

Naming Acids Worksheet

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Part 1: Foundational Knowledge

What is the prefix used in the naming of binary acids?

Hint: Think about the common prefixes used in acid nomenclature.

- Per-
- Hydro-
- Hypo-
- Meta-

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Which of the following are characteristics of acids? (Select all that apply)

Hint: Consider the properties of acids in aqueous solutions.

- Release hydrogen ions in water
- Taste bitter
- Turn blue litmis paper red
- Feel slippery

Which of the following are characteristics of acids? (Select all that apply)

Hint: Consider the properties that define acids in chemistry.

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- Turn blue litimus paper red
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Hint: Consider the properties that define acids.

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Explain the difference between binary acids and oxyacids in terms of their composition.

Hint: Consider the elements that make up each type of acid.

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Hint: Consider the elements that make up each type of acid.

List the suffixes used for naming acids derived from polyatomic ions ending in "-ate" and "-ite."

Hint: Think about how the endings of the polyatomic ions change when naming acids.

1. -ate

2. -ite

List the suffixes used for naming acids derived from polyatomic ions ending in "-ate" and "-ite."

Hint: Think about the naming conventions for polyatomic ions.

1. -ate:

2. -ite:

Part 2: Comprehension

Which of the following is the correct name for H_2SO_4 ?

Hint: Consider the common names for acids derived from sulfur.

- Sulfurous acid
- Sulfuric acid
- Hydrosulfuric acid
- Sulfate acid

Which of the following is the correct name for H_2SO_4 ?

Hint: Consider the common names for sulfur-based acids.

- Sulfurous acid
- Sulfuric acid
- Hydrosulfuric acid
- Sulfate acid

Which of the following is the correct name for H_2SO_4 ?

Hint: Consider the common names for sulfur-containing acids.

- Sulfurous acid
- Sulfuric acid
- Hydrosulfuric acid
- Sulfate acid

Identify the correct names for the following acids: HNO_3 and HNO_2 .

Hint: Think about the naming conventions for nitric and nitrous acids.

- Nitric acid and Nitrous acid
- Nitrous acid and Nitric acid
- Hydro nitric acid and Hydro nitrous acid
- Nitrate acid and Nitrite acid

Identify the correct names for the following acids: HNO_3 and HNO_2 .

Hint: Think about the naming conventions for acids derived from nitrogen.

- Nitric acid and Nitrous acid
- Nitrous acid and Nitric acid
- Hydro nitric acid and Hydro nitrous acid
- Nitrate acid and Nitrite acid

Identify the correct names for the following acids: HNO_3 and HNO_2 .

Hint: Think about the naming conventions for nitric and nitrous acids.

- Nitric acid and Nitrous acid
- Nitrous acid and Nitric acid
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Nitrate acid and Nitrite acid

Describe how the naming of oxyacids is influenced by the polyatomic ions they contain.

Hint: Consider the relationship between the polyatomic ion and the acid name.

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Part 3: Application and Analysis

Given the formula HClO , what is the correct name of this acid?

Hint: Think about the naming conventions for acids containing chlorine.

- Chloric acid
- Hypochlorous acid
- Perchloric acid
- Chlorous acid

Given the formula HClO, what is the correct name of this acid?

Hint: Think about the naming conventions for acids with chlorine.

- Chloric acid
- Hypochlorous acid
- Perchloric acid
- Chlorous acid

Given the formula HClO, what is the correct name of this acid?

Hint: Think about the naming conventions for acids containing chlorine.

- Chloric acid
- Hypochlorous acid
- Perchloric acid
- Chlorous acid

Which of the following formulas represent binary acids? (Select all that apply)

Hint: Consider the formulas that consist of hydrogen and one other nonmetal.

- HBr
- H₂CO₃
- HI
- HNO₃

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Hint: Consider the formulas that consist of hydrogen and one other nonmetal.

- HBr
- H_2CO_3
- HI
- HNO_3

Write the chemical formula for phosphoric acid and explain the steps involved in deriving it from its name.

Hint: Consider the components of the name and how they relate to the formula.

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Part 4: Evaluation and Creation

Create a name for an acid with the formula H_2TeO_4 . Which of the following names would be correct?

Hint: Think about the naming conventions for acids derived from tellurium.

- Telluric acid
- Tellurous acid
- Hydrotelluric acid
- Perchloric acid

Create a name for an acid with the formula H_2TeO_4 . Which of the following names would be correct?

Hint: Think about the naming conventions for tellurium-containing acids.

- Telluric acid
- Tellurous acid
- Hydrotelluric acid
- Perchloric acid

Create a name for an acid with the formula H_2TeO_4 . Which of the following names would be correct?

Hint: Consider the naming conventions for tellurium-based acids.

- Telluric acid
- Tellurous acid
- Hydrotelluric acid
- Perchloric acid

Evaluate the naming system for acids and propose any improvements or changes that could make it more intuitive for learners.

Hint: Consider the challenges learners face with the current naming conventions.

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Given the following polyatomic ions, create the names for their corresponding acids:

Hint: Think about the naming conventions for acids derived from these ions.

1. NO_3^-

2. ClO_2^-

3. SO_4^{2-} **Given the following polyatomic ions, create the names for their corresponding acids:***Hint: Think about the naming conventions for acids derived from polyatomic ions.*1. NO_3^- :2. ClO_2^- :3. SO_4^{2-} :**Given the following polyatomic ions, create the names for their corresponding acids:***Hint: Think about the naming conventions for acids derived from polyatomic ions.*1. NO_3^- :2. ClO_2^- :3. SO_4^{2-} :