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 CO_2 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 CO_2 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