

Chemistry

ii) physics

iii) chemist Dmitri Mendeleev

iiii) Solids

v) evaporation

vi) boiling point

vii) Alchemists

viii) by

ix) A tripartite stand

x) Gas jar

xi) Bunsen burner

xii) nitrogen

xiii) elements

37 cell

4) Freezing

5) Sublimation

Preservatives are added to food so as to prevent or slow down the growth of micro-organisms, such as moulds, yeasts and bacteria in food.

Alchemy in ~~the~~ ancient times became what is known as chemistry in modern times. Since most of the principles can't be proven, it became a pseudoscience.

ice
vapour/steam

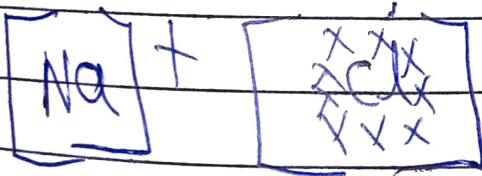
Elements are combined in a specific ratio.

2 atom of hydrogen and 1 atom of oxygen make water.

The properties of water are different from that of oxygen and hydrogen.

NaCl

Na



ii) Dimitri Mendeleev

- Formulated the periodic table of elements.
- He also discovered the periodic law.

iii) Antoine Lavoisier

1) In 1778 he recognised and named oxygen.

2) In 1783 he recognised and named hydrogen.

iiii) John Dalton

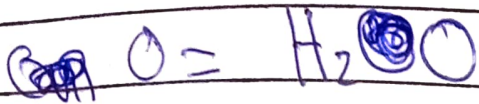
• In 1803, he compiled his theory named as Dalton's atomic theory.

→ In his theory he discussed matter that consists of particles called atoms which are invisible and cannot be created or destroyed.

227 A compound is a pure substance made up of two or more different elements combined chemically in a fixed proportion.

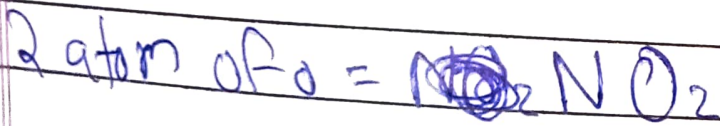
EX:

a) water, 2 atoms of H and 1 atom of



b) carbon dioxide, 1 atom of carbon and 2 atoms of O = CO_2

c) Nitrogen dioxide, 1 atom of nitrogen



d) calcium oxide, 1 atom of calcium



Q3) When heat is added to a substance, the molecules and atoms vibrate faster. As atoms vibrate faster, the space between atoms increases. The motion and spacing of the particles change. The state of matter of the substance. Solids, liquids and gases all expand when heat is added.

244 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 dose may cause liver problem.

254 Gold, platinum and silver are lustrous. These metals are used to make ornaments and jewellery.

iii Copper and aluminium are good conductors of heat and electricity. They are used to make utensils, electric wires, etc.

iii) plastic It is a non-conductor, used as an insulator. They used for making bags, shoes, balls, bats, tyres, pipes, unbreakable windows, non-stick cookware, etc.

26) 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.

ii) 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.

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

iii) Philosopher's stone is not exactly a stone because it is a legendary substance capable of turning inexpensive metals such like lead or mercury turning into gold or silver as it is not literary a stone, but a powdered portion.

iii) 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	mincing	preservative addition	processes	cooking	canning	pickling	packaging
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iii) preservatives may be used in cosmetics to prevent the growth of harmful bacteria and mold. parabens and formaldehyde. releasing preservatives are commonly used preservatives in cosmetic and

personal care products.

284 The conversion of a solid substance into its vapour without undergoing liquid state on heating is called sublimation. When naphthalene balls are left open, due to sublimation they change to vapours and their size decreases.

	Elements	Compounds	Mixtures
The term	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.	It is an impure substance made by a combination of two or more elements.
Existence	They can exist independently.	The elements are combined in a fixed ratio.	The elements are mixed in any ratio.
Properties	They have a definite set of properties.	The elements of a compound do not retain their properties.	The components of a mixture retain their properties.
Separation	Elements cannot be broken down into simpler substances.	Elements can be separated from compounds by chemical methods.	Elements can be separated from mixtures by physical methods.
Examples	Iron, sulphur	dioxide	Iron + sulphur

a) The intermolecular space between atoms of solid is very less, so they have a definite shape and are highly rigid. on the other hand, in gases, the intermolecular space is much more than that of solids, so they don't have definite shape and are less rigid.

by sugar can easily be dissolved in water without changing its appearance as it fits in the spaces between molecules of water whereas, talcum powder changes the appearance of water and moreover, it doesn't dissolve in

water completely. So, they are easily distinguished.

On freezing, the intermolecular space between molecules of water ~~decreases~~ decreases so it gives it a definite ^{shape} ~~shape~~ and makes it ~~some~~ somewhat rigid.