicon hexabromide
6. ammonia	NH_3	17. SCl_4	sulfur tetrachloride
7. phosphorus triiodide	PI_3	18. CH_4	methane
8. carbon monoxide	CO	19. NF_3	nitrogen trifluoride
9. phosphorous pentachloride	PCl_5	20. N_2O	dinitrogen monoxide
10. tetraiodine nonoxide	I_4O_9	21. IF_7	iodine heptafluoride
11. bromic acid No hydro, so bromate	HBrO_3	22. HClO	$\text{ClO}^- =$ hypochlorite hypochlorous acid
12. phosphorous acid No hydro, so phosphite	H_3PO_3	23. HF	$\text{F}^- =$ fluoride hydrofluoric acid
13. hydroiodic acid hydro, so iodide	HI	24. H_2CO_3	$\text{CO}_3^{2-} =$ carbonate carbonic acid

25. What is the difference between a binary acid and an oxyacid? How are each named?

A binary acid contains H covalently bonded to what looks like a monatomic anion from the periodic table (or a polyatomic anion ending in -ide). An oxyacid contains H covalently bonded to what looks like a polyatomic oxyanion from Table D. The binary acid is named by adding "hydro-" before the root and "-ic acid" after the root of the anion, and oxyacids are named by changing the ending of the anion, either "-ate" to "-ic acid" or "-ite" to "-ous acid"