

Chapter 1: Matter in Our Surroundings Quiz

Introduction to Matter

1. What is matter?

- ☐ Anything that has mass and occupies space
- ☐ Only living things
- ☐ Only solid things
- ☐ Ideas and thoughts

Answer: Anything that has mass and occupies space

2. The SI unit of mass is?

- ☐ kilogram (kg)
- ☐ gram (g)
- ☐ milligram (mg)
- ☐ tonne

Answer: kilogram (kg)

3. The SI unit of volume is?

- ☐ cubic metre (m^3)
- ☐ litre (L)
- ☐ millilitre (mL)
- ☐ cubic centimetre (cm^3)

Answer: cubic metre (m^3)

4. Early Indian philosophers classified matter into?

- ☐ Five basic elements (Panch Tatva)
- ☐ Three states
- ☐ Atoms and molecules
- ☐ Living and non-living

Answer: Five basic elements (Panch Tatva)

5. Which of these is NOT matter?

- ☐ Love
- ☐ Air
- ☐ Water
- ☐ Sand

Answer: Love

Physical Nature of Matter

1. Matter is made up of?

- ☐ Particles
- ☐ Continuous blocks
- ☐ Waves
- ☐ Energy

Answer: Particles

2. The particles of matter are?

- ☐ Very small
- ☐ Very large
- ☐ Visible to naked eye
- ☐ Stationary

Answer: Very small

3. What happens when salt dissolves in water?

- ☐ Salt particles get into spaces between water particles
- ☐ Salt disappears completely
- ☐ Water volume increases significantly
- ☐ Salt turns into water

Answer: Salt particles get into spaces between water particles

4. How many particles are there in a small crystal of potassium permanganate?

- ☐ Millions
- ☐ Hundred
- ☐ One
- ☐ Ten

Answer: Millions

5. Can we see particles of matter with naked eyes?

- ☐ No
- ☐ Yes
- ☐ Only in solids
- ☐ Only in gases

Answer: No

Characteristics of Particles: Space and Movement

1. What is diffusion?

- ☐ Intermixing of particles of two different types of matter
- ☐ Change of state from solid to liquid
- ☐ Movement of particles due to gravity
- ☐ Separation of particles

Answer: Intermixing of particles of two different types of matter

2. What happens to kinetic energy with temperature rise?

- ☐ Increases
- ☐ Decreases
- ☐ Remains same
- ☐ Becomes zero

Answer: Increases

3. Particles of matter are continuously?

- ☐ Moving
- ☐ Stationary
- ☐ Vibrating only in solids
- ☐ Sleeping

Answer: Moving

4. When we make tea, particles of one matter get into?

- ☐ Spaces between particles of the other
- ☐ Nucleus of the other
- ☐ Outside the container
- ☐ None of the above

Answer: Spaces between particles of the other

5. Rate of mixing changes with?

- ☐ Temperature
- ☐ Pressure
- ☐ Volume
- ☐ Color

Answer: Temperature

Characteristics of Particles: Attraction

1. Particles of matter have ____ acting between them.

- ☐ Force
- ☐ Friction
- ☐ Gravity only
- ☐ Nothing

Answer: Force

2. Which has the strongest force of attraction?

- ☐ Iron nail
- ☐ Water
- ☐ Air
- ☐ Chalk

Answer: Iron nail

3. Which has the weakest force of attraction?

- ☐ Oxygen gas
- ☐ Water
- ☐ Sugar
- ☐ Iron

Answer: Oxygen gas

4. Why can a diver cut through water?

- ☐ Weak forces of attraction between water particles
- ☐ Water is a solid
- ☐ Diver is very strong
- ☐ Water has no particles

Answer: Weak forces of attraction between water particles

5. This force keeps the particles?

- ☐ Together
- ☐ Apart
- ☐ Moving
- ☐ Still

Answer: Together

States of Matter: The Solid State

1. Solids have?

- ☐ Definite shape and fixed volume
- ☐ No definite shape but fixed volume
- ☐ No definite shape or volume
- ☐ Fixed shape but no fixed volume

Answer: Definite shape and fixed volume

2. Solids are?

- ☐ Rigid
- ☐ Fluid
- ☐ Compressible
- ☐ Gaseous

Answer: Rigid

3. Why is a sponge compressible?

- ☐ It has minute holes with trapped air
- ☐ It is a liquid
- ☐ It is not matter
- ☐ It has no mass

Answer: It has minute holes with trapped air

4. Compressibility of solids is?

- ☐ Negligible
- ☐ High
- ☐ Moderate
- ☐ Variable

Answer: Negligible

5. A rubber band changes shape under force. Is it a solid?

- ☐ Yes
- ☐ No
- ☐ It is a liquid
- ☐ It is a gas

Answer: Yes

The Liquid State

1. Liquids have?

- ☐ No fixed shape but fixed volume
- ☐ Fixed shape and volume
- ☐ No fixed shape or volume
- ☐ Fixed shape but no volume

Answer: No fixed shape but fixed volume

2. Liquids are called fluids because they can?

- ☐ Flow
- ☐ Freeze
- ☐ Evaporate
- ☐ Solidify

Answer: Flow

3. Rate of diffusion of liquids is higher than solids because?

- ☐ Particles move freely and have space
- ☐ Particles are fixed
- ☐ Particles are very small
- ☐ Liquids are hot

Answer: Particles move freely and have space

4. Aquatic animals breathe oxygen dissolved in?

- ☐ Water
- ☐ Air
- ☐ Soil
- ☐ Sand

Answer: Water

5. Liquids take the shape of?

- ☐ The container
- ☐ A cube
- ☐ A sphere
- ☐ Nothing

Answer: The container

The Gaseous State

1. Gases are highly?

- ☐ Compressible
- ☐ Rigid
- ☐ Fixed
- ☐ Heavy

Answer: Compressible

2. CNG stands for?

- ☐ Compressed Natural Gas
- ☐ Common Natural Gas
- ☐ Clean Natural Gas
- ☐ Cold Natural Gas

Answer: Compressed Natural Gas

3. Gases diffuse very fast because of?

- ☐ High speed of particles and large space
- ☐ Low speed
- ☐ Small space
- ☐ High density

Answer: High speed of particles and large space

4. Pressure of a gas is due to?

- ☐ Force exerted by particles on walls
- ☐ Weight of gas
- ☐ Volume of container
- ☐ Temperature

Answer: Force exerted by particles on walls

5. LPG is used for?

- ☐ Cooking
- ☐ Cleaning
- ☐ Painting
- ☐ Drinking

Answer: Cooking

Can Matter Change its State?

1. Water exists in how many states?

- ☐ Three
- ☐ Two
- ☐ One
- ☐ Four

Answer: Three

2. The process of melting is also called?

- ☐ Fusion
- ☐ Fission
- ☐ Sublimation
- ☐ Vaporisation

Answer: Fusion

3. The temperature at which a solid melts is called?

- ☐ Melting point
- ☐ Boiling point
- ☐ Freezing point
- ☐ Condensation point

Answer: Melting point

4. Melting point is an indication of?

- ☐ Strength of force of attraction
- ☐ Weight of solid
- ☐ Volume of solid
- ☐ Color of solid

Answer: Strength of force of attraction

5. Melting point of ice is?

- ☐ 273.15 K
- ☐ 100 K
- ☐ 0 K
- ☐ 373 K

Answer: 273.15 K

Latent Heat

1. Latent heat means?

- ☐ Hidden heat
- ☐ High heat
- ☐ Low heat
- ☐ Lost heat

Answer: Hidden heat

2. Temperature during melting?

- ☐ Remains constant
- ☐ Increases
- ☐ Decreases
- ☐ Fluctuates

Answer: Remains constant

3. Heat required to change 1 kg solid to liquid at melting point is?

- ☐ Latent heat of fusion
- ☐ Latent heat of vaporisation
- ☐ Specific heat
- ☐ Boiling heat

Answer: Latent heat of fusion

4. Boiling point of water is?

- ☐ 373 K
- ☐ 273 K
- ☐ 100 K
- ☐ 0 K

Answer: 373 K

5. Particles in steam have more energy than water at 100°C because of?

- ☐ Latent heat of vaporisation
- ☐ Latent heat of fusion
- ☐ Kinetic energy
- ☐ Potential energy

Answer: Latent heat of vaporisation

Sublimation

1. Change of solid directly to gas is called?

- ☐ Sublimation
- ☐ Evaporation
- ☐ Condensation
- ☐ Fusion

Answer: Sublimation

2. Change of gas directly to solid is called?

- ☐ Deposition
- ☐ Sublimation
- ☐ Solidification
- ☐ Freezing

Answer: Deposition

3. Which substance undergoes sublimation?

- ☐ Camphor
- ☐ Ice
- ☐ Iron
- ☐ Wax

Answer: Camphor

4. Does sublimation involve the liquid state?

- ☐ No
- ☐ Yes
- ☐ Sometimes
- ☐ Only at high pressure

Answer: No

5. Solid CO₂ is also known as?

- ☐ Dry ice
- ☐ Wet ice
- ☐ Hard ice
- ☐ Gas ice

Answer: Dry ice

Effect of Change of Pressure

1. Gases can be liquefied by?

- ☐ Applying pressure and reducing temperature
- ☐ Reducing pressure
- ☐ Increasing temperature
- ☐ Adding water

Answer: Applying pressure and reducing temperature

2. What happens to particles when pressure is applied?

- ☐ They come closer
- ☐ They move apart
- ☐ They stop moving
- ☐ They disappear

Answer: They come closer

3. 1 atmosphere (atm) is a unit of?

- ☐ Pressure
- ☐ Temperature
- ☐ Volume
- ☐ Mass

Answer: Pressure

4. Solid CO₂ converts to gas at?

- ☐ 1 atmosphere pressure
- ☐ 10 atmosphere pressure
- ☐ 0 atmosphere pressure
- ☐ 100 atmosphere pressure

Answer: 1 atmosphere pressure

5. State of matter is determined by?

- ☐ Temperature and Pressure
- ☐ Volume only
- ☐ Mass only
- ☐ Color

Answer: Temperature and Pressure

Evaporation

1. Evaporation is a?

- ☐ Surface phenomenon
- ☐ Bulk phenomenon
- ☐ Chemical reaction
- ☐ Nuclear reaction

Answer: Surface phenomenon

2. Evaporation occurs at?

- ☐ Any temperature below boiling point
- ☐ Only at boiling point
- ☐ Only at freezing point
- ☐ Above boiling point

Answer: Any temperature below boiling point

3. Boiling is a?

- ☐ Bulk phenomenon
- ☐ Surface phenomenon
- ☐ Slow process
- ☐ Cooling process

Answer: Bulk phenomenon

4. During evaporation, particles gain energy from?

- ☐ Surroundings
- ☐ Nucleus
- ☐ Vacuum
- ☐ None

Answer: Surroundings

5. Particles escaping during evaporation have?

- ☐ Higher kinetic energy
- ☐ Lower kinetic energy
- ☐ Zero energy
- ☐ No mass

Answer: Higher kinetic energy

Factors Affecting Evaporation

1. Rate of evaporation increases with?

- ☐ Increase in surface area
- ☐ Decrease in surface area
- ☐ Decrease in temperature
- ☐ Increase in humidity

Answer: Increase in surface area

2. Increase in wind speed causes evaporation to?

- ☐ Increase
- ☐ Decrease
- ☐ Stop
- ☐ Remain same

Answer: Increase

3. Increase in humidity causes evaporation to?

- ☐ Decrease
- ☐ Increase
- ☐ Stop
- ☐ Fluctuate

Answer: Decrease

4. Why do we spread clothes to dry?

- ☐ To increase surface area
- ☐ To decrease surface area
- ☐ To warm them
- ☐ To clean them

Answer: To increase surface area

5. Higher temperature leads to?

- ☐ More particles having enough kinetic energy
- ☐ Freezing
- ☐ Condensation
- ☐ Less kinetic energy

Answer: More particles having enough kinetic energy

How Does Evaporation Cause Cooling?

1. Evaporation causes?

- ☐ Cooling
- ☐ Heating
- ☐ Melting
- ☐ Burning

Answer: Cooling

2. Acetone on palm feels cool because?

- ☐ Particles gain energy from palm and evaporate
- ☐ Acetone is ice cold
- ☐ Acetone is a solid
- ☐ Palm is hot

Answer: Particles gain energy from palm and evaporate

3. Cotton clothes are worn in summer because?

- ☐ They absorb sweat and allow evaporation
- ☐ They are synthetic
- ☐ They are thick
- ☐ They are waterproof

Answer: They absorb sweat and allow evaporation

4. Water droplets on cold glass surface are due to?

- ☐ Condensation of water vapour
- ☐ Evaporation of water
- ☐ Melting of glass
- ☐ Freezing of air

Answer: Condensation of water vapour

5. Earthen pots keep water cool due to?

- ☐ Evaporation through pores
- ☐ Insulation
- ☐ Freezing
- ☐ Boiling

Answer: Evaporation through pores

Summary of States of Matter

1. Forces of attraction are maximum in?

- ☐ Solids
- ☐ Liquids
- ☐ Gases
- ☐ Plasma

Answer: Solids

2. Kinetic energy is maximum in?

- ☐ Gases
- ☐ Liquids
- ☐ Solids
- ☐ Ice

Answer: Gases

3. Spaces between particles are maximum in?

- ☐ Gases
- ☐ Liquids
- ☐ Solids
- ☐ Stones

Answer: Gases

4. Order of particles is most regular in?

- ☐ Solids
- ☐ Liquids
- ☐ Gases
- ☐ Steam

Answer: Solids

5. States of matter are?

- ☐ Inter-convertible
- ☐ Fixed
- ☐ Permanent
- ☐ Unchangeable

Answer: Inter-convertible