### Naming Practice Key

<table>
<thead>
<tr>
<th>Type of Compound</th>
<th>Ionic</th>
<th>Hydrate</th>
<th>Acids</th>
<th>Molecular</th>
</tr>
</thead>
<tbody>
<tr>
<td>How To Recognize</td>
<td>+ and - ion</td>
<td>Ionic compound with water</td>
<td>H⁺ and - ion</td>
<td>Not Ionic / Two non-metals</td>
</tr>
<tr>
<td>How To Name</td>
<td>names of + ion then - ion</td>
<td>Name ionic then # of waters with Greek prefix with hydrate</td>
<td>“ides” → hydro---ic acid “ates” → ---ic acid “ites” → ---ous acid S (add “ur”) P (add “or”)</td>
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</tbody>
</table>

There are also compounds that do not follow any of the above rules... they use their “common” names.

Indicate the Type of Compound and then name the compound using the appropriate rules:

1. NaF | I sodium fluoride |
2. FeCl₃ | I ferric chloride |
3. CO₂ | M carbon dioxide |
4. PCl₃ | I phosphorus trichloride |
5. HF | A hydrofluoric acid |
6. SF₄ | M sulfur tetrafluoride |
7. HC₂H₅O₂ | A acetic acid |
8. H₂O | n/a water |
9. NH₃ | n/a ammonia |
10. CaO | I calcium oxide |
11. NH₄NO₃ | I ammonium nitrate |
12. NaI | I sodium iodide |
13. PbCO₃ | I lead carbonate |
14. Na₂O | I sodium oxide |
15. Ba(NO₃)₂ | I barium nitrate |
16. K₂CrO₄ | I potassium chromate |
17. NO | M nitrogen monoxide |
18. NiSO₄ | I nickel(II) sulfate |
19. MnO₂ | --* manganese dioxide |
20. H₂S | A hydrosulfuric acid |
21. CuCl₂ | I cupric chloride |
22. AgNO₃ | I silver nitrate |
23. H₂CO₃ | A carbonic acid |
24. H₃PO₄ | A phosphoric acid |
25. Na₂CO₃•10H₂O | H Sodium carbonate decahydrate |
26. N₂O₅ | M dinitrogen pentoxide |
27. NO₂ | M nitrogen dioxide |
28. HNO₃ | A nitric acid |
29. NaOH | I sodium hydroxide |
30. SnCl₂ | I stannous chloride |
31. CaSO₄ | I calcium sulfate |
32. HBr | A hydrobromic acid |
33. Cu(OH)₂ | I cupric hydroxide |
34. Zn(OH)₂ | I zinc hydroxide |
35. BaCl₂ | I barium chloride |
36. PCl₅ | M phosphorus pentachloride |
37. MgCl₂•10H₂O | H magnesium chloride decahydrate |
38. AsF₅ | M arsenic pentafluoride |
39. OF₂ | M oxygen-difluoride |

* this is an odd one... while it looks like it might be manganese (II) peroxide, the manganese is really in the +4 state and is named like a molecular compound... manganese dioxide. Just memorize this one. This chemical shows up as a catalyst for one of our demonstrations and is also used as an oxidizer.