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Worksheet

I One mark questions.

Multiple choice questions.

1. The branch of science which deals with the different forms of energy e.g. light and sound.

A: chemistry
B: Physics
C: Biology

A- Physics

2. The scientist who formulated the periodic Table.

A: John Dalton
B: Daniel Rutherford
C: Demitri Mendeleev

A- Demitri Mandelev

3. The inter - molecular force is

maximum ~~is~~ in

(a) Solids
(b) gases
(c) liquids
(d) none of ~~these~~ above

A- Solids

4. Rapid conversions of water into steam is an example of

(a) evaporation
(b) freezing
(c) melting
(d) Vapourization

A- Vapourization

5. The ~~temperature~~ at which a liquid gets converted into its vapour state is called its

(a) Melting point
(b) boiling point
(c) dewpoint
(d) Freezing point

A- Boiling point

6. Predecessor to the modern chemist

who created the philosoper's stone'.

(a) Botanist
(b) Alchemists A- Alchemists
(c) physicts

7. What is a element?

(a) A substance that is made up of one type of atom and can't be reduced to simpler substances.

(b) A substance made of two or more different atoms chemically bonded to one another. They can only be destroyed by chemical processes.

(c) A material containing two or more elements or compounds that are in close contact and are mixed in any proportion. They can be separated by physical means.

A- A substance that is made up of one type of atom and can't be reduced

(c) Electric stove

A- Bunsen Burner

Fill in the blanks:

11. From the element nitrogen, chlorine, bromine the element present in the atmosphere is Nitrogen.

12. An element is a pure substance which cannot be broken down by physical or chemical methods.

13. Evaporation takes place at all temperatures.

14. Freezing process is reverse of melting.

15. Sublimation is a process that involves direct conversion of solid into its vapour on heating.

16. 2 mark questions.

16. Preservative are added to food or beverages. Explain why?

A- Preservatives are added to food beverages because it helps to prevent the decaying of substances and so it can be made for long time. Eg: Pickles vinegar is used as preservatives.

17. Alchemy was considered a pseudoscience. Give reason.

A- Towards the end of the 17th century the scientific processes involving modern chemistry started paving paths and alchemy today is considered a pseudoscince and chemistry regains its rightful position as serious scientific field.

18. What happens if

(a) It is kept in a deep freezer

(b) It is heated

Explain the phenomenon of change of state of water.

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~~A-(a)~~

A-(a) When water is kept in a deep freezer, it gets cooled and changes into ice at 0°C ice.

Water $\xrightarrow[\text{Freezer}]{\text{deep}}$ ice (0°C)

(b) Water on heating changes into steam at 100°C water steam (100°C).

Water $\xrightarrow{\text{heating}}$ steam (100°C)

~~Explain the phen~~

The phenomenon of change of state of water: Water is a liquid under ordinary conditions but, when it is kept in a deep freezer, it changes into ice at 0°C and when ice kept at room temperature again changes back ~~into~~ into liquid water. Similarly, water on heating changes into steam at 100°C, which on cooling changes back into liquid water. But there is no change in the chemical composition of water. When its state changes

from liquid to solid or liquid to the gaseous state.

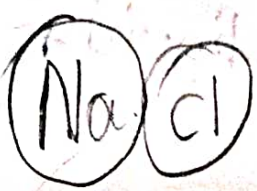
19. State two characteristics of water which prove that is a - compound.

A- • Elements in a compound are present in a definite proportion. 2 atoms of hydrogen combine with 1 atom of oxygen to give 1 molecule of water.

$H_2 + O \rightarrow H_2O$ (Water
So, it is a compound.

• Compound have a definite set of properties. The properties of the compound water are different from the properties of the elements hydrogen and oxygen in the water.

20. Show diagramatic representation of sulphur dioxide molecule and sodium chloride molecule.

20. A- 

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3 mark questions

21. Differentiate between the terms – food preservatives and food processing with appropriate example.

State the contribution of

(a) Dimitri Mendeleev
(b) Antoine Lavoisier
(c) John Dalton – towards the development of chemistry.

A- Food preservatives are substances or chemicals added to food or beverage to:

- Prevent decomposition by bacteria or microbes.
- Reduce the risk of foodborne infections.
- Preserve the nutritional quality of food

Preservatives	Food items
Sulphur compounds	Beverage, wines etc
Nitrate	Meat products
Benzoic acid	Jam, pickle, Carbonated

Contribution of :

(a) Dimitri Mendeleev :

- Formulated the periodical table of elements.
- Mandeleev arranged the dozens of known elements.
- He also discovered the periodic law.

(b) Antoine Lavoisez :

- In 1778 the recognised and named oxygen.
- In 1783 he recognised and named hydrogen.
- He wrote the first extensive list of element and helped to reform chemical nomencalture.
- In 1774, he focused on the phenomenon of combustion. He counted an experiment in which he heated pure mercury in a swann necked retort, leading to the discovery of oxygen.

(c) John Dalton :

- In 1803, he complained his theory named as Dalton's atomic theory.
- In his theory he discussed Matter that consists of particles called atoms which are invisible and cannot be created or destroyed. Later, this theory was contradicted in certain asceptes by "Modern Atomic theory".

22. Explain the term compounds. Give the example of a compound containing

(a) Hydrogen and oxygen
(b) Carbon and oxygen
(c) Nitrogen and oxygen
(d) Calcium and oxygen

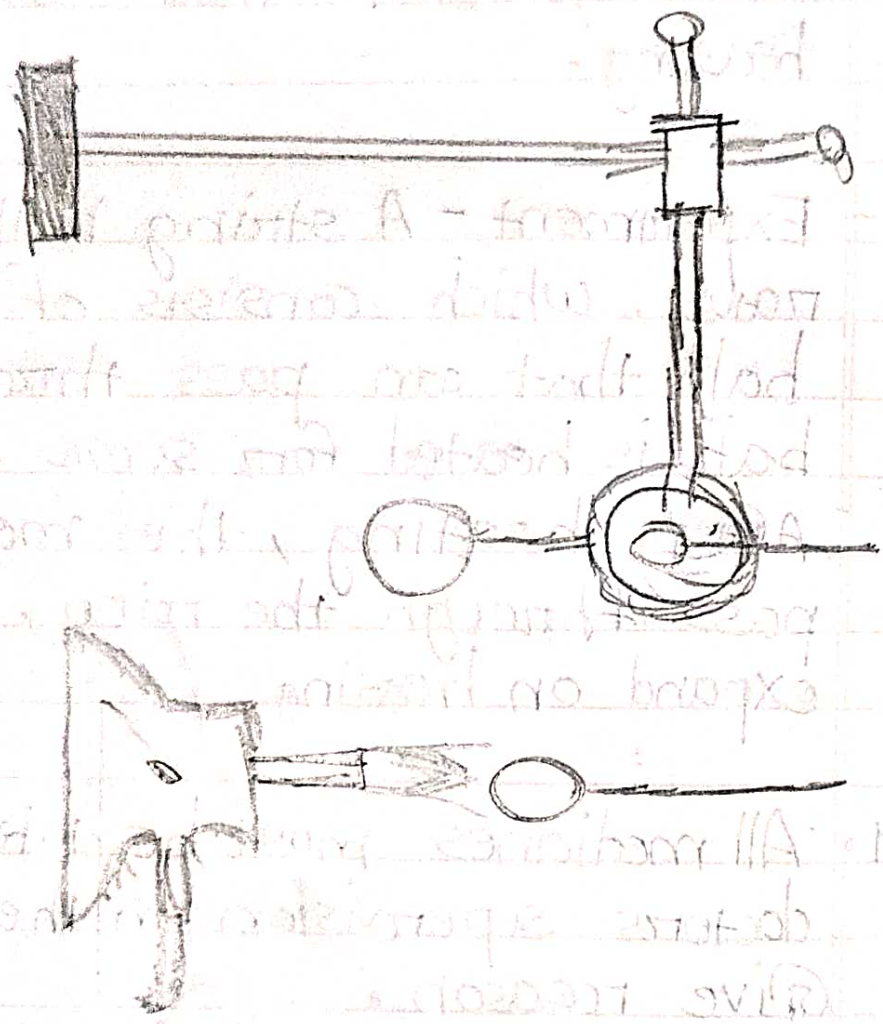
A- A pure surface substance made up of two or more different elements combined chemically in a specific ratio is called compound.

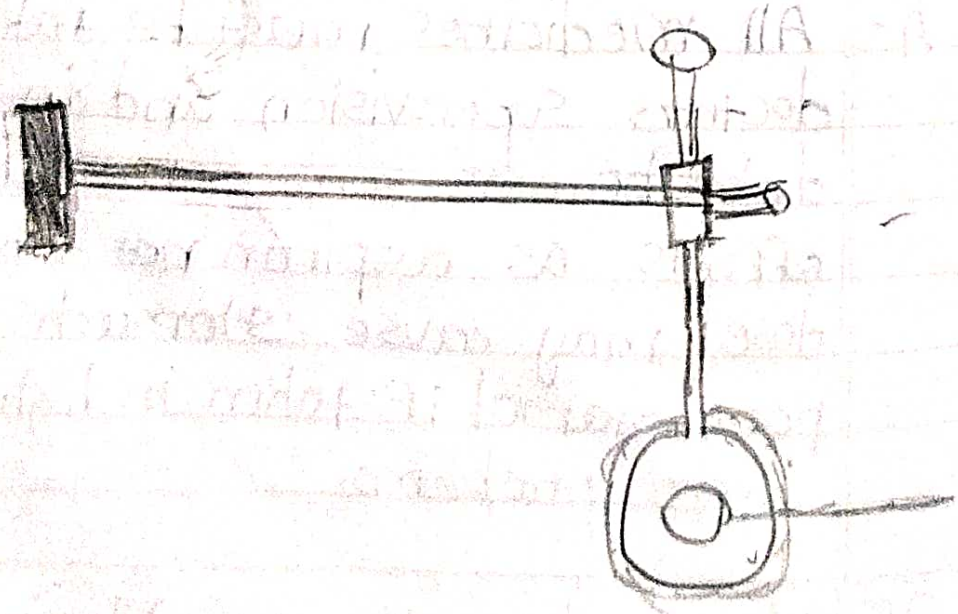
(a) Water - H_2O
(b) Carbon dioxide - CO_2
(c) Nitrogen dioxide - NO_2
(d) Calcium oxide - CaO

23. With the help of a simple diagram how would you show that - solid expands on heating.

A- Experiment - A string ball & ring apparatus, which consists of a solid metal ball that can pass through a ring. This ball is heated for some time.
After heating, the metal ball does not pass through the ring, because it has expand on heating.

23. A.





24. All medicines must be taken under proper doctors supervision in the correct Dose. Give reason.

A- All medicines must be taken under proper doctors supervision and in the correct dose because some medicine has side effects as aspirin not taken in proper dose may cause stomach ulcers similarly paracetamol if taken in high does may cause liver problems.

25. Write the uses of following elements and

compounds.

(a) Gold, platinum, silver
(b) Copper, aluminium
(c) Plastic

A- (a) Gold, platinum, silver - They used for make ornaments and jewellery.

(b) Copper and aluminium - They are used to make utensils, electric wires, etc.

(c) Plastic - They are used to make plastic matrials used for making bags shoes, balls, boats, tyres, pipe, unbreakable utensils, non-stick cookware etc.

Q6. Give reason why

(a) Wet clothes dry more quickly on a warm day than on a cold humid day. Explain

A- Clothes dry more quickly on a warm day than on a cold humid day because the rate of evaporation is directly

proportional to temperature. Higher the rate of evaporation on the hot day compared to the cold days.

(b) Water in a dish evaporates faster than in a bottle. Give example.

A- Rate of evaporation is more when the area of the exposed surface is more. As the area exposed in a dish is more, evaporation is also more.

(c) Why are volatile liquids such as alcohol and spirit stored in tightly closed bottles?

A- Rate of evaporation depends on the nature of the liquid. The more volatile liquids like alcohol and spirit evaporates easily, hence they are stored in tightly closed bottles to avoid their evaporation.

27. Give reason

(a) A philosopher's stone is not exactly a stone.

(b) Food processing is an important procedure

for obtaining marketable food products.

(c) Cosmetics may contain preservative, as one of their ingredients

A-(a) A philisopher's stone in a legendary substance, capable of turning inexpensive metals like lead or mercury into gold and silver (it was not literally a stone but a powder of potion).

(b) Food processing - involves physical or chemical processes, to transform or change the raw ingredients in food into easy usable form of food available in markets. Raw materials in food to Marketable food products.

Food Processing	Processes	
Micing	Cooking	Picking
Preservative addition	Canning	Packaging

(c) The extend the shelf life of a cosmetic and many prevent growth of microorganisms.

28. What do yo mean by sublimation? Why does the size of napthelene balls decrease when left open? Describe an experiment to demstrate the process of sublimation.

A- Sublimation is the process by which a substance changes from solid state directly to vapour state. Napthalene ball decrease when left open because they sublime and changes into vapour state. Take some ammonium chloride powder on a china dish. Take a inverted funnel and put a cotton plug on the end of the funnel so that vapours don't escape. Set up the apparatus as shown. Heat the dish with a burner. Solid ammonium chloride changes into vapours. Which when comes in contact with walls of funnel gets cold and changes to solid and get deposited there.

29. The tabulate a comparative chart - to differentiate between elements, compounds and mixtures.
Differentiate them with reference to:

(a) the term

A:- • It is the basic unit of matter which is a pure substance and cannot be broken down.
• It is a pure substance made by a combination of two or more elements.

(b) Existence

A:- • They can exist independently.
• The elements are combined in a fixed ratio.

(c) Properties

A:- • They have a definite set of properties.
• The elements of a compound do not retain their properties.

30. Give reasons for the following.
(a) Solids have a definite shape and are highly rigid while gases have indefinite shape and are least rigid.

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A- In solids, the intermolecular spaces are negligible and the atoms move about in their own position which gives solid a definite shape and makes them rigid while in gasses, the intermolecular spaces are large which allow the atoms to move around freely and hence, they are least rigid and have no definite shape.

(b) Sugar can be distingushed from talcum powder using water.

A- Sugar dissolves in water while talcum powder does not doissolve.

(c) Water on freezing turns into ice.

A- Water has a fixed melting and boiling point.