

ATOMS, MOLECULES AND RADICALS

SUBJECT-CHEMISTRY

CHAPTER NO- 4

Molecular formula of an Element, Molecules of a Compound.

PERIOD-2

CHANGING YOUR TOMORROW

LEARNING OBJECTIVE

Students will be able to

- Know about the concept of molecular formula.
- Get aware of the various symbols of elements.
- Know about the atomicity, and the state of some elements.



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WARM UP QUESTIONS

- Activate prior knowledge by asking students what is atomicity?
- After listening to their responses, guide them to understand the molecular formula of compounds.
- Then ask them some of the symbols of some elements.
- Guide them to know about the Molecules of a compound.



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SYMBOLS OF SOME ELEMENTS

1 - Hydrogen H	21 - Scandium Sc	41 - Niobium Nb
2 - Helium He	22 - Titanium Ti	42 - Molybdenum Mo
3 - Lithium Li	23 - Vanadium V	43 - Technetium Tc
4 - Beryllium Be	24 - Chromium Cr	44 - Ruthenium Ru
5 - Boron B	25 - Manganese Mn	45 - Rhodium Rh
6 - Carbon C	26 - Iron (Ferrum) Fe	46 - Palladium Pd
7 - Nitrogen N	27 - Cobalt Co	47 - Silver (Argentum) Ag
8 - Oxygen O	28 - Nickel Ni	48 - Cadmium Cd
9 - Fluorine F	29 - Copper (Cuprum) Cu	49 - Indium In
10 - Neon Ne	30 - Zinc Zn	50 - Tin (Stannum) Sn
11 - Sodium (Natrium) Na	31 - Gallium Ga	51 - Antimony (Stibium) Sb
12 - Magnesium Mg	32 - Germanium Ge	52 - Tellurium Te
13 - Aluminium (Aluminum) Al	33 - Arsenic As	53 - Iodine I
14 - Silicon Si	34 - Selenium Se	54 - Xenon Xe
15 - Phosphorus P	35 - Bromine Br	55 - Caesium (Cesium) Cs
16 - Sulfur S	36 - Krypton Kr	56 - Barium Ba
17 - Chlorine Cl	37 - Rubidium Rb	57 - Lanthanum La
18 - Argon Ar	38 - Strontium Sr	58 - Cerium Ce
19 - Potassium (Kalium) K	39 - Yttrium Y	59 - Praseodymium Pr
20 - Calcium Ca	40 - Zirconium Zr	60 - Neodymium Nd



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MOLECULAR FORMULA OF AN ELEMENT

MOLECULAR FORMULA OF AN ELEMENT

- Molecular formula of an element is defined as the symbolic representation of its molecule.
- For Example, Cl_2 is the molecular formula of Chlorine gas consists of two atoms of Chlorine.
- For example, two atoms of Hydrogen and one atom of oxygen forms a molecule of Water (H_2O)



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SYMBOLS, ATOMICITY AND STATE OF ELEMENTS

NAME OF THE ELEMENT	SYMBOLS OF MOLECULES	ATOMICITY	STATE
Hydrogen	H ₂	2	Gas
Nitrogen	N ₂	2	Gas
Oxygen	O ₂	2	Gas
Fluorine	F ₂	2	Gas
Chlorine	Cl ₂	2	Gas
Bromine	Br ₂	2	Liquid
Iodine	I ₂	2	Solid
Ozone	O ₃	3	Gas
Phosphorous	P ₄	4	Solid
Sulphur	S ₈	8	Solid



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WATCH A VIDEO ON ATOMICITY

<https://youtu.be/eyzVBiapXtM>



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MOLECULES OF COMPOUND

MOLECULES OF COMPOUNDS

- When atoms of two or more elements join together in a fixed ratio by mass, a molecule of a compound is formed.
- For Example, two atoms of Hydrogen and one atom of oxygen combine to form a molecule of water.
- $H + O + H \longrightarrow H_2O$
1atom + 1atom + 1atom \longrightarrow 1 Molecule of Water
- The smallest unit of a compound is its molecule.
- Molecules of different compounds show different properties. For Example, Water molecule and Sugar molecules are different from each other



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HOME ASSIGNMENT

- Exercise Q2 a, b, c, d
- Mention the atomicity and the state of the following elements
 - a) Nitrogen
 - b) Oxygen
 - c) Fluorine
 - d) Sulphur
- Which is the smallest unit of a compound?



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THANKING YOU

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