

UNIT 9 – MATTER AROUND US

Class: VIII

Subject: SCIENCE

I. Choose the best answer.

1. The liquid metal used in thermometers is

- a) Copper **b) mercury** c) silver d) gold

2. The pictorial symbol for water given by the alchemists was

- a)  b)  c)  d) 

Ans : C

3. Which one of the following element name is not derived from planet?

- a) Plutonium b) Neptunium c) Uranium **d) Mercury**

4. Symbol of mercury is

- a) Ag **b) Hg** c) Au d) Pb

5. A form of non-metal which has high ductility is

- a) Nitrogen b) oxygen c) chlorine **d) carbon**

6. The property which allows the metals to be hammered into their sheets is

- a) ductility **b) malleability** c) conductivity d) shining strength

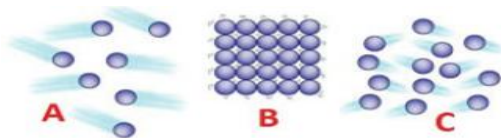
7. The non-metal which conducts electric current is

- a) carbon** b) oxygen c) aluminium d) sulphur

8. Pencil lead contains

- a) graphite** b) diamond c) aluminium d) sulphur

9. Identify the state of matter based on the arrangement of the molecules.



- a) A - Gas, B - Solid, C – Liquid b) A - Liquid, B - Solid, C - Gas
c) A - Gas, B - Solid, C – Liquid d) A - Liquid, B - Gas, C - Solid

II. Fill in the blanks.

1. The element which possesses the character of both metals and non - metals are called Metalloids
2. The symbol of tungsten is W
3. Melting point of most metal is Higher than non-metal.
4. Water contain Hydrogen and Oxygen element.
5. Silicon or Germanium is used as semiconductor.

III. Match the following.

A)

- | | | | |
|-------------|---|----------------------------------|---|
| 1. Iron | - | For making wires | 2 |
| 2. Copper | - | Sewing needle | 1 |
| 3. Tungsten | - | As a fuel for ignition in rocket | 4 |
| 4. Boron | - | Making the filament of a bulb | 3 |

B)

- | | | | |
|-------------|---|--------------------------|---|
| 1. Atom | - | Building block of matter | 1 |
| 2. Element | - | Atoms of different kinds | 3 |
| 3. Compound | - | Atoms of the same kind | 2 |

4. Molecule - Smallest unit of a substance

4

IV. Answer very briefly.

1. What is ductility?

Metals can be drawn into thin wires. This property of metals is called ductility. Example: Copper wires.

2. Write the constituent elements and their symbols for the following compounds.

a) Carbon monoxide

Compounds	Constituent Elements
Carbon dioxide, carbon monoxide	Carbon, Oxygen

b) Washing soda

Common Name	Chemical Name	Constituents
Washing soda	Sodium carbonate	Sodium, Carbon and Oxygen

3. Write the symbols for the following elements.

a) Oxygen b) Gold c) Calcium d) Cadmium e) Iron

Oxygen	O
Gold	AU
Calcium	Ca
Cadmium	Cd
Iron	Fe

4. Which non-metal is essential for our life and all living beings?

Oxygen is essential for our life and all living beings inhale it during breathing.

5. Why are bells made of metals?

On being hit, metals produce a typical sound. Hence, they are said to be sonorous. This property is being made used in making temple bells.

6. What does a chemical symbol represent?

The name of an element is represented by shortened form called as symbol.

7. Give two examples for metalloids.

Boron, silicon

8. Mention any three compounds that exist in liquid state.

Water, hydrochloric acid, nitric acid

9. Write three properties of metalloids.(Any three).

- Metalloids are solids at room temperature.
- They can form alloys with other metals.
- Some metalloids, such as silicon and germanium, can act as electrical conductors under specific conditions. Thus, they are called semiconductors.

- Silicon which is a metalloid appears lustrous, but it is neither malleable nor ductile. It is brittle - a characteristic of some non metals. It is a much poorer conductor of heat and electricity than the metals.

V. Answer briefly.

1. Can you store pickle in an aluminium utensil? Give reason.

No, we cannot store the lemon pickle in Aluminium utensil because Aluminium is a metal and lemon is acidic.

The acids react with metals to give hydrogen which would spoil the food and makes it unfit to use.

2. Tabulate the differences between metals and non-metals.

Property	Metal	Non Metal
Physical state at room temperature	Usually solid (Occasionally liquid)	Solid, liquid or gas
Malleability	Good	Poor (Usually soft or brittle)
Ductility	Good	Poor (Usually soft or brittle)
Melting point	Usually high	Usually low
Boiling point	Usually high	Usually low
Density	Usually high	Usually low
Conductivity (Thermal and Electrical)	Good	Very poor

3. Why are utensils made up of Aluminium and brass?

1. The cooking utensils are made up of Aluminium and brass because they are good conductors of heat.

2. Aluminium will form a layer of protective oxide that prevents further reaction. Also Aluminium is also relatively cheap and that is why it is used widely in making utensils.

4. Define Alchemy.

In the days of alchemists, different materials that people used were represented by different symbols while they tried to change less valuable metal into gold. That process was called alchemy.

5. Name the elements with the following symbols.

a) Na b) W c) Ba d) Al e) U

Na- Sodium

W-Tungsten

Ba -Barium

Al- Aluminium

U-Uranium

6. Name six common non-metals and write their symbols.

Element	Symbol	Element	Symbol
Boron	B	Oxygen	O
Carbon	C	Phosphorus	P
Fluorine	F	Sulphur	S
Hydrogen	H	Vanadium	V
Iodine	I	Uranium	U
Nitrogen	N	Yttrium	Y

7. Mention any four compounds and their uses.

Any four from the table:

Common Name	Chemical Name	Constituents	Uses
Water	Dihydrogen monoxide	Hydrogen and Oxygen	For drinking and as solvent.
Table salt	Sodium chloride	Sodium and Chlorine	Essential component of our daily diet, preservative for meat and fish.
Sugar	Sucrose	Carbon, Hydrogen and Oxygen	Preparation of sweets, toffees and fruit juices.
Baking soda	Sodium bicarbonate	Sodium, Hydrogen, Carbon and Oxygen	Fire extinguisher, preparation of baking powder and preparation of cakes and bread.
Washing soda	Sodium carbonate	Sodium, Carbon and Oxygen	As cleaning agent in soap and softening of hardwater.
Bleaching powder	Calcium oxy chloride	Calcium, Oxygen and Chlorine	As bleaching agent, disinfectant and sterilisation of drinking water.
Quick lime	Calcium oxide	Calcium and Oxygen	Manufacture of cement and glass.
Slaked lime	Calcium hydroxide	Calcium, Oxygen and Hydrogen	White washing of walls.
Lime stone	Calcium carbonate	Calcium, Carbon and Oxygen	Preparation of chalk pieces.

8. Name the metals that are used in jewellery.

Silver, Gold

9. Mention the uses of the following compounds.

a) Baking soda

Baking soda	Sodium bicarbonate	Sodium, Hydrogen, Carbon and Oxygen	Fire extinguisher, Preparation of baking powder and preparation of cakes and bread.
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b) Bleaching powder.

Bleaching powder	Calcium oxy chloride	Calcium, Oxygen and Chlorine	As bleaching agent, disinfectant and sterilization of drinking water.
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c) Quick lime

Quick lime	Calcium oxide	Calcium and Oxygen	Manufacture of cement and glass.
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VI. Given reason

1. Give reasons for the following.

(a) Aluminum foils are used to wrap food items.

Aluminium is malleable .Soft and does not react with food items. So it is used.

(b) Immersion rods for heating liquids are made up of metallic substances

Metals are good conductor of heat and electricity. So, immersion rods are made up of metallic substance.

(c) Sodium and potassium are stored in kerosene.

Sodium and potassium are very reactive, they react with air and water, so they are stored in kerosene.

(d) Mercury is used in thermometers.

Mercury is used to thermo meters and barometers because of its high density and uniform expansion at different temperature.

2. Why wires cannot be drawn from materials such as stone or wood?

Wires cannot be drawn from materials such as stone or wood, is because these materials are non conductors of electricity.

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