**ANSWER KEY.**



Use prefixes to name each molecular compound or write its formula. Never use mono- on the first element, drop the extra vowel before oxide, and never reduce a formula.

**1.** Name each compound.

(a) $CCl_4$

**carbon tetrachloride**

(b) $N_2O_3$

**dinitrogen trioxide**

(c) $SO_3$

**sulfur trioxide**

(d) $SiO_2$

**silicon dioxide**

(e) $IF_7$

**iodine heptafluoride**

(f) CO

**carbon monoxide**

(g) $S_2Cl_2$

**disulfur dichloride**

(h) $Cl_2O_7$

**dichlorine heptoxide**

(i) $PBr_3$

**phosphorus tribromide**

(j) NO

**nitrogen monoxide**

**2.** Write the formula for each compound.

(a) dinitrogen tetrafluoride

**$N_2F_4$**

(b) sulfur dioxide

**$SO_2$**

(c) tetraphosphorus trisulfide

**$P_4S_3$**

(d) boron trichloride

**$BCl_3$**

(e) xenon tetrafluoride

**$XeF_4$**

(f) carbon disulfide

**$CS_2$**

(g) nitrogen triiodide

**$NI_3$**

(h) dichlorine monoxide

**$Cl_2O$**


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**3.** These compounds use common names. Write the formula for each.

(a) water

**$H_2O$**

(b) ammonia

**$NH_3$**

(c) methane

**$CH_4$**

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**4.** A student named $CO_2$ "monocarbon dioxide." Explain the mistake and give the correct name.

**Never use mono- on the first element. With no prefix, the first element has 1 atom. Correct name: carbon dioxide.**

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**5.** A student wrote the formula for tetraphosphorus hexoxide as $P_2O_3$. Explain the mistake and write the correct formula.

**Each prefix is a subscript, and molecular formulas are never reduced. tetra = 4 P and hex(a) = 6 O. Correct formula: $P_4O_6$.**

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**6.** Name $N_2O_5$ and $P_2O_5$. Explain why the prefix on oxygen is the same in both names but the name of the first element is different.

**$N_2O_5$ is dinitrogen pentoxide. $P_2O_5$ is diphosphorus pentoxide. Both have 5 O atoms (pent-) and 2 atoms of the first element (di-). Only the first element's name changes.**


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