

<b>Quiz Information</b>	
<b>Start date</b>	2026-03-25 13:51:24
<b>Duration</b>	3 minutes 30 seconds
<b>Score</b>	20%
<b>Rate</b>	No rate provided
<b>Results by categories</b>	<p>Modern Classification of Matter: 0 / 2 Cooling Effect of Acetone: 2 / 5 Direct Conversion of Solid to Gas (Naphthalene, Camphor): 0 / 1 Greek Philosophers' Views: 1 / 1 Definite Shape and Volume: 0 / 1 Based on Physical Properties: 0 / 1 Cooling Effect of Sweat: 0 / 1 How Does Evaporation Cause Cooling?: 1 / 1 High Compressibility: 0 / 2 Special Cases: Rubber Band, Salt/Sugar Crystals, Sponge: 0 / 2 Can Matter Change its State?: 0 / 1 States of Matter: 0 / 2 Surface Area: 0 / 1 Experiment with Potassium Permanganate: 0 / 1 Definition of Matter: 0 / 2 Diffusion in Liquids (Ink in Water Experiment): 0 / 2 Temperature: 1 / 2 Evidence from Mixing Sugar/Salt in Water: 0 / 2 Effect of Change in Pressure: 1 / 2 Melting and Freezing: 0 / 1 Physical Nature of Matter: 0 / 2 Use of Earthen Pots: 0 / 2 No Fixed Shape or Volume: 1 / 2 Particles of Matter Have Space Between Them: 0 / 1 Rigidity and Incompressibility: 0 / 1 sublimation: 1 / 2 Experiment with Solid, Liquid, and Rubber Band: 0 / 1 Evaporation: 1 / 2 Diffusion in Liquids and Solubility: 0 / 2 Factors Affecting Evaporation: 0 / 1 The Liquid State: 2 / 2 Diffusion of Gases (Incense</p>

Stick Experiment): 0 / 1 Characteristics of Particles of Matter: 0 / 2  
Observation of Tiny Particles in Matter: 0 / 1 Variations in Force of  
Attraction in Different States: 0 / 1 Panch Tatva (Five Elements): 0 / 2  
Particles of Matter are Continuously Moving: 0 / 2 Effect of Change  
in Temperature: 1 / 2 Introduction: 0 / 1 The Gaseous State: 0 / 1  
Evidence from Dissolution of Salt/Sugar in Water: 0 / 2 Experiment  
with Camphor Heating: 0 / 2 Wind Speed: 0 / 2 Humidity: 1 / 1 No  
Fixed Shape but Fixed Volume: 1 / 1 Diffusion in Solids (Copper  
Sulphate Crystal in Water): 0 / 2 Matter is Made up of Particles: 0 / 2  
Latent Heat of Fusion: 0 / 2 Dilution Experiment with Potassium  
Permanganate: 0 / 2 Liquefied Petroleum Gas (LPG) and Compressed  
Natural Gas (CNG): 1 / 2 Boiling and Condensation: 0 / 2 How Small  
are the Particles of Matter?: 0 / 2 Latent Heat of Vaporization: 2 / 2  
Diffusion in Gases (Smell of Perfume): 0 / 2 Compression and  
Expansion of Gases: 0 / 1 Fluidity and Ability to Flow: 1 / 2 Early  
Theories of Matter: 0 / 1 Particles of Matter Attract Each Other: 1 / 1  
Based on Chemical Properties: 1 / 2 The Solid State: 0 / 2 Continuous  
vs. Particulate Nature of Matter: 0 / 1

# Questions

<b>Question 1:</b>  When water is heated from $20^{\circ}\text{C}$ to $100^{\circ}\text{C}$ , what happens to the kinetic energy of its particles?	<b>Correct answer:</b>  It increases	<b>User answered:</b>  It remains constant	<b>Failed!</b>
<b>Question 2:</b>  Which of the following is considered matter?	<b>Correct answer:</b>  Air	<b>User answered:</b>  Love	<b>Failed!</b>
<b>Question 3:</b>  (A) Evaporation of acetone from the skin results in a cooling sensation. (R) The latent heat of vaporization for acetone is absorbed from the skin, causing a drop in temperature.	<b>Correct answer:</b>  Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.	<b>User answered:</b>  Assertion is true, but Reason is false.	<b>Failed!</b>
<b>Question 4:</b>  During the evaporation of acetone from your skin, energy is transferred from:	<b>Correct answer:</b>  Skin to acetone	<b>User answered:</b>  Acetone to air	<b>Failed!</b>

<b>Question 5:</b>  How does evaporation differ from boiling in terms of energy requirements?	<b>Correct answer:</b>  Evaporation needs less energy compared to boiling.	<b>User answered:</b>  Evaporation needs less energy compared to boiling.	<b>Succeed!</b>
<b>Question 6:</b>  Which of the following liquids will cause the greatest cooling effect when applied to the skin, assuming all other factors are constant?	<b>Correct answer:</b>  Acetone	<b>User answered:</b>  Oil	<b>Failed!</b>
<b>Question 7:</b>  During the evaporation of acetone on a windy day, how does wind speed influence the kinetic energy distribution among particles, and consequently, the cooling effect observed?	<b>Correct answer:</b>  Higher wind speeds enhance kinetic energy distribution, boosting evaporation and cooling.	<b>User answered:</b>  Higher wind speeds enhance kinetic energy distribution, boosting evaporation and cooling.	<b>Succeed!</b>

<p><b>Question 8:</b></p> <p>Assertion (A): Camphor can sublime more readily at higher altitudes.</p> <p>Reason (R): At higher altitudes, the atmospheric pressure is lower.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Assertion is true, but Reason is false.</p>	<p><b>Failed!</b></p>
<p><b>Question 9:</b></p> <p>(A) Air is considered matter. (R) Matter is anything that occupies space and has mass.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>Succeed!</b></p>
<p><b>Question 10:</b></p> <p>When poured into different containers, how do liquids behave?</p>	<p><b>Correct answer:</b></p> <p>Liquids take the shape of the container while maintaining fixed volume.</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>

<p><b>Question 11:</b></p> <p>You accidentally spill a drop of perfume on the floor in a closed room. How does the rate of diffusion change if you increase the temperature of the room?</p>	<p><b>Correct answer:</b></p> <p>The rate of diffusion increases as particle movement becomes more rapid.</p>	<p><b>User answered:</b></p> <p>The rate of diffusion decreases due to increased molecular collisions.</p>	<p><b>Failed!</b></p>
<p><b>Question 12:</b></p> <p>How does high humidity affect the body's ability to cool down through sweating?</p>	<p><b>Correct answer:</b></p> <p>High humidity decreases sweat evaporation, hindering cooling.</p>	<p><b>User answered:</b></p> <p>High humidity has no effect on sweat evaporation.</p>	<p><b>Failed!</b></p>
<p><b>Question 13:</b></p> <p>Assertion: Acetone evaporates quickly on the skin, causing a cooling sensation.</p> <p>Reason: The high latent heat of vaporization of acetone leads to significant energy absorption from the skin during evaporation.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.</p>	<p><b>Succeed!</b></p>

<p><b>Question 14:</b></p> <p>Why is CNG commonly used as a fuel for vehicles?</p>	<p><b>Correct answer:</b></p> <p>Because it is highly compressible.</p>	<p><b>User answered:</b></p> <p>Because it cannot be stored safely.</p>	<p><b>Failed!</b></p>
<p><b>Question 15:</b></p> <p>A steel container holds a gas at <math>400 \text{ K}</math> and exerts a pressure of <math>8 \text{ atm}</math>. If the temperature is increased to <math>800 \text{ K}</math> without changing the volume, what would be the new pressure exerted by the gas?</p>	<p><b>Correct answer:</b></p> <p><math>16 \text{ atm}</math></p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>
<p><b>Question 16:</b></p> <p>What happens when a sponge is compressed?</p>	<p><b>Correct answer:</b></p> <p>Air is expelled</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>
<p><b>Question 17:</b></p> <p>(A) Rubber bands can be stretched to many times their original length without breaking under normal conditions. (R) The molecular structure of rubber allows it to return to its original shape due to high elasticity.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Assertion is true, but Reason is false.</p>	<p><b>Failed!</b></p>

<b>Question 18:</b>  Which state of matter is water vapour?	<b>Correct answer:</b>  Gas	<b>User answered:</b>  Plasma	<b>Failed!</b>
<b>Question 19:</b>  Why does a balloon filled with helium deflate over time when left at room temperature, whereas a similar balloon filled with air retains its shape longer under the same conditions?	<b>Correct answer:</b>  Helium molecules move faster and escape through the balloon material more readily	<b>User answered:</b>  -	<b>Failed!</b>
<b>Question 20:</b>  Which factor does NOT affect the rate of evaporation of a liquid?	<b>Correct answer:</b>  Color of the liquid	<b>User answered:</b>  -	<b>Failed!</b>

<p><b>Question 21:</b></p> <p>(A) In industrial cooling systems, maximizing the surface area of water exposure can significantly enhance the cooling effect through evaporation.</p> <p>(R) The cooling effect is primarily due to the absorption of heat energy from the surroundings during evaporation, which reduces ambient temperature.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.</p>	<p><b>Failed!</b></p>
<p><b>Question 22:</b></p> <p>Why do potassium permanganate particles spread faster in warm water compared to cold water?</p>	<p><b>Correct answer:</b></p> <p>Because particles have more energy in warm water</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>
<p><b>Question 23:</b></p> <p>How does the arrangement and movement of particles in gases allow them to fill any container completely regardless of its shape?</p>	<p><b>Correct answer:</b></p> <p>Particles in a gas move independently at high speed, filling any shape.</p>	<p><b>User answered:</b></p> <p>Gas particles are heavy enough to settle without filling the container.</p>	<p><b>Failed!</b></p>

<p><b>Question 24:</b></p> <p>If the rate of diffusion of two different gases under identical conditions differs significantly, what could be a plausible reason based on the properties of their particles?</p>	<p><b>Correct answer:</b></p> <p>Difference in their molar mass (or particle mass)</p>	<p><b>User answered:</b></p> <p>Difference in their chemical reactivity</p>	<p><b>Failed!</b></p>
<p><b>Question 25:</b></p> <p>An ink drop is introduced into two beakers of water at different temperatures: 20°C and 80°C. If the initial concentration of ink in each beaker is 5 g/L, what will be the concentration of ink in the beaker with water at 20°C after complete diffusion compared to the one at 80°C? Assume no volume change occurs.</p>	<p><b>Correct answer:</b></p> <p>The concentration will be the same in both beakers: 5 g/L.</p>	<p><b>User answered:</b></p> <p>The concentration will be higher in the beaker at 20°C.</p>	<p><b>Failed!</b></p>
<p><b>Question 26:</b></p> <p>What does the spreading of ink in water suggest about the movement of particles?</p>	<p><b>Correct answer:</b></p> <p>Particles move randomly</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>

<p><b>Question 27:</b></p> <p>When ice at 0°C is melting into water at 0°C, what happens to the energy supplied during this process?</p>	<p><b>Correct answer:</b></p> <p>It is absorbed as latent heat, causing the phase change</p>	<p><b>User answered:</b></p> <p>It is absorbed as latent heat, causing the phase change</p>	<p>Succeed!</p>
<p><b>Question 28:</b></p> <p>Consider two identical containers filled with equal amounts of water. Container A is at a temperature of 373 K while container B is initially at 273 K. They are both allowed to evaporate under identical conditions until they reach the same final volume. What can be said about the time taken for each container to reach the final volume?</p>	<p><b>Correct answer:</b></p> <p>Container B takes longer due to its lower initial temperature.</p>	<p><b>User answered:</b></p> <p>Container A and B reach the final volume simultaneously since temperature equalizes over time.</p>	<p>Failed!</p>
<p><b>Question 29:</b></p> <p>A marine biologist observes that oxygen levels are decreasing in a lake. Which action is likely to help maintain adequate oxygen levels for aquatic life?</p>	<p><b>Correct answer:</b></p> <p>Using an aerator to circulate air into the water.</p>	<p><b>User answered:</b></p> <p>Introducing plants to produce oxygen during photosynthesis.</p>	<p>Failed!</p>

<p><b>Question 30:</b></p> <p>What happens to the visibility of potassium permanganate particles when it is diluted in successive steps with water?</p>	<p><b>Correct answer:</b></p> <p>It becomes lighter</p>	<p><b>User answered:</b></p> <p>It remains the same</p>	<p><b>Failed!</b></p>
<p><b>Question 31:</b></p> <p>What is the unit of pressure?</p>	<p><b>Correct answer:</b></p> <p>Pascal</p>	<p><b>User answered:</b></p> <p>Watt</p>	<p><b>Failed!</b></p>
<p><b>Question 32:</b></p> <p>(A) When carbon dioxide gas is compressed at high pressure, it can be stored as a liquid in cylinders. (R) Solid carbon dioxide undergoes sublimation directly into the gaseous state without passing through the liquid state under normal atmospheric pressure.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.</p>	<p><b>Succeed!</b></p>

<p><b>Question 33:</b></p> <p>(A) The temperature of a boiling liquid remains constant, even when heat is continuously supplied.</p> <p>(R) The latent heat of vaporisation is used to overcome the forces of attraction between liquid particles during the phase change.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.</p>	<p><b>Failed!</b></p>
<p><b>Question 34:</b></p> <p>During which process does latent heat of fusion play an essential role?</p>	<p><b>Correct answer:</b></p> <p>Melting of ice</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>
<p><b>Question 35:</b></p> <p>Which state of matter has a definite shape but no definite volume?</p>	<p><b>Correct answer:</b></p> <p>None</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>
<p><b>Question 36:</b></p> <p>What is the primary process responsible for the cooling of water in earthen pots?</p>	<p><b>Correct answer:</b></p> <p>Evaporation</p>	<p><b>User answered:</b></p> <p>Insulation</p>	<p><b>Failed!</b></p>

<p><b>Question 37:</b></p> <p>How does the cooling effect of an earthen pot compare to a metal container when both are filled with water and left in a dry climate?</p>	<p><b>Correct answer:</b></p> <p>The earthen pot cools more effectively than the metal container.</p>	<p><b>User answered:</b></p> <p>Both have the same cooling effect.</p>	<p><b>Failed!</b></p>
<p><b>Question 38:</b></p> <p>Consider an aquatic system where a new industrial plant discharges carbon dioxide-rich wastewater into the water body. What is a potential consequence of this discharge on the local aquatic plants?</p>	<p><b>Correct answer:</b></p> <p>Higher acidity altering the ecosystem balance</p>	<p><b>User answered:</b></p> <p>Higher acidity altering the ecosystem balance</p>	<p><b>Succeed!</b></p>
<p><b>Question 39:</b></p> <p>Which of the following statements is correct regarding diffusion in liquids?</p>	<p><b>Correct answer:</b></p> <p>Both solids and gases can diffuse into liquids.</p>	<p><b>User answered:</b></p> <p>Neither solids nor gases can diffuse into liquids.</p>	<p><b>Failed!</b></p>
<p><b>Question 40:</b></p> <p>What happens to the level of water in a glass if sugar is dissolved in it?</p>	<p><b>Correct answer:</b></p> <p>It remains nearly the same as sugar fills the spaces between water molecules</p>	<p><b>User answered:</b></p> <p>It fluctuates before settling at a new level</p>	<p><b>Failed!</b></p>

<b>Question 41:</b>  Which among the following is an example of a solid?	<b>Correct answer:</b>  Sugar crystal	<b>User answered:</b>  -	<b>Failed!</b>
<b>Question 42:</b>  Which of the following is an example of sublimation?	<b>Correct answer:</b>  Sublimation of camphor	<b>User answered:</b>  Sublimation of camphor	<b>Succeed!</b>
<b>Question 43:</b>  What is sublimation?	<b>Correct answer:</b>  Change of solid to gas	<b>User answered:</b>  -	<b>Failed!</b>
<b>Question 44:</b>  Which state of matter is described as having no fixed shape but a fixed volume?	<b>Correct answer:</b>  Liquid	<b>User answered:</b>  Solid	<b>Failed!</b>
<b>Question 45:</b>  (A) Cotton clothes help maintain body comfort in summer by facilitating evaporation. (R) Higher wind speeds increase the rate of evaporation, thereby contributing to cooling.	<b>Correct answer:</b>  Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.	<b>User answered:</b>  Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.	<b>Succeed!</b>

<b>Question 46:</b>  Which of the following would increase the rate of evaporation?	<b>Correct answer:</b>  Increasing surface area	<b>User answered:</b>  Decreasing wind speed	<b>Failed!</b>
<b>Question 47:</b>  (A) Liquids have a fixed volume. (R) Liquids take the shape of the container they are in.	<b>Correct answer:</b>  Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.	<b>User answered:</b>  -	<b>Failed!</b>
<b>Question 48:</b>  In an experimental setup, equal volumes of different gases are released above a liquid surface simultaneously: nitrogen, helium, and sulfur dioxide. Which gas will have the highest rate of diffusion into the liquid and why?	<b>Correct answer:</b>  Helium, because it is the lightest gas and diffuses fastest according to Graham's law.	<b>User answered:</b>  -	<b>Failed!</b>

<p><b>Question 49:</b></p> <p>During a sunny day with high humidity, which of the following scenarios would most effectively increase the rate of evaporation from a swimming pool?</p>	<p><b>Correct answer:</b></p> <p>Increase in temperature and increase in wind speed</p>	<p><b>User answered:</b></p> <p>Decrease in wind speed and increase in humidity</p>	<p><b>Failed!</b></p>
<p><b>Question 50:</b></p> <p>Analyze how intermolecular forces and temperature collectively influence the viscosity of a liquid and its implications on diffusion rate.</p>	<p><b>Correct answer:</b></p> <p>Decreased viscosity enhances diffusion when temperature rises.</p>	<p><b>User answered:</b></p> <p>Decreased viscosity enhances diffusion when temperature rises.</p>	<p><b>Succeed!</b></p>
<p><b>Question 51:</b></p> <p>Which of the following statements is true about the diffusion rate of liquids compared to solids?</p>	<p><b>Correct answer:</b></p> <p>Liquids diffuse faster than solids because they have more space for particle movement.</p>	<p><b>User answered:</b></p> <p>Liquids diffuse faster than solids because they have more space for particle movement.</p>	<p><b>Succeed!</b></p>

<p><b>Question 52:</b></p> <p>Consider a closed chamber containing two different gases: Gas A with smaller molecular size and Gas B with larger molecular size. If the initial concentration of both gases is equal, what happens to their diffusion rates over time within the chamber?</p>	<p><b>Correct answer:</b></p> <p>Gas A diffuses faster than Gas B because of its smaller molecular size.</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>
<p><b>Question 53:</b></p> <p>(A) The diffusion rate of a gas increases as the temperature is increased. (R) Temperature increases the kinetic energy and speed of particles in the gas.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Assertion is false, but Reason is true.</p>	<p><b>Failed!</b></p>
<p><b>Question 54:</b></p> <p>Which of the following substances would have the weakest force of attraction between its particles?</p>	<p><b>Correct answer:</b></p> <p>Oxygen</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>

<p><b>Question 55:</b></p> <p>(A) Particles of matter are continuously moving.  (R) The diffusion rate of a gas increases with an increase in temperature.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>
<p><b>Question 56:</b></p> <p>A scientist observes two containers at the same temperature. One contains oxygen gas, and the other contains liquid nitrogen. Which statement accurately reflects the comparison of forces acting on the particles in these substances?</p>	<p><b>Correct answer:</b></p> <p>Liquid nitrogen has stronger forces as liquids have denser and more constrained particles than gases.</p>	<p><b>User answered:</b></p> <p>Liquid nitrogen has weaker forces as liquids flow easily compared to gases.</p>	<p><b>Failed!</b></p>
<p><b>Question 57:</b></p> <p>Considering the five elements described by ancient Indian philosophers (Panch Tatva), which state of matter would best demonstrate maximum kinetic energy among its particles under standard conditions?</p>	<p><b>Correct answer:</b></p> <p>Fire</p>	<p><b>User answered:</b></p> <p>Earth</p>	<p><b>Failed!</b></p>

<p><b>Question 58:</b></p> <p>In which state of matter is the force of attraction between particles the weakest?</p>	<p><b>Correct answer:</b></p> <p>Gas</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>
<p><b>Question 59:</b></p> <p>How does a decrease in particle size influence the diffusion rate of a substance within a given medium?</p>	<p><b>Correct answer:</b></p> <p>Smaller particles diffuse faster since they encounter less resistance.</p>	<p><b>User answered:</b></p> <p>Smaller particles diffuse slower due to decreased momentum.</p>	<p><b>Failed!</b></p>
<p><b>Question 60:</b></p> <p>What is the process called where particles of two different substances mix on their own?</p>	<p><b>Correct answer:</b></p> <p>Diffusion</p>	<p><b>User answered:</b></p> <p>Evaporation</p>	<p><b>Failed!</b></p>
<p><b>Question 61:</b></p> <p>During a humid day, a puddle of water on a pavement evaporates more slowly than on a dry day. Which statement best explains this phenomenon?</p>	<p><b>Correct answer:</b></p> <p>High humidity reduces the rate of evaporation as the air is saturated.</p>	<p><b>User answered:</b></p> <p>High humidity reduces the rate of evaporation as the air is saturated.</p>	<p><b>Succeed!</b></p>

<p><b>Question 62:</b></p> <p>(A) The temperature of ice remains constant at 0°C during melting.  (R) The heat supplied is used as latent heat of fusion.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Assertion is true, but Reason is false.</p>	<p><b>Failed!</b></p>
<p><b>Question 63:</b></p> <p>(A) Matter is made up of particles.  (R) The salt dissolves in water and disappears because the salt particles occupy spaces between water particles.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.</p>	<p><b>Failed!</b></p>
<p><b>Question 64:</b></p> <p>(A) When carbon dioxide gas is compressed at constant temperature, it can turn into a liquid even before reaching critical pressure.  (R) According to Boyle's Law, at constant temperature, the volume of a given mass of gas varies inversely with pressure.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Assertion is false, but Reason is true.</p>	<p><b>Failed!</b></p>

<p><b>Question 65:</b></p> <p>What happens to the shape and volume of water when it is poured from a cup into a bowl?</p>	<p><b>Correct answer:</b></p> <p>Shape changes, volume remains the same</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>
<p><b>Question 66:</b></p> <p>If you increase the temperature of water, how will it affect the diffusion rate of sugar dissolved in it?</p>	<p><b>Correct answer:</b></p> <p>The diffusion rate increases</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>
<p><b>Question 67:</b></p> <p>(A) Heating increases the kinetic energy of camphor particles. (R) Increasing temperature causes solid substances to melt at atmospheric pressure.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>Failed!</b></p>
<p><b>Question 68:</b></p> <p>Given that solid carbon dioxide sublimates at 1 atmosphere, what would happen if dry ice were exposed to a pressure of 2 atmospheres?</p>	<p><b>Correct answer:</b></p> <p>It becomes a liquid</p>	<p><b>User answered:</b></p> <p>It sublimates directly to gas</p>	<p><b>Failed!</b></p>

<p><b>Question 69:</b></p> <p>On a sunny day at the beach, if the wind suddenly starts blowing harder, what will likely happen to the rate of evaporation of seawater?</p>	<p><b>Correct answer:</b></p> <p>It will increase</p>	<p><b>User answered:</b></p> <p>It will stop</p>	<p><b>Failed!</b></p>
<p><b>Question 70:</b></p> <p>Considering an environment where wind speed is initially high and then gradually decreases throughout the day, how will this change in wind speed affect the rate of evaporation?</p>	<p><b>Correct answer:</b></p> <p>Initially increases then stabilizes</p>	<p><b>User answered:</b></p> <p>Remains constant</p>	<p><b>Failed!</b></p>
<p><b>Question 71:</b></p> <p>Why might you experience discomfort on a hot and humid day compared to a dry day?</p>	<p><b>Correct answer:</b></p> <p>Evaporation of sweat is reduced, impairing cooling.</p>	<p><b>User answered:</b></p> <p>Evaporation of sweat is reduced, impairing cooling.</p>	<p><b>Succeed!</b></p>

<p><b>Question 72:</b></p> <p>In a laboratory experiment, a sealed container is half-filled with water, and the air above it contains only oxygen. Over time, some oxygen dissolves in the water. Which of the following explains why this occurs, and what effect does it have on aquatic life?</p>	<p><b>Correct answer:</b></p> <p>Oxygen dissolves in water due to pressure gradients, providing essential oxygen for aquatic organisms' respiration.</p>	<p><b>User answered:</b></p> <p>Oxygen dissolves in water due to pressure gradients, providing essential oxygen for aquatic organisms' respiration.</p>	<p>Succeed!</p>
<p><b>Question 73:</b></p> <p>Which of the following factors would decrease the rate of diffusion of copper sulphate in water?</p>	<p><b>Correct answer:</b></p> <p>Stopping stirring</p>	<p><b>User answered:</b></p> <p>-</p>	<p>Failed!</p>
<p><b>Question 74:</b></p> <p>A scientist observes that the diffusion of copper sulphate in water occurs without stirring but takes a considerably longer time in solid-state diffusion. What could be a potential reason for this phenomenon?</p>	<p><b>Correct answer:</b></p> <p>Water's loose structure facilitates easier passage of diffusing particles than solids' rigid lattice.</p>	<p><b>User answered:</b></p> <p>-</p>	<p>Failed!</p>

<p><b>Question 75:</b></p> <p>(A) The diffusion rate of a gas increases significantly with the rise in temperature.</p> <p>(R) At higher temperatures, particles move faster and their kinetic energies increase, reducing intermolecular attraction.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Assertion is false, but Reason is true.</p>	<p><b>Failed!</b></p>
<p><b>Question 76:</b></p> <p>Why might liquid mercury demonstrate a unique combination of properties, such as being spread on surfaces smoothly yet maintaining a spherical shape when detached, unlike most other liquids?</p>	<p><b>Correct answer:</b></p> <p>Strong cohesive forces and surface tension give mercury its distinctive properties.</p>	<p><b>User answered:</b></p> <p>Mercury has intermolecular attractions similar to gases, enabling easy spread.</p>	<p><b>Failed!</b></p>
<p><b>Question 77:</b></p> <p>Which has more energy: particles in ice at 0°C or particles in water at 0°C?</p>	<p><b>Correct answer:</b></p> <p>Particles in water</p>	<p><b>User answered:</b></p> <p>Both have the same energy</p>	<p><b>Failed!</b></p>

<p><b>Question 78:</b></p> <p>(A) The melting point of ice is 273 K.  (R) It is the temperature at which ice changes to water at atmospheric pressure.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.</p>	<p><b>Failed!</b></p>
<p><b>Question 79:</b></p> <p>As more water is added to dilute a potassium permanganate solution, how does the color intensity change?</p>	<p><b>Correct answer:</b></p> <p>Decreases</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>
<p><b>Question 80:</b></p> <p>What does repeated dilution of potassium permanganate solution indicate about its particles?</p>	<p><b>Correct answer:</b></p> <p>Particles divide into smaller particles</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>
<p><b>Question 81:</b></p> <p>What happens to CNG when the temperature inside the storage cylinder increases significantly?</p>	<p><b>Correct answer:</b></p> <p>The pressure inside the cylinder increases.</p>	<p><b>User answered:</b></p> <p>The pressure inside the cylinder increases.</p>	<p><b>Succeed!</b></p>

<p><b>Question 82:</b></p> <p>A container with LPG is initially at a pressure of 5 atm and a volume of 10 liters. If the gas expands to a volume of 25 liters while maintaining constant temperature, what will be the final pressure?</p>	<p><b>Correct answer:</b></p> <p>2 atm</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>
<p><b>Question 83:</b></p> <p>During condensation, what happens to the energy of the system, and why does the temperature remain unchanged?</p>	<p><b>Correct answer:</b></p> <p>The system's energy decreases due to heat release.</p>	<p><b>User answered:</b></p> <p>No energy change occurs; temperature varies.</p>	<p><b>Failed!</b></p>
<p><b>Question 84:</b></p> <p>An industrial system recovers 1130 kJ of energy by condensing 0.5 kg of steam back to water at 100°C. Calculate the latent heat of condensation per kg and identify the correct description.</p>	<p><b>Correct answer:</b></p> <p>Energy of 2260 kJ/kg is released when bonds reform</p>	<p><b>User answered:</b></p> <p>Energy of 4520 kJ/kg is required to vaporize</p>	<p><b>Failed!</b></p>

<p><b>Question 85:</b></p> <p>Why is it easier for a swimmer to move through water compared to a solid surface?</p>	<p><b>Correct answer:</b></p> <p>There are spaces between water particles that allow for displacement</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>
<p><b>Question 86:</b></p> <p>When sugar is added to tea, it gradually dissolves without stirring. Which principle best explains this observation, and how would it differ with varying temperatures?</p>	<p><b>Correct answer:</b></p> <p>Diffusion principle; faster at higher temperatures</p>	<p><b>User answered:</b></p> <p>Density rule; independent of temperature</p>	<p><b>Failed!</b></p>
<p><b>Question 87:</b></p> <p>Which of the following requires more energy?</p>	<p><b>Correct answer:</b></p> <p>Latent heat of vaporization</p>	<p><b>User answered:</b></p> <p>Latent heat of vaporization</p>	<p><b>Succeed!</b></p>
<p><b>Question 88:</b></p> <p>A certain amount of heat energy is used to convert 500 g of water at 100°C to steam at 100°C. Which of the following best describes what happens to this energy during the process?</p>	<p><b>Correct answer:</b></p> <p>It is absorbed as latent heat of vaporization.</p>	<p><b>User answered:</b></p> <p>It is absorbed as latent heat of vaporization.</p>	<p><b>Succeed!</b></p>

<p><b>Question 89:</b></p> <p>What effect does doubling the temperature of a room have on the diffusion rate of a perfume's scent?</p>	<p><b>Correct answer:</b></p> <p>It doubles the diffusion rate of the perfume's scent</p>	<p><b>User answered:</b></p> <p>It quadruples the diffusion rate of the perfume's scent</p>	<p><b>Failed!</b></p>
<p><b>Question 90:</b></p> <p>(A) The smell of perfume spreads quickly in a room. (R) Gases have high speed of particles and large space between them, allowing for fast diffusion.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.</p>	<p><b>Failed!</b></p>
<p><b>Question 91:</b></p> <p>A container is divided into two compartments by a partition. One compartment contains gas A at 2 atm pressure and 273 K temperature, while the other contains gas B at 1 atm pressure and 273 K temperature. If the partition is removed, what will be the final pressure when equilibrium is reached assuming constant temperature?</p>	<p><b>Correct answer:</b></p> <p>3 atm</p>	<p><b>User answered:</b></p> <p>1 atm</p>	<p><b>Failed!</b></p>

<b>Question 92:</b>  What property of liquids allows them to flow easily from one container to another?	<b>Correct answer:</b>  Fluidity	<b>User answered:</b>  Fluidity	<b>Succeed!</b>
<b>Question 93:</b>  If an equal volume of two different liquids is poured into identical tall cylinders, but one liquid has a higher density than the other, what can be said about their behavior in the containers?	<b>Correct answer:</b>  Both occupy the same height in the cylinder.	<b>User answered:</b>  -	<b>Failed!</b>
<b>Question 94:</b>  According to early Indian philosophers, which of the following is NOT one of the Panch Tatva?	<b>Correct answer:</b>  Metal	<b>User answered:</b>  -	<b>Failed!</b>

<p><b>Question 95:</b></p> <p>(A) The diffusion rate of gases is significantly higher than that of liquids due to weaker intermolecular forces in gases.</p> <p>(R) Increasing the temperature of a gas increases its kinetic energy, leading to faster diffusion rates.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>Succeed!</b></p>
<p><b>Question 96:</b></p> <p>(A) Ink spreads in water.</p> <p>(R) Particles of matter intermix on their own.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.</p>	<p><b>Succeed!</b></p>
<p><b>Question 97:</b></p> <p>(A) Diffusion occurs faster at higher temperatures.</p> <p>(R) The movement of particles is slower at low temperatures.</p>	<p><b>Correct answer:</b></p> <p>Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.</p>	<p><b>User answered:</b></p> <p>-</p>	<p><b>Failed!</b></p>

<b>Question 98:</b>  Why does a rubber band return to its original shape after being stretched?	<b>Correct answer:</b>  Its molecular structure is elastic	<b>User answered:</b>  -	<b>Failed!</b>
<b>Question 99:</b>  A block of dry ice is kept at 1 atmosphere and $-78.5^{\circ}\text{C}$ . What will happen to the dry ice if it's quickly moved into a room at standard atmospheric pressure and temperature?	<b>Correct answer:</b>  It will turn into vapor directly by sublimation.	<b>User answered:</b>  -	<b>Failed!</b>
<b>Question 100:</b>  (A) The smell of perfume spreads quickly in the air because particles of matter have space between them. (R) Gases diffuse faster than liquids.	<b>Correct answer:</b>  Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion.	<b>User answered:</b>  -	<b>Failed!</b>