MATTER & ITS CHARACTERISTICS

Read • Understand • Match • Learn!

Name : _____

Class : _____

Date : _____

1 WHAT IS MATTER?

Matter is anything that has mass and occupies space.

Everything around us is made of matter. Matter can exist in different states, such as solid, liquid, and gas.

Quick Check

Matter is anything that has _____ and occupies _____.

2 THE THREE STATES OF MATTER

SOLID

- Fixed shape
- Fixed volume
- Example: ice, stone, book

LIQUID

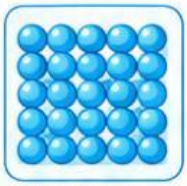
- No fixed shape
- Fixed volume
- Example: water, milk, oil

GAS

- No fixed shape
- No fixed volume
- Example: air, oxygen

3 READ & OBSERVE THE CHARACTERSTICS

SOLID



(Regular arrangement)

- Particles are packed closely together in a regular arrangement.
- Strong attraction force.
- Can only vibrate in fixed positions.

Therefore, solids have:

- A fixed shape
- A fixed volume

LIQUID

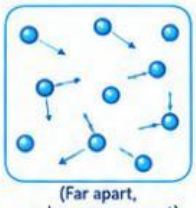
(Close together, random arrangement)

- Particles are close together, but not in a fixed pattern.
- Moderate attraction force.
- Can move or slide past one another.

Therefore, liquids have:

- No fixed shape (follow the container)
- A fixed volume

GAS



(Far apart, random arrangement)

- Particles are far apart and arranged randomly.
- Very weak attraction force.
- Move freely and rapidly in all directions.

Therefore, gases have:

- No fixed shape
- No fixed volume (fill the available space)

4 MATCH THE CHARACTERISTICS!

Read the characteristic cards below. Then, match each characteristic with the correct state of matter.

A. Fixed shape	B. Takes the shape of its container	C. Fills all available space	D. Fixed volume	E. No fixed volume
F. Particles are tightly packed	G. Particles are close together but can move	H. Particles are far apart	I. Strong attraction force	J. Moderate attraction force
K. Very weak attraction force	L. Particles vibrate in fixed positions	M. Particles slide past one another	N. Particles move freely and rapidly	O. Regular particle arrangement
P. Random particle arrangement	Q. No fixed shape			

5 SORT THE CHARACTERISTICS

Write the correct letter from the Characteristic Cards into the table!

CHARACTERISTIC	SOLID	LIQUID	GAS
Shape	_____	_____	_____
Volume	_____	_____	_____
Particle Arrangement	_____	_____	_____
Attraction Force	_____	_____	_____
Movement of Particles	_____	_____	_____

6 THINK LIKE A SCIENTIST!

1. A substance has no fixed shape, fixed volume, and its particles can slide past one another. What state of matter is it?

   Answer: _____

   Why? _____

2. A substance fills the entire container. Its particles are far apart and move freely. What state of matter is it?

   Answer: _____

   Why? _____

7 FINAL MISSION

Complete the table based on what you have learned!

State of Matter	Example	One Important Characteristic
Solid	_____	_____
Liquid	_____	_____
Gas	_____	_____

MATTER MASTER

Rate your understanding!

- I need more practice
- I understand most of it
- I can explain it to others!

LIVEWORKSHEETS