AECD's Intelli Brain
Innovative Intelligent Incredible
Unique Edutainment Programme

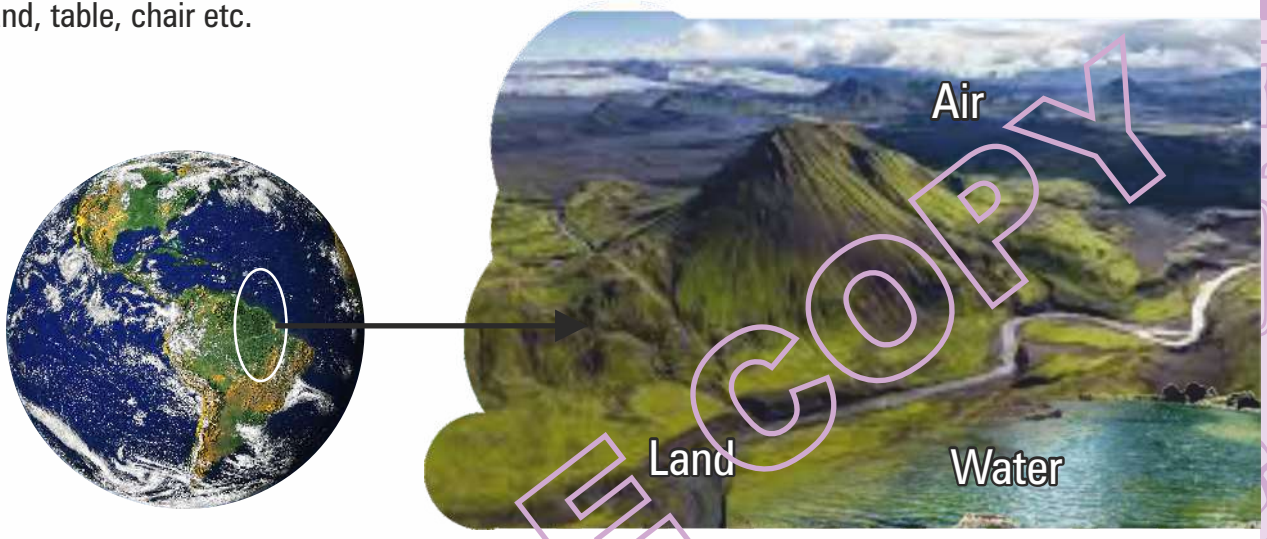
Intelli Quadros
Class 4

MATTER

Intelli Kid: _____

MATTER IS THE STUFF AROUND US

Matter is defined as anything that has mass and takes up space. Everything around us is matter like air, water, land, table, chair etc.



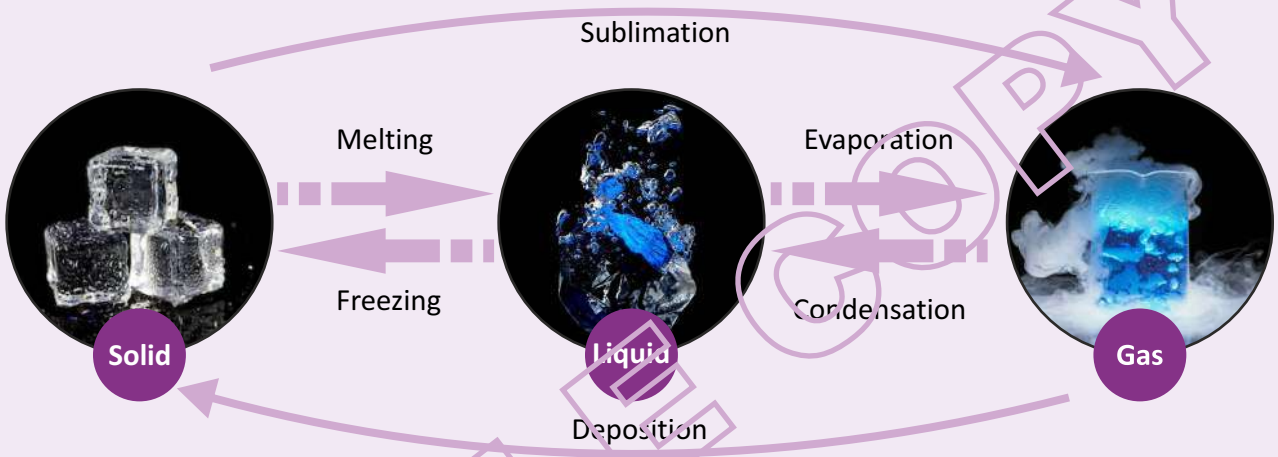
STATES OF MATTER

Solids	Liquids	Gases
		
A solid has a definite shape.	A liquid has no definite shape. It takes the shape of the container it is in.	A gas has no definite shape. It takes the shape of the
The molecules are packed tightly together.	The molecules are farther apart.	The molecules are much far apart.
Can't be compressed.	Can't be compressed.	Can be compressed.
		

DIFFERENT STATES OF MATTER IN OUR BODY

In all of our bodies, you will find solid things like bones, teeth, skin, flesh etc., liquid, things like water, blood in our blood vessels and gaseous things like oxygen and carbon dioxide in our lungs.

INTERCONVERSION OF STATES OF MATTER



MELTING

Melting is the process by which a substance changes from the solid phase to the liquid phase.

EXAMPLE:

Melting of Ice-cream

FREEZING

Freezing is the process through which a substance changes from a liquid to a solid.

EXAMPLE:

Freezing of water to form ice.

EVAPORATION

Evaporation is the process of a substance in a liquid state changing to a gaseous state due to an increase in temperature.

EXAMPLE:

Evaporation of water from sea to form clouds.

CONDENSATION

Condensation is the change of the physical state of matter from the gas phase into the liquid phase, and is the reverse of evaporation.

EXAMPLE:

Water droplets forming on a glass having a cold drink.

SUBLIMATION

When anything solid turns into a gas without first becoming liquid, it is known as sublimation.

EXAMPLE:

Dry ice (Solid carbon dioxide) sublimates to form gas, similarly Naphthalene balls and Camphor are more examples.

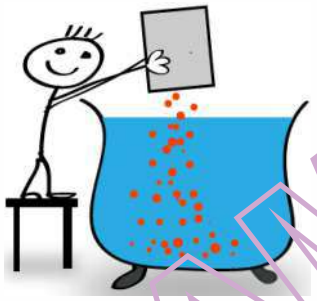
DEPOSITION

Changing a substance from gas state to solid state is called Deposition. It is reverse of Sublimation.

EXAMPLE:

Deposition of carbon due to candle flame.

SOLUBLE AND INSOLUBLE MATERIALS



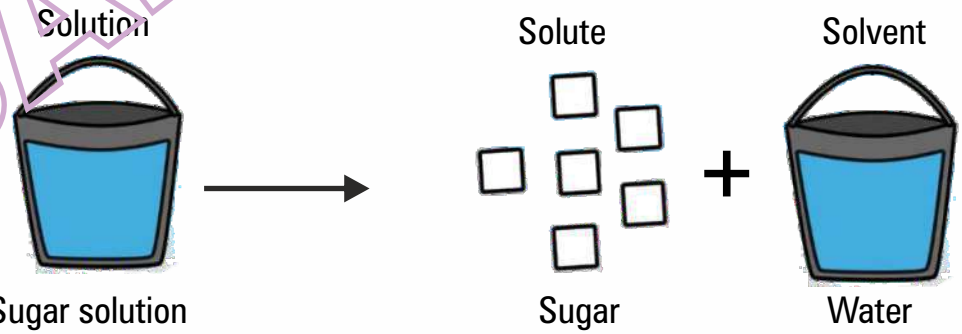
Solution :

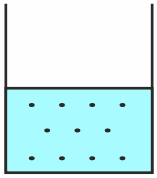
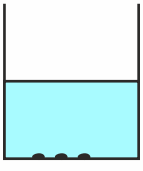
A solution is basically two substances that are mixed together.

One of them is called the solute and the other is the solvent.

Solute is in less quantity & solvent is in large quantity.

Eg. - Salt solution, Sugar solution etc.



Soluble	Insoluble
 The substance which dissolves in a liquid **Example :** Sugar, Salt, Medicine tablet etc.	 The substance which does not dissolve in a liquid and forms precipitate Examples : Sand, Flour, Pebbles etc.

Q1. Fill in the table below by ticking the correct box. The first one has been done for you.

Objects	Keeps its shape	Keeps its volume	Can be compressed	Can't be compressed	Takes the shape of the container	Changes its volume	Occupies all the space of the container
		✓		✓	✓		
							
							
							
							
							
							
							
							
							

Q 2. Which of the following can form solutions ? Tick (✓) the correct ones.

- ☐ Salt, Cold drink
- ☐ Salt, Water
- ☐ Pebbles, Water
- ☐ Thermocole balls, Water
- ☐ Ink, Water
- ☐ Lemon juice, Cold Drink
- ☐ Sugar, Water
- ☐ Lemon juice, Water
- ☐ Sand, Water
- ☐ Sugar, Milk

Q 3. Colour 🔴 Red for solute, 🟢 Green for solvent and 🔵 Blue for Solution.

1.	◯ Coffee Powder	◯ Milk	◯ Coffee
2.	◯ Rasna Powder	◯ Rasna Drink	◯ Water
3.	◯ Soda	◯ Lemon juice	◯ Fresh lime soda
4.	◯ Rose syrup	◯ Rose milk	◯ Milk
5.	◯ Tea power	◯ Milk	◯ Tea
6.	◯ Surf Water	◯ Water	◯ Detergent
7.	◯ Carbon dioxide	◯ Fizzy Drinks	◯ Water
8.	◯ Mango Shake	◯ Milk	◯ Mango

Q 4. Tick (✓) the correct option.

Everything in the universe is made up of ___1___ . Solids, liquids and gases are all made up of tiny particles called ___2___ . All forms of matter have ___3___ . The amount of space an object takes up is known as ___4___ . In liquids, this is often measured in ___5___ . Liquids take the ___6___ of the container that holds them. The molecules of a solid are ___7___ . Gases mix together easily, a process that often creates ___8___ . The process of a liquid becoming a gas is known as ___9___ . When this happens, the molecules of the liquid ___10___ .

1. ☐ Volume ☐ Matter ☐ Gases ☐ Fluid

2. ☐ Grams ☐ Cells ☐ Molecules ☐ Electrons

3. ☐ A smell ☐ Color ☐ A certain shape ☐ Mass

4. ☐ Volume ☐ Weight ☐ State ☐ Property

5. ☐ Meters ☐ Liters ☐ Grams ☐ Molecules

6. ☐ Weight ☐ Mass ☐ Shape ☐ State

7. ☐ Tightly packed ☐ Loosely packed ☐ Flying off into space ☐ Flowing

8. ☐ Colors ☐ Smells ☐ Vaporization ☐ Fluids

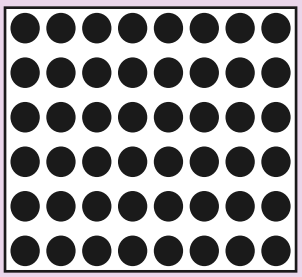
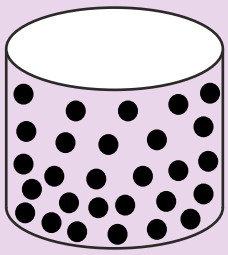
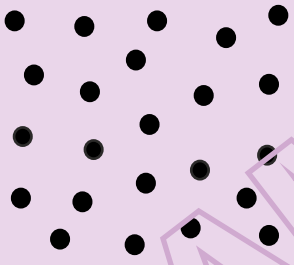
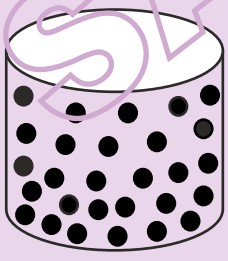
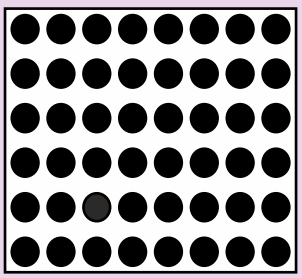
9. ☐ Condensation ☐ Melting ☐ Fluidity ☐ Vaporization

10. ☐ Pack together ☐ Fly off into space ☐ Lose energy ☐ Move close together

Q 5. Match each term on the left with the best example on the right.

1 Volume	steam hits cold metal and forms water droplets
2 Solidifying	steam hits cold metal and forms water droplets
3 Evaporation	the temperature of liquid juice is lowered until it becomes a solid
4 Condensation	liquid molecules are moved to another container, where they take on a new shape
5 Boiling	cheese is heated on a stove until it becomes a liquid
6 Freezing	water from the ocean is heated by the sun and becomes water vapor
7 Pouring	liquid soup is heated in a microwave until it releases bubbles of water vapor

Q 6. Fill the blocks according to the directions given below. One has been done for you.

STATE	ADD	PROCESS	NEW STATE	EXAMPLE
	+  HEAT +  HEAT =	Sublimation	Gas	Sublimation of naphthalene balls
	+  HEAT =			
	+  COLD =			
	+  COLD =			
	+  HEAT =			