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Tes	t / Exam Name: Ma	atter In Our SurroundingsStan	ndard: 9th	I: 9th Subject: Science	
In	structions				
1. J 80	IOIN MY 9TH CBSE PA 56206308 THIS PAPER	D WHATSAPP TEST GROUP WITH AN PDF ANSWERS AVAILABLE IN MY W	NSWERS. ONE TIME FEES F 'EBSITE www.ravitestpapers	RS.1500 TILL 2026 FINAL EXAM. WHATS s.com	SAPP –
Q1.	While mixing sugar with water, the level of water does not increase because?				1 Mark
	A Matter has large par	ticles which destroy water particles	B Tiny particles of sugar particles of water	r adjust among the space between tiny	
	<b>C</b> Tiny particles of suga	ar destroy large particles of water	<b>D</b> None of the above		
Ans:	<b>B</b> Tiny particles of suga	ar adjust among the space between tin	y particles of water		
Q2.	Why do clothes dry faster on a windy day:				
	A Evaporation increases with increase in wind speed.		<b>B</b> Evaporation increases with increase in humidity.		
	<b>C</b> Evaporation decreas	es with increase in wind speed.	<b>D</b> None of these		
Ans:	<b>A</b> Evaporation increase	es with increase in wind speed.			
Q3.	Dry ice is:				1 Mark
	A Solid CO <sub>2</sub> .	<b>B</b> Water in solid state.	C Non-volatile solid.	<b>D</b> Liquid carbon dioxide.	
Ans:	A Solid CO <sub>2</sub> .				
E	xplanation:				
S	olid CO <sub>2</sub> is called as dry	ICE.	products at lower temperat	ure than what water ice can provide. It	
i: li	s called dry ice because quid.	e it sublimes and doesn't leave any re	esidue i.e. changes from sol	id to gaseous state without turning to	
Q4.	Matter changes from one state to another state on change in?				
	A Density	B Pressure	<b>C</b> Temperature	D All	
Ans:	<b>C</b> Temperature				
Q5.	Which one of the following sets of phenomena would increase on raising the temperature?				
	A Diffusion, evaporation	on, compression of gases.	<b>B</b> Evaporation, compres	ssion of gases, solubility.	
	<b>C</b> Evaporation, diffusion, expansion of gases.		<b>D</b> Evaporation, solubilit	y, diffusion, compression of gases.	
Ans:	<b>C</b> Evaporation, diffusio	n, expansion of gases.			

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#### Explanation:

Evaporation, diffusion and expansion of gases increase on raising the temperature. Evaporation rate increases because on increasing temperature, kinetic energy of molecules increases, so the molecules present at the surface of the liquid leave the surface quickly and go into the vapour state. Diffusion and expansion of gases also increase as the molecules move more rapidly and try to occupy more space.

- **Q6.** What happens when a solid melts:
  - **A** Its molecules move faster
  - **C** The movement of its molecules decreases
- **B** Its molecules move closer together
- **D** The temperature decreases although heat is added

1 Mark

Ans: A Its molecules move faster

## Explanation:

Solid-state has the least intermolecular space and most packed structure.

On heating of a solid, the intermolecular forces decrease, space between the molecules increases. The particles gain energy and there is an increase in kinetic energy and the molecules move faster.

- **Q7.** Which of the following statements is/ are correct: 1 Mark A Inter particle spaces are maximum in the gaseous state of a **B** Particles which constitute gas follow a zig-zag path substance **C** Solid state is the most compact state of substance. **D** All are correct **Ans: D** All are correct **Explanation**: In gaseous phase particles are present at a maximum distance or loosely apart from each other while solid has tightly packed particles in compact form. Particles follow a specific motion (zig-zag path) called as Brownian motion. **Q8.** Directions: In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct 1 Mark choice as: **Assertion (A):** The conversion of a solid directly into a gas is known as sublimation. **Reason (R):** Naphthelene does not leave residue when kept open for sometime. **A** Both assertion and reason are true, and reason is the **B** Both assertion and reason are true, but reason is not the correct explanation of assertion. correct explanation of assertion. **C** Assertion is true, but reason is false. **D** Assertion is false, but reason is true. **Ans: B** Both assertion and reason are true, but reason is not the correct explanation of assertion. Q9. Directions: In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct 1 Mark choice as: Assertion (A): There is a change in the temperature of the substance when there it undergoes a change in state through it is still being heated. **Reason (R):** The heat supplied is either absorbed as a latent heat of fusion or a latent heat of vapourisation. A Both assertion and reason are true, and reason is the **B** Both assertion and reason are true, but reason is not the correct explanation of assertion. correct explanation of assertion. **D** Assertion is false, but reason is true. **C** Assertion is true, but reason is false. **Ans: D** Assertion is false, but reason is true. Q10. Directions: In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct 1 Mark choice as: Assertion (A): Steam is better the boiling water for heating purposes. **Reason (R):** Steam contains more heat in the form of latent heat than boiling water. **A** Both assertion and reason are true, and reason is the **B** Both assertion and reason are true, but reason is not the correct explanation of assertion.
  - correct explanation of assertion. C Assertion is true, but reason is false.
- **D** Assertion is false, but reason is true.

**Ans: A** Both assertion and reason are true, and reason is the correct explanation of assertion.

?

- A The particles of water get into the spaces between particles of salt
- C The particles of salt sit on the top of particles of water
- **B** The particles of salt get into the spaces between particles of water
- **D** The particles of water sit on the top of particles of salt
- Ans: B The particles of salt get into the spaces between particles of water

**Q12.** Seema visited a Natural Gas Compressing Unit and found that the gas can be liquefied under specific conditions of temperature **1 Mark** and pressure. While sharing her experience with friends she got confused. Help her to identify the correct set of conditions:

- **A** Low temperature, low pressure.
- **C** Low temperature, high pressure.

- **B** High temperature, low pressure.
- **D** High temperature, high pressure.

Ans: C Low temperature, high pressure.

## **Explanation:**

Low temperature and high pressure are required to liquefy gases to liquids. There is a lot of space between the particles of a gas. On applying high pressure, the particles of gas move get so close that they start attracting each other sufficiently forming a liquid. When gas is compressed too much, heat is produced, so it is necessary to cool it. Cooling lowers the temperature of compressed gas and helps in liquefying it.

Hence, a gas can be liquefied by applying high pressure and lowering the temperature (cooling).

Q13. Why do we wear cotton clo	othes in summer:			1 Mark
A Cotton absorbs water	<b>B</b> It leads to sweating	<b>C</b> Both a and b	<b>D</b> None of above	
Ans: A Cotton absorbs water				
<b>Explanation:</b> Cotton absorbs water, and th It evaporates taking up the h	us, causes sweating. Sweat come eat from the surrounding and thu	es out the clothing and in con us, gives a cooling effect.	tact with the atmosphere.	
Q14. Assertion (A): A gas can ea Reason (R): Since the inter-	sily be compressed by applying p particle spaces between gases a	ressure. re very large, they can decrea	ase by applying pressure.	1 Mark
A Both assertion and reaso correct explanation of as	on are true, and reason is the sertion.	<b>B</b> Both assertion and r correct explanation	eason are true, but reason is not the of assertion.	
<b>C</b> Assertion is true, but rea	son is false.	<b>D</b> Assertion is false, bu	ut reason is true.	
Ans: A Both assertion and reaso	on are true, and reason is the cor	rect explanation of assertion		
<b>Q15.</b> In which of the following contract 1. Increasing pressure o	onditions, the distance between t n hydrogen contained in a closed	the molecules of hydrogen ga container.	as would increase?	1 Mark
2. Some hydrogen gas le	eaking out of the container.			
3. Increasing the volume	e of the container of hydrogen ga	s.	ontainer	
<b>A</b> (i) and (iii).	<b>B</b> (i) and (iv).	<b>C</b> (ii) and (iii).	<b>D</b> (ii) and (iv).	
Ans: C (ii) and (iii).				
<b>Explanation:</b> Some hydrogen gas leaking molecules. Hence, the partic volume of the container of h	out of the container will result cles will be able to move more ydrogen gas will also result in th	in the availability of more freely and the distance betw e increase of motion of part	free space for the remaining hydroger ween them will increase. Increasing the icles. There will be more space available	1 2 2

**Q16.** In which state of matter, process of diffusion is fastest?

A Liquids B Gases C Solids D Semi - solids

for the particles to move. As a result, the particles will move away from each other causing an increase in distance between them.

Ans: B Gases

Q17. The smell of hot sizzling food reaches you several meters away, but to get the smell of the cold food you have to go close. Which **1 Mark** property of matter does this activity show:

1 Mark

**A** Particles of matter have space

B Energy of particles of matter increases with increase in temperatureD None of the above

**C** Particles of matter attract each other

Ans: B Energy of particles of matter increases with increase in temperature

### **Exaplantion:**

Particles of matter are continuously moving from one end to another, thereby transferring smell from one place to another. The reason why the smell of hot sizzling food goes farther than cold food is because the kinetic energy of the particles of matter increases with the increase in temperature.

So, particles in the smell of hot food have a higher kinetic energy and hence, move farther than those of cold food.

**Q18.** Heat of fusion is the process of conversion of:

1 Mark

A Liquid into gas B Solid into gas

**C** Solid into liquid

**D** Liquid into solid

Explanation: The heat of fusion is the heat required for a substance to change its state from solid to liquid. The process is called fusion or melting.						
Q19. What is the effect of pressure on gas:						
<ul><li>A Volume of gas decreases with increase in pressure</li><li>C Both a and b</li></ul>	<ul><li>B Volume of gas increases with increase in pressure</li><li>D Pressure has no effect on gas</li></ul>					
Ans: A Volume of gas decreases with increase in pressure						
<b>Exaplantion:</b> The volume of gas decreases with an increase in pressure. This leads to the conversion of the gaseous state into a liquid state and eventually into a solid-state. The volume of the gas decreases by applying pressure on gases because gases are compressible.						
Q20. Assertion (A): The conversion of a solid directly into a gas is known as sublimation. Reason (R): Naphthelene does not leave residue when kept open for sometime.						
<ul> <li>A Both assertion and reason are true, and reason is the correct explanation of assertion.</li> <li>C Assertion is true, but reason is false.</li> </ul>	<ul><li>B Both assertion and reason are true, but reason is not the correct explanation of assertion.</li><li>D Assertion is false, but reason is true.</li></ul>					
<b>Ans: B</b> Both assertion and reason are true, but reason is not the corre	ect explanation of assertion.					
Q21. Conversion of solid state to liquid state is called fusion; what is meant by latent heat of fusion?						
Ans: The amount of heat energy required to change 1kg of a solid int the latent heat of fusion.	to liquid at atmospheric pressure at its melting point is known as					
<b>Q22.</b> How can the evaporation of a liquid be made faster?		2 Marks				
<ul> <li>Ans: The rate of evaporation of a liquid can be made faster by</li> <li>1. Increasing the temperature.</li> <li>2. Increasing the surface area of the liquid.</li> <li>3. Lowering humidity.</li> <li>4. Increasing wind speed.</li> </ul>						
Q23. Define the term 'latent heat of vaporization' of liquid. What is the value of the of the latent heat of vaporization of water?						

Ans: The latent heat of vaporization of a liquid is the quantity of heat in joules required to convert 1Kg of the liquid (at its boiling point) to vapour or gas without any change in temperature. The latent heat of vaporization of water is 22.5 × 105J/ Kg.

Q24. Describe in your own words, what happens to the particles when salt dissolves in water.

2 Marks

**Ans:** When salt is added to water and stirred, the tiny salt particles break off from each solid salt granule and fill up the spaces available between the particles of water and mix with them.

**Q25.** When ice at -10°C is slowly heated, temperature of ice gradually increases till 0°C, the temperature of the system remains constant **2 Marks** when the ice change into water and then further rises. Ex

Ans: When the ice is at 0 degree Celsius the temperature stops because the temperature is used to change the state of matter. this is also called as latent heat of fusion.

**Q26.** Why do gases have neither a fixed shape nor a fixed volume?

Ans: C Solid into liquid

2 Marks

**Ans:** A gas does not have a fixed shape or fixed volume because the particles of gases do not have fixed positions or fixed spaces between them.

Ans: The unit of pressure in the SI system is the pascal (Pa), defined as a force of one Newton per square meter. The conversion between atm, Pa, and torr is as follows: 1 atm = 101325 Pa = 760 torr.

**Q28.** Define 'melting point' of a substance? What is the melting point of ice?

- Ans: The temperature, at which a solid substance melts and changes into a liquid at atmospheric pressure, is called melting point of the substance. The melting point of ice is 0°C.
- **Q29.** Draw the 'states of matter triangle' to show the interconversion of states of matter.

2 Marks Q30. An inflated balloon full of air goes down slowly (becomes smaller and smallers lowly) even though the knot at the mouth of the balloon is air tight. And after a week all the air has escaped from the balloon. Explain how the air particles got out of the balloon.

- Ans: The fast moving molecules of air trapped in the inflated balloon exert continuous pressure on the thin, stretched rubber sheet of balloon and keep on diffusing out through it gradually. Therefore, the air escapes out of the balloon after some time.
- **Q31.** Why do people in villages use earthen pots in summer to cool water?
- Ans: There are some pores in an earthen pot through which the liquid inside the pot evaporates. This evaporation makes the water inside the pot cool. In this way, water kept in an earthen pot becomes cool during summers.
- Q32. Cotton being a solid floats on water. Why?
- Ans: Cotton in solid but it floats on water because Cotton has large number of pores, in which air is trapped. Hence reducing its density and increasing the volume. Therefore cotton floats on water.
- Q33. Why gases are compressible but not liquids?
- Ans: The inter molecular space in between the constituent particles is maximum in gases, little less in the liquids and the least in solids. On applying pressure, the gaseous particles come together, where as in liquids and solids, the particles are very close and hence cannot be further brought closer.
- **Q34.** Give reasons for the following observation: The smell of hot sizzling food reaches you several metres away, but to get the smell from cold food you have to go close.
- Ans: Solids diffuse at a very slow rate. But, if the temperature of the solid is increased, then the rate of diffusion of the solid particles into air increases. This is due to an increase in the kinetic energy of solid particles. Hence, the smell of hot sizzling food reaches us





2 Marks

2 Marks

2 Marks

- 2 Marks
- 2 Marks
- 2 Marks

2 Marks

even at a distance, but to get the smell from cold food we have to go close.

**Q35.** Explain why, a small volume of water in a kettle can fill a kitchen with steam.

Ans: A small volume of water heated in a kettle produces water vapour, which being a gas, spreads in the room due to weak intermolecular forces of attraction between the vapour particles and very high kinetic energy.