

# Topic 3: States of Matter

## Interactive Knowledge Check Worksheet

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Score: \_\_\_\_\_ / 100

### Set 1: Multiple Choice Questions

*Circle the letter of the correct answer.*

1. What is the scientific word for what everything is made of?
  - A) Element
  - B) Particle
  - C) Matter
  - D) Compound
2. Which state of matter has particles that are packed very close together and arranged in order?
  - A) Solid
  - B) Liquid
  - C) Gas
  - D) Slime
3. What process occurs when a liquid is heated and turns into a gas?
  - A) Melting
  - B) Condensation
  - C) Freezing
  - D) Evaporation
4. What is a substance in its simplest form, such as gold, called?
  - A) Mixture
  - B) Compound
  - C) Element
  - D) Material
5. Which of the following describes a reversible, physical change?
  - A) Digesting food
  - B) Melting ice
  - C) Making plastic from milk
  - D) Making a baking soda volcano

6. Why can powders sometimes be confused for liquids?
- A) They can be compressed
  - B) They evaporate
  - C) They can be poured into a container
  - D) Their particles are completely random
7. What happens to particles in a solid?
- A) They move around freely
  - B) They have large spaces between them
  - C) They are always vibrating
  - D) They can be easily squashed
8. What is formed when two or more elements are combined, such as hydrogen and oxygen making water?
- A) A compound
  - B) An atom
  - C) A gas
  - D) A particle
9. What is the reverse process of melting?
- A) Evaporation
  - B) Condensation
  - C) Solidifying or freezing
  - D) Heating
10. What is created when plaster of Paris powder is mixed with water to make a hard cast for a broken bone?
- A) A physical change
  - B) A chemical reaction
  - C) An evaporation process
  - D) A reversible change

## Set 2: True or False

Circle 'True' or 'False' for each statement below.

11. [ **True / False** ] The particles in a solid do not move or vibrate at all.
12. [ **True / False** ] A chemical reaction occurs when particles are rearranged to make a new product.
13. [ **True / False** ] The particles in a gas have very small spaces between them.
14. [ **True / False** ] Condensation happens when the temperature is lowered and a gas turns back into a liquid.
15. [ **True / False** ] Digestion of food in our bodies is an example of a chemical reaction.
16. [ **True / False** ] Powders are crushed solids that have changed their state into liquids.
17. [ **True / False** ] Changes of state between solids, liquids, and gases are irreversible.
18. [ **True / False** ] A single grain of sugar keeps its shape because it is a solid.
19. [ **True / False** ] Some solids need more heat than others to make them melt.
20. [ **True / False** ] Plastic is a useful product made from oil through a chemical reaction that cannot be reversed.

### Set 3: Fill in the Blanks

Write the correct word in the spaces provided to complete each sentence.

21. The smallest parts of a substance that are unique to that substance are called \_\_\_\_\_.
22. Scientists use a \_\_\_\_\_ model to help explain the differences between solids, liquids, and gases.
23. When temperature is increased, a solid will change into a liquid in a process called \_\_\_\_\_.
24. Chemical changes are different from physical changes because they cannot be reversed; we say the changes are \_\_\_\_\_.
25. A change of state from a liquid to a solid is called solidifying or \_\_\_\_\_.
26. Water is a combination of hydrogen and oxygen, which means it is an example of a \_\_\_\_\_.
27. The particles in a \_\_\_\_\_ fill the shape of the container they are in and can move around each other.
28. To reverse evaporation, the temperature needs to be lowered to cause \_\_\_\_\_.
29. Five different types of \_\_\_\_\_ enquiry include research, fair testing, observing over time, identifying and classifying, and pattern seeking.
30. In a solid, the particles are packed closely together and are arranged in a \_\_\_\_\_ way.

## Set 4: Match the Term

Select the correct scientific term from the word bank below and write it next to its definition.

WORD BANK				
Melting	Liquid	Elements	Plaster of Paris	Gas
Compress	Chemical reaction	Powder	Condensation	Materials

31. \_\_\_\_\_ : The process that is the exact reverse of freezing.
32. \_\_\_\_\_ : A type of matter where particles are arranged in a random way, cannot be squashed, and touch at least one other particle.
33. \_\_\_\_\_ : Substances that are made of only one type of element in its simplest form, like gold.
34. \_\_\_\_\_ : A material, also known as gypsum, which forms a hard cast through a chemical reaction when mixed with water.
35. \_\_\_\_\_ : The state of matter where particles are the most spread out with large spaces between them.
36. \_\_\_\_\_ : An action where you squeeze something to make it smaller or take up less space (which liquids and solids generally cannot do).
37. \_\_\_\_\_ : A type of reaction that creates a new product and cannot be reversed back to its original state.
38. \_\_\_\_\_ : The state of crushed solids, like sugar or sand, that can be poured into a container but still remain solids.
39. \_\_\_\_\_ : The physical process where a gas is cooled and returns to its liquid state.
40. \_\_\_\_\_ : The overarching term for what metals, plastics, ceramics, glass, and fabrics are classified as.



48. Give two examples of chemical reactions mentioned in the text.

49. What is the main characteristic of an "irreversible" change?

50. Based on the scientific enquiry investigating 'play slime', what questions were scientists trying to answer to classify its state of matter?