

Question No. 1 of 5

Instruction: (1) Read the problem statement carefully (2) Follow the outline to solve the problem on paper (3) Review the completion and compare with your own. (4) Go back to review the core concept tutorial as needed.

Question #01

Write the chemical formula for sodium oxide.

Strategy

This is a binary ionic compound.
Write the symbol & charge of the first word and the second word.
Balance charges with subscripts to form a neutral compound.

Solution

Sodium = Na^{+1}
Oxide = O^{-2}
Sodium Oxide = $\text{Na}^{+1}\text{Na}^{+1}\text{O}^{-2}$

Answer: Na_2O

Question No. 2 of 5

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Question #02

Write the formula for carbonous acid.

Strategy

It is an acid. Hydrogen is the cation.
"hydro_ic" acids came from an element. "_ic" acids came from an "_ate" ion.
"_ous" acids came from an "_ite" ion.
Balance charges with subscripts.

Solution

Acid = H^{+1}
Carbonous came from carbonite = CO_3^{-2}
Carbonous acid = $H^{+1}H^{+1}CO_3^{-2}$

Answer: H_2CO_3

Question No. 3 of 5

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Question #03

Write the formula for ammonium phosphate

Strategy

This is a polyatomic ion compound.
Write the symbol and charge for the first and second words.
Balance the charges with subscripts—use parenthesis with the polyatomic ions.

Solution

Ammonium = NH_4^{+1}

Phosphate = PO_4^{-3}

Ammonium phosphate = $\text{NH}_4^{+1}\text{NH}_4^{+1}\text{NH}_4^{+1}\text{PO}_4^{-3}$

Answer: $(\text{NH}_4)_3\text{PO}_4$

Question No. 4 of 5

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Question #04

Write the formula for copper (II) hydroxide.

Strategy

This is a multivalent metal with a polyatomic ion.
Write the symbol and charge of the first and second word.
The roman numerals give the charge of the metal.
Balance charges with subscripts—use parenthesis with the polyatomic ion.

Solution

Copper (II) = Cu^{+2}
Hydroxide = OH^{-1}
Copper (II) Hydroxide = $\text{Cu}^{+2}\text{OH}^{-1}\text{OH}^{-1}$

Answer: $\text{Cu}(\text{OH})_2$

Question No. 5 of 5

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Question #05

Write the formula for silicon dioxide.

Strategy

The prefixes show that it's a binary covalent molecule.
Write the symbols for the first and second word.
Use the prefixes for the subscripts. Mono is not used on the first word.

Solution

Silicon: Si
Dioxide: O₂

Answer: SiO₂