

States of Matter and Phase Change 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 Cipher Puzzle
States of Matter and Phase Changes

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.

#	Clue (phase change or state)	Answer	Letter position to extract →	Letter extracted from Answer
1	Process when a solid turns into a liquid (like ice into water)		1st	
2	The state of the air around you (no fixed shape or volume)		2nd	
3	Anything that has mass and takes up space is called what?		3rd	
4	Process when a gas turns directly into a solid (like frost forming)		7th	
5	When a liquid turns into a solid (water into ice)		3rd	
6	Process when a liquid changes into a gas slowly at the surface (puddle drying)		6th	
7	Water vapor turning into liquid water on a cold surface		7th	
8	Process when a solid changes directly into a gas (dry ice)		2nd	
9	Frozen water that falls from the sky		1st	
10	Removing heat from something makes it do what?		1st	
11	Adding heat to something is called what?		2nd	
12	Ice, water, and steam are three states of what substance?		6th	
13	Water vapor turning back into liquid drops is called what?			
14	Water boiling and turning into gas is a process called what?			
15	When a solid melts, it changes state. This process is called what?			
16	Matter with a fixed shape and volume is in the _____ state		6th	
17	A measure of how hot or cold something is (affects states of matter)		3rd	
18	Slow change of a liquid to a gas from the surface (same as #6)		2nd	
19	The form of a substance (solid, liquid, or gas) is called its _____		3rd	
20	Frozen water is called what?		1st	
21	Frozen water falling from the sky is called what?			

Write your Answer letters in order: _____

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



#	Clue (phase change or state)	Answer	Letter position to extract →	Letter extracted from Answer
1	Process when a solid turns into a liquid (like ice into water)	melting (MELTING)	1st	M
2	The state of the air around you (no fixed shape or volume)	gas (GAS)	2nd	A



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

#	Clue (phase change or state)	Answer	Letter position to extract →	Letter extracted from Answer
1	Process when a solid turns into a liquid (like ice into water)	melting (MELTING)	1st	M
2	The state of the air around you (no fixed shape or volume)	gas (GAS)	2nd	A

Full Teacher Answer Key



Chemistry Cipher Puzzle States of Matter and Phase Changes		
#	Correct answer (letters-only form used for counting)	Letter extracted
1	melting (MELTING)	M
2	gas (GAS)	A
3	water (WATER)	T
4	deposition (DEPOSITION)	T
5	freezing (FREEZING)	E
6	evaporation (EVAPORATION)	R
7	condensation (CONDENSATION)	C
8	sublimation (SUBLIMATION)	A
9	snow (SNOW)	N
10	cooling (COOLING)	C
11	heating (HEATING)	H
12	water (WATER)	A
13	condensation (CONDENSATION)	N
14	boiling (BOILING)	G
15	melting (MELTING)	E
16	solid (SOLID)	S
17	temperature (TEMPERATURE)	T
18	evaporation (EVAPORATION)	A
19	state (STATE)	T
20	ice (ICE)	E
21	snow (SNOW)	S

Final Message: MATTERCANCHANGESTATES → MATTER CAN CHANGE STATES

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

What Will Your Students Learn?

SIMPLY DOWNLOAD AND GIVE TO YOUR STUDENTS

Chemistry Cipher Puzzle
States of Matter and Phase Changes

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.

#	Clue (Phase change or state)	Answer	Letter position to extract	Letter extracted from Answer
1	Process when a solid turns into a liquid (like ice into water)		1st	
2	The state of the air around you (no fixed shape or volume)		2nd	
3	Anything that has mass and takes up space is called what?		3rd	
4	Process when a gas turns directly into a solid (like frost forming)		7th	
5	When a liquid turns into a solid (water into ice)		3rd	
6	Process when a liquid changes into a gas directly at the surface (evaporating)		6th	
7	Water vapor forming into liquid water on a cold surface		1st	
8	Process when a gas turns into a liquid			
9	Process when a solid turns into a liquid			
10	Removing heat is called?			
11	Adding heat is called?			
12	In water and a substance?			
13	Water vapor that is called what?			
14	Water boiling as process called as?			
15	When a solid turns directly into a gas process is called?			
16	Process when a liquid turns into a solid (like frost forming)			
17	A measure of the average kinetic energy of particles in a substance is called?			
18	When a liquid turns into a gas directly at the surface (evaporating)			
19	The process of a gas turning into a liquid is called?			
20	Process when a solid turns into a liquid			
21	Process when a liquid turns into a solid			

Write your Answer in _____

Hidden Message: _____

Chemistry Cipher Puzzle
States of Matter and Phase Changes

#	Correct answer (Letters only form used for counting)	Letter extracted
1	melting (MELTING)	M
2	gas (GAS)	A
3	matter (MATTER)	T
4	deposition (DEPOSITION)	T
5	freezing (FREEZING)	F
6	evaporation (EVAPORATION)	E
7	condensation (CONDENSATION)	C
8	sublimation (SUBLIMATION)	S
9	ice (ICE)	I
10	melting (MELTING)	M
11	heating (HEATING)	H
12	water (WATER)	A
13	condensation (CONDENSATION)	C
14	boiling (BOILING)	B
15	melting (MELTING)	M
16	solid (SOLID)	S
17	temperature (TEMPERATURE)	T
18	evaporation (EVAPORATION)	E
19	freezing (FREEZING)	F
20	ice (ICE)	I
21	snow (SNOW)	S

Final Message: MATTER CAN CHANGE STATES → MATTER CAN CHANGE STATES

- ✓ Full Answer Key
- ✓ No Prep, Just Print
- ✓ Perfect for
 - Review
 - Practice
 - Additional work for early finishers

NO PREP or Materials

- The different states of matter (solid, liquid, gas) and their key properties
- How matter changes from one state to another through phase changes
- The processes of melting, freezing, evaporation, condensation, sublimation, and deposition
- How heating and cooling affect the state of a substance
- The role of temperature in causing changes in matter
- How common examples (like water, ice, and steam) demonstrate state changes
- How to identify and apply science vocabulary related to matter and phase changes
- How to use clues and evidence to solve problems and identify correct terms
- That matter can change states, reinforcing the core idea through a hidden message

- States of Matter & Phase Changes Cipher Puzzle Worksheet
- A student-friendly activity with 21 clues focused on identifying states of matter and phase changes.
- Clear, Step-by-Step Instructions
- Guides students through solving each clue and extracting letters to decode a hidden message.
- Reinforces:
 - States of matter (solid, liquid, gas)
 - Phase changes (melting, freezing, evaporation, condensation, etc.)
 - Heating and cooling processes
 - Real-world examples of matter changing states
- Students decode the message: “Matter can change states”
- Complete Answer Key
- 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 Hidden 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.

States of Matter & Phase Changes 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). 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.

#	Clue (phase change or state)	Answer	Letter position to extract	Letter extracted from Answer
1	Process when a solid turns into a liquid (like ice into water).		1st	
2	The state of the air around you (not fixed shape or volume).		2nd	
3	Anything that has mass and takes up space is called what?		3rd	
4	Process when a gas turns directly into a solid (like frost forming).		7th	
5	When a liquid turns into a solid (water into ice).		3rd	
6	Process when a liquid changes into a gas directly on the surface (liquid drying).		6th	
7	Warmer vapor turning into liquid water on a cold surface.		1st	
8	Process when a solid changes directly into a gas (dry ice).		7th	
9	Frozen water that falls from the sky.		2nd	
10	Removing heat from something causes it to do what?		1st	
11	Adding heat to something is called what?		1st	
12	Ice, water, and steam are three states of what substance?		1st	
13	Warmer vapor turning back into liquid drops in the air.		7th	
14	When a solid melts, it changes into a liquid. This process is called what?		2nd	
15	Matter with a fixed shape and volume is in the _____ state.		6th	
16	A measure of how hot or cold something is (refers to states of matter).		3rd	
17	Slow change of a liquid to a gas from the surface (known as _____).		3rd	
18	The form of a substance (solid, liquid, or gas) is called its _____.		2nd	
19	Frozen water is called what?		3rd	
20	Frozen water falling from the sky is called what?		1st	

Write your Answer letters in order: _____

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

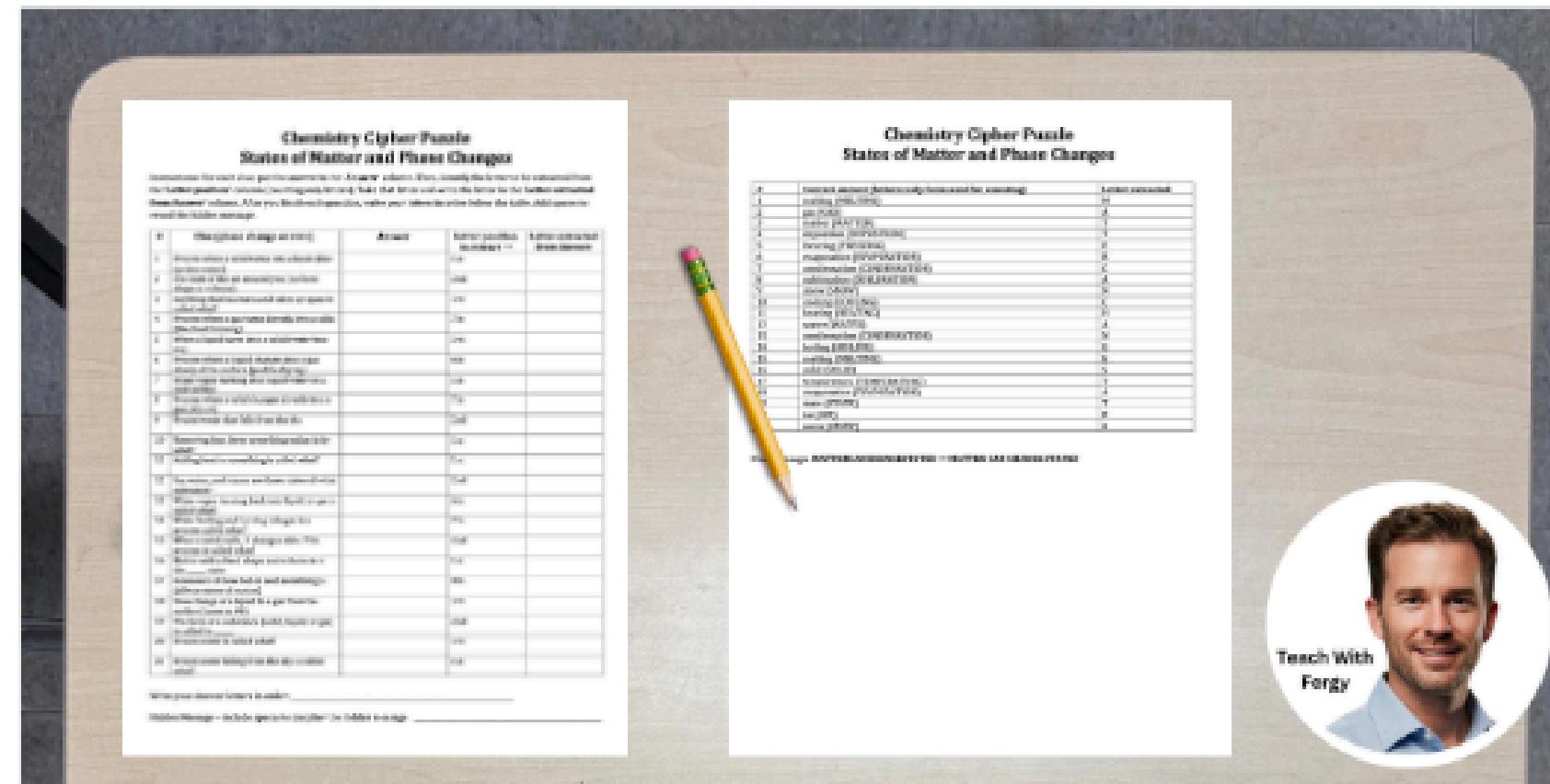
Your Activity

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



States of Matter and Phase Change Cipher Puzzle

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



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

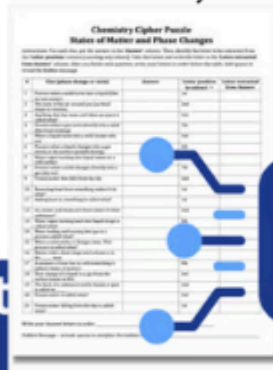
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NO PREP, MATERIALS, OR MARKING

States of Matter and Phase Change Cipher Puzzle

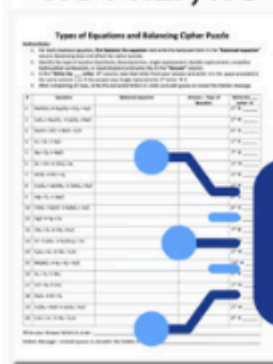
- Students solve problems to discover a secret message
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NO PREP, MATER

Types of Equations Balancing Cipher Puzzle

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



NO PREP, MATERIALS, OR MARKING

Acid-Base Calculation Cipher Puzzle

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



NO PREP, MATERIALS, OR MARKING

Chemistry Concepts Cipher Puzzle Bundle

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

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!*

