

Acids - Binary and Oxyacids Cipher Puzzle

- Students solve problems to discover a secret message
- NO PREP, NO MARKING, NO MATERIALS

Students use clues to answer questions and their answers reveal a hidden message.

Chemistry Compound Cipher Puzzle
Acids - Binary and Oxyacids Cipher Puzzle

Instructions: For each clue, put the answer in the 'Answer' column. Then, identify the letter to be extracted from the 'Letter position' column (counting only letters). Take that letter and write the letter in the 'Letter extracted from Answer' column. After you finish each question, write your letters in order below the table. Add spaces to reveal the hidden message.

#	Question	Answer - Write the name if given the formula and formula if given the name	Letter position to extract →	Letter extracted from Answer
1	H ₂ SO ₄		9th	
2	hydrochloric acid		2nd	
3	periodic acid		2nd	
4	H ₂ CO ₃		12th	
5	sulfurous acid		2nd	
6	HNO ₂			
7	HClO ₄		2nd	
8	chloric acid		3rd	
9	HIO ₄		2nd	
10	HBr		12th	
11	hydrosulfuric acid		2nd	
12	H ₂ SeO ₄		4th	
13	H ₃ PO ₄		2nd	
14	phosphoric acid			
15	HClO ₃			
16	H ₂ SO ₄			
17	sulfurous acid		2nd	

Write your Answer letters in order: _____

Hidden Message - include spaces to decipher the hidden message: _____

#	Question	Answer - Write the name if given the formula and formula if given the name	Letter position to extract →	Letter extracted from Answer
1	H ₂ SO ₄	sulfuric acid (SULFURICACID)	9th	A
2	hydrochloric acid	HCl (HCL)	2nd	C

Teach With Fergy

NO PREP, MATERIALS, OR MARKING

SCROLL
to take a look inside!

HOW THESE ACTIVITIES HELP YOU

- **Saves Prep Time** - Everything is pre-made, ready to go, and fully editable.
- **Provides Built-In Assessments** - The activity lets students self-assess and lets you quickly check for understanding.
- **Perfect for:** Review, Practice, Homework, and more!

MULTIPLE QUESTION TYPES THAT CHECK FOR UNDERSTANDING

Example

#	Question	Answer - Write the name if given the formula and formula if given the name	Letter position to extract →	Letter extracted from Answer
1	H ₂ SO ₄	sulfuric acid (SULFURICACID)	9th	A
2	hydrochloric acid	HCl (HCL)	2nd	C

Full Teacher Answer Key



Chemistry Compound Cipher Puzzle
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#	Correct answer (letters-only form used for counting)	Letter extracted
1	sulfuric acid (SULFURICACID)	A
2	HCl (HCL)	C
3	HIO ₄ (HIO)	I
4	carbonic acid (CARBONICACID)	D
5	H ₂ SO ₃ (HSO)	S
6	nitrous acid (NITROUSACID)	R
7	perchloric acid (PERCHLORICACID)	E
8	HClO ₂ (HCLO)	L
9	periodic acid (PERIODICACID)	E
10	hydrobromic acid (HYDROBROMICACID)	A
11	H ₂ S (HS)	S
12	selenic acid (SELENICACID)	E
13	phosphoric acid (PHOSPHORICACID)	H
14	H ₃ PO ₄ (HPO)	P
15	chloric acid (CHLORICACID)	L
16	sulfuric acid (SULFURICACID)	U
17	H ₂ SO ₃ (HSO)	S

Final Message: ACIDSRELEASEHPLUS → ACIDS RELEASE H PLUS

Students Use Clues to Answer Questions. Their Answers Reveal a Hidden Message.

What Will Your Students Learn?

SIMPLY DOWNLOAD AND
GIVE TO YOUR STUDENTS

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11	hydrosulfuric			
12	H ₂ SeO ₄			
13	H ₃ PO ₄			
14	phosphoric acid			
15	HClO ₃			
16	H ₂ SO ₃			
17	sulfurous acid			

Write your Answer letters in order below the table:
Hidden Message = _____

Chemistry Compound Cipher Puzzle
Acids - Binary and Oxyacids Cipher Puzzle

#	Correct answer (letters-only form used for counting)	Letter extracted
1	sulfuric acid (SULFURICACID)	A
2	HCl (HCL)	C
3	HIO ₄ (HIO)	I
4	carbonic acid (CARBONICACID)	D
5	H ₂ SO ₃ (HSO)	S
6	nitrous acid (NITROUSACID)	R
7	perchloric acid (PERCHLORICACID)	E
8	HClO ₃ (HCL)	L
9	periodic acid (PERIODICACID)	E
10	hydrobromic acid (HYDROBROMICACID)	A
11	H ₂ S (HS)	S
12	selenic acid (SELENICACID)	E
13	phosphoric acid (PHOSPHORICACID)	H
14	H ₃ PO ₄ (HPO)	P
15	chloric acid (CHLORICACID)	L
16	sulfuric acid (SULFURICACID)	U
17	H ₂ SO ₃ (HSO)	S

Final Message: ACIDSRELEASEHPLUS → ACIDS RELEASE H PLUS

- ✓ Full Answer Key
- ✓ No Prep, Just Print
- ✓ Perfect for

- Review
- Practice
- Additional work for early finishers

- Name binary acids from their chemical formulas
- Write formulas for binary acids from their names
- Name oxyacids from their chemical formulas
- Write formulas for oxyacids from their names
- Recognize the difference between binary acids and oxyacids
- Apply acid naming rules, including how -ide, -ite, and -ate endings connect to acid names
- Strengthen understanding of common acids such as hydrochloric, sulfuric, sulfurous, nitric, nitrous, carbonic, and phosphoric acid
- Practice moving between chemical formulas and compound names in both directions
- Build chemistry vocabulary and pattern-recognition skills through clue solving
- Reinforce the key idea that acids release H⁺ ions through the hidden message

NO PREP or Materials

- Acids – Binary and Oxyacids Cipher Puzzle Worksheet
- A student-friendly activity with 17 clues focused on naming acids and writing acid formulas.
- Clear, Step-by-Step Instructions
- Guides students through solving each clue and extracting letters to decode a hidden message.
- Reinforces:
 - Naming binary acids from formulas
 - Writing formulas for binary acids from names
 - Naming oxyacids from formulas
 - Writing formulas for oxyacids from names
 - Common acid naming patterns and rules
- Students use their answers to decode a secret message
- Includes all correct answers and extracted letters for easy grading.
- No-Prep, Print-and-Go Resource
- Ready to use with no setup required—perfect for quick lessons, review, or sub plans.

What You Get

Students Use Their Answers to Reveal a Hiddle Message

1. For each clue, write the answer in the 'Answer' column.
2. Identify the letter to be extracted using the "Letter position" column.
3. Write the letter in the 'Letter extracted from Answer' column.
4. Write your letters in order below the table to reveal the hidden message.

Chemistry Binary and Oxyacids Cipher Puzzle
Acids - Binary and Oxyacids Cipher Puzzle

Instructions: For each clue, put the answer in the 'Answer' column. Then, identify the letter to be extracted from the 'Letter position' column (counting only letters). Take that letter and write the letter in the 'Letter extracted from Answer' column. After you finish each question, write your letters in order below the table. Add spaces to reveal the hidden message.

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8	chloric acid		3rd	
9	HIO ₄		2nd	
10	HBr		1st	
11	hydrosulfuric acid		1st	
12	H ₂ SeO ₄		4th	
13	H ₃ PO ₄		2nd	
14	perchloric acid		2nd	
15	HClO ₃		3rd	
16	H ₂ SO ₄		2nd	
17	sulfurous acid		2nd	

Write your Answer letters in order: _____

Hidden Message - include spaces to decipher the hidden message: _____

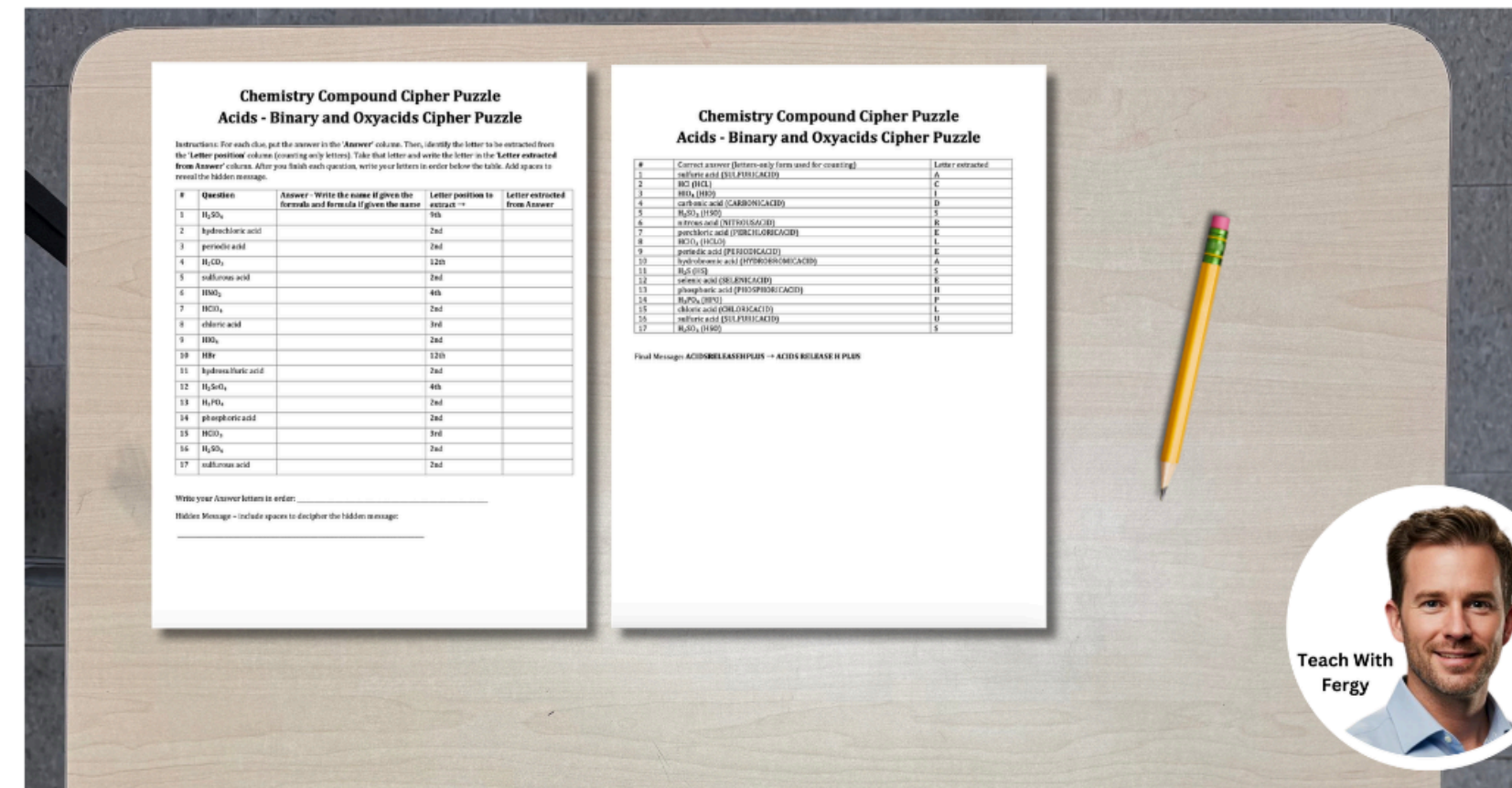
Your Activity

- Is a fun and interactive way to reinforce concepts and study
- **DIGITAL** and **PRINT** ready
- **FULLY EDITABLE**
- Complete Answer Key



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NO PREP, MATERIALS, OR MARKING

Chemistry Concepts Cipher Puzzle Bundle

Get all my Chemistry Cipher Puzzle Activities at a **HUGE** discount. Additionally, you'll get access to all additional chemistry ciphers I create in the future.

Ionic and Molecular Compounds Cipher Puzzle

- Students solve problems to discover a secret message
- NO PREP, NO MARKING, NO MATERIALS



NO PREP, MA

Periodic Table Element Cipher Puzzle

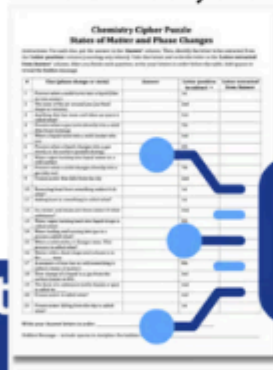
- Students solve problems to discover a secret message
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NO PREP, MATERIALS, OR MARKING

States of Matter and Phase Change Cipher Puzzle

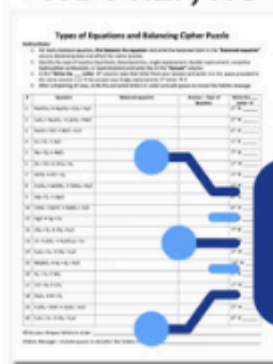
- Students solve problems to discover a secret message
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NO PREP, MATER

Types of Equations Balancing Cipher Puzzle

- Students solve problems to discover a secret message
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NO PREP, MATERIALS, OR MARKING

Acid-Base Calculation Cipher Puzzle

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Chemistry Concepts Cipher Puzzle Bundle

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Plus Many More!
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Thanks
**for your interest
in this resource!**

I am a real person and if
you have any questions,
suggestions, or concerns,
please reach out.



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*Let's
Connect!*

