

Binary Ionic Compounds

Name: _____ Per: _____

Directions: First quickly scan the worksheet and circle any metals (as a symbol or as a name) that is a transition metal. Then either give the same or chemical formula as necessary for each problem below.

Remember that transition metals can have multiple oxidation states, so you are required to indicate the appropriate oxidation state in parenthesis when naming them. You must use the subscript and oxidation state of the anion to help determine the oxidation state of the transition metal.

- LiF _____
- lithium chloride _____
- Li₂O _____
- lithium nitride _____
- Li₃P _____
- beryllium fluoride _____
- BeO _____
- beryllium sulfide _____
- BF₃ _____
- boron chloride _____
- BBr₃ _____
- boron oxide _____
- BN _____
- sodium fluoride _____
- CuF _____
- copper (II) chloride _____
- Cu₂O _____
- copper (II) oxide _____
- Cu₃N _____
- copper (II) nitride _____
- Na₂O _____
- sodium nitride _____
- PbF₂ _____
- lead (IV) fluoride _____
- PbS _____
- lead (IV) sulfide _____
- Pb₃N₄ _____
- lead (IV) oxide _____
- FeF₃ _____
- iron (II) bromide _____
- Fe₂O₃ _____
- chromium (VI) phosphide _____
- FeP _____
- aluminum fluoride _____
- AlI₃ _____
- aluminum oxide _____
- Mn₂O₇ _____
- manganese (IV) bromide _____
- SnSe _____
- tin (IV) oxide _____

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ANSWER KEY

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1. lithium fluoride LiF
2. lithium chloride LiCl
3. lithium oxide Li_2O
4. lithium nitride Li_3N
5. lithium phosphide Li_3P
6. beryllium fluoride BeF_2
7. beryllium oxide BeO
8. beryllium sulfide BeS
9. boron fluoride BF_3
10. boron chloride BCl_3
11. boron bromide BBr_3
12. boron oxide B_2O_3
13. boron nitride BN
14. sodium fluoride NaF
15. copper (I) fluoride CuF
16. copper (II) chloride CuCl_2
17. copper (I) oxide Cu_2O
18. copper (II) oxide Cu_2O
19. copper (I) nitride Cu_3N
20. copper (II) nitride Cu_3N
21. sodium oxide Na_2O
22. sodium nitride Na_3N
23. lead (II) fluoride PbF_2
24. lead (IV) fluoride PbF_4
25. lead (II) sulfide PbS
26. lead (IV) sulfide PbS_2 , not Pb_2S_4
27. lead (IV) nitride Pb_3N_4
28. lead (IV) oxide PbO_2 , not Pb_2O_4
29. iron (III) fluoride FeF_3
30. iron (II) bromide FeBr_2
31. iron (III) oxide Fe_2O_3
32. chromium (VI) phosphide CrP_2 , not Cr_3P_6
33. iron (III) phosphide FeP
34. aluminum fluoride AlF_3
35. aluminum iodide AlI_3
36. aluminum oxide Al_2O_3
37. manganese (VII) oxide Mn_2O_7
38. manganese (IV) bromide MnBr_4
39. tin (II) selenide SnSe
40. tin (IV) oxide SnSe_2 , not Sn_2Se_4