



SAFALTA CLASSTM

An Initiative by **अमरउजाला**

DELHI POLICE CONSTABLE

By
**ONE OF THE MOST EXPERIENCED
FACULTY TEAM FROM DELHI**

100+ Hrs | 60 Days

DELHI POLICE – CONSTABLE - 60 DAYS COURSE

•LIVE **ONLINE CLASSES**

 **60 DAYS** | **100+ HOURS**

NEW BATCH STARTS 17th AUGUST 2020

Session Time - SESSION -1: 3:30 PM TO 4:30 PM & SESSION- 2: 5: 00 - 6:00 PM

NCERT \Rightarrow 6th - 10th

TOPICS

- MATTER, STATE OF MATTER

44121 / 424

- ATOMIC STRUCTURE

- ATOMS AND MOLECULE

- ELEMENTS, COMPOUND & MIXTURE



➤ CHEMICAL REACTIONS AND ITS TYPES



➤ ACIDS, BASES AND SALTS



➤ METAL AND NON-METALS



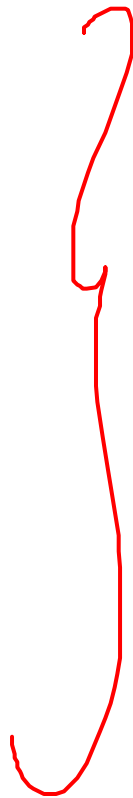
➤ CARBON AND ITS COMPOUNDS

➤ SOAP AND DETERGENTS ✓

➤ POLYMERS – GLASS, PLASTIC, SYNTHETIC FIBERS, POLYTHENE ETC... ✓ ✓ ✓

➤ PERIODIC TABLE.....

➤ MISCELLANEOUS



Matters & COMPOSITIONS



BE CONDENSATES



SOLIDS



LIQUIDS



GASES



PLASMAS

MATTER

* Everything in the universe is made up of materials \Rightarrow called matter.

I Anything that have mass, volume & occupy space called matter.

e.g.- Air, food, stone, chair,
Particle of sand etc - - -



Q:-

(i) chair ✓	(ii) Air ✓	(iii) Love ^X
(iv) almonds ✓	(v) cold ^X	(vi) cold drink ✓
(vii) Smell ✓	(ix) sense ^X	(x) hate ^X

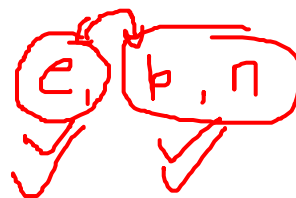
* State of matter:-

⇒ 1) Solid []

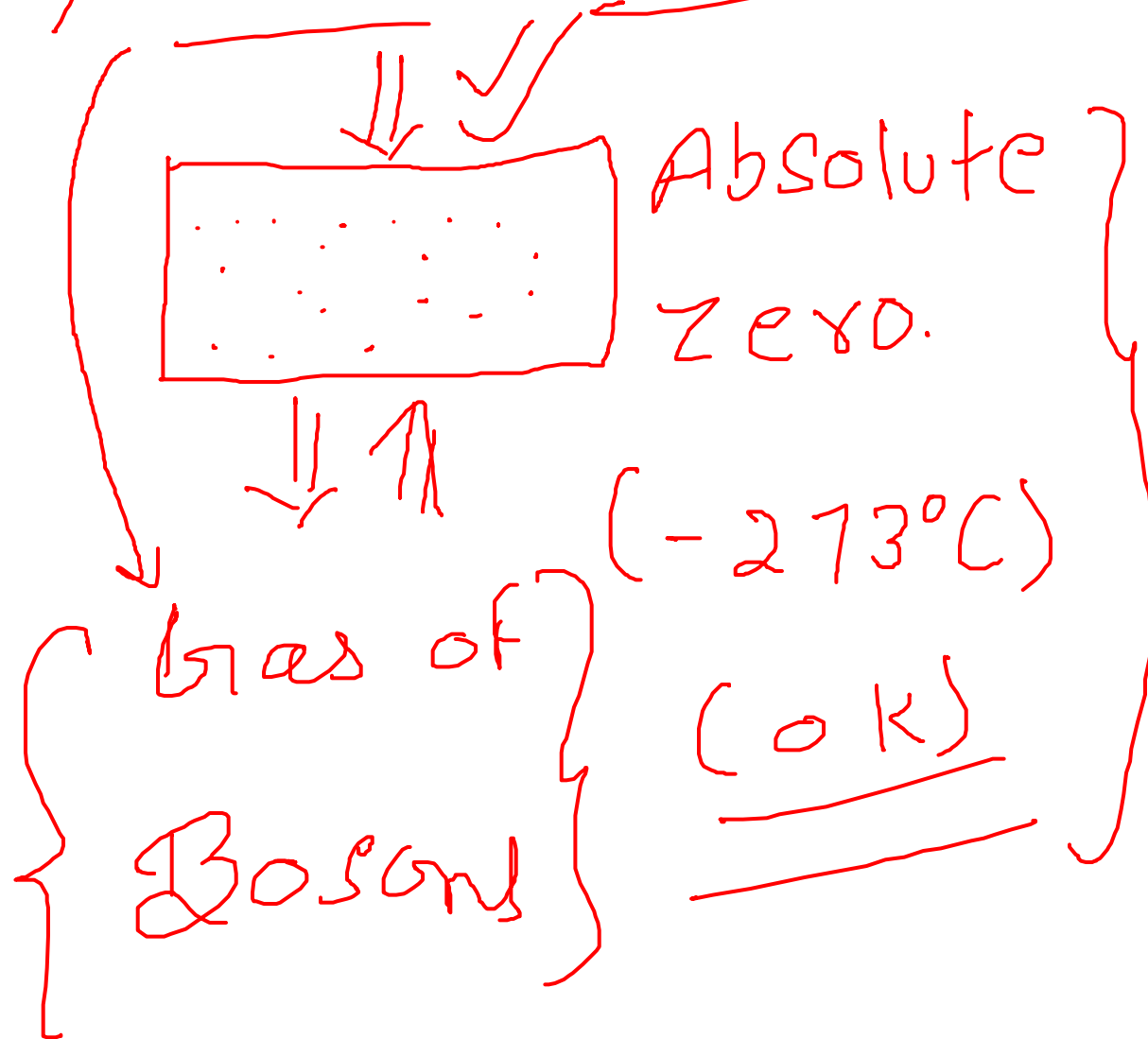
2) Liquid [: : :]

3) Gas [: : :]

4) Plasma [Gas ⇒]



5) BE Condensate:-



OUR BODY COMPOSITION

* Oxygen \Rightarrow 65% (Highest level \rightarrow element)

carbon \Rightarrow 18%

Hydrogen \Rightarrow 10%

Nitrogen \Rightarrow 3%

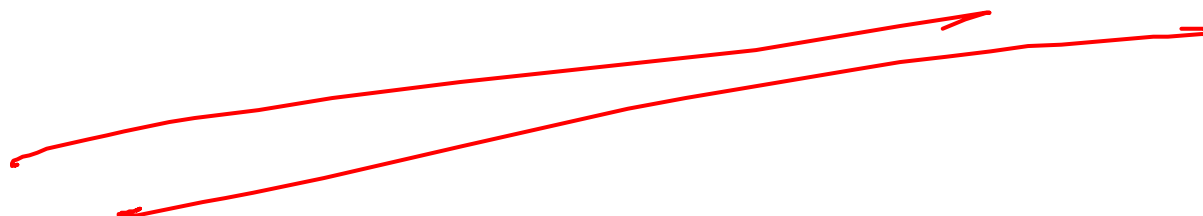
calcium \Rightarrow 1.5%

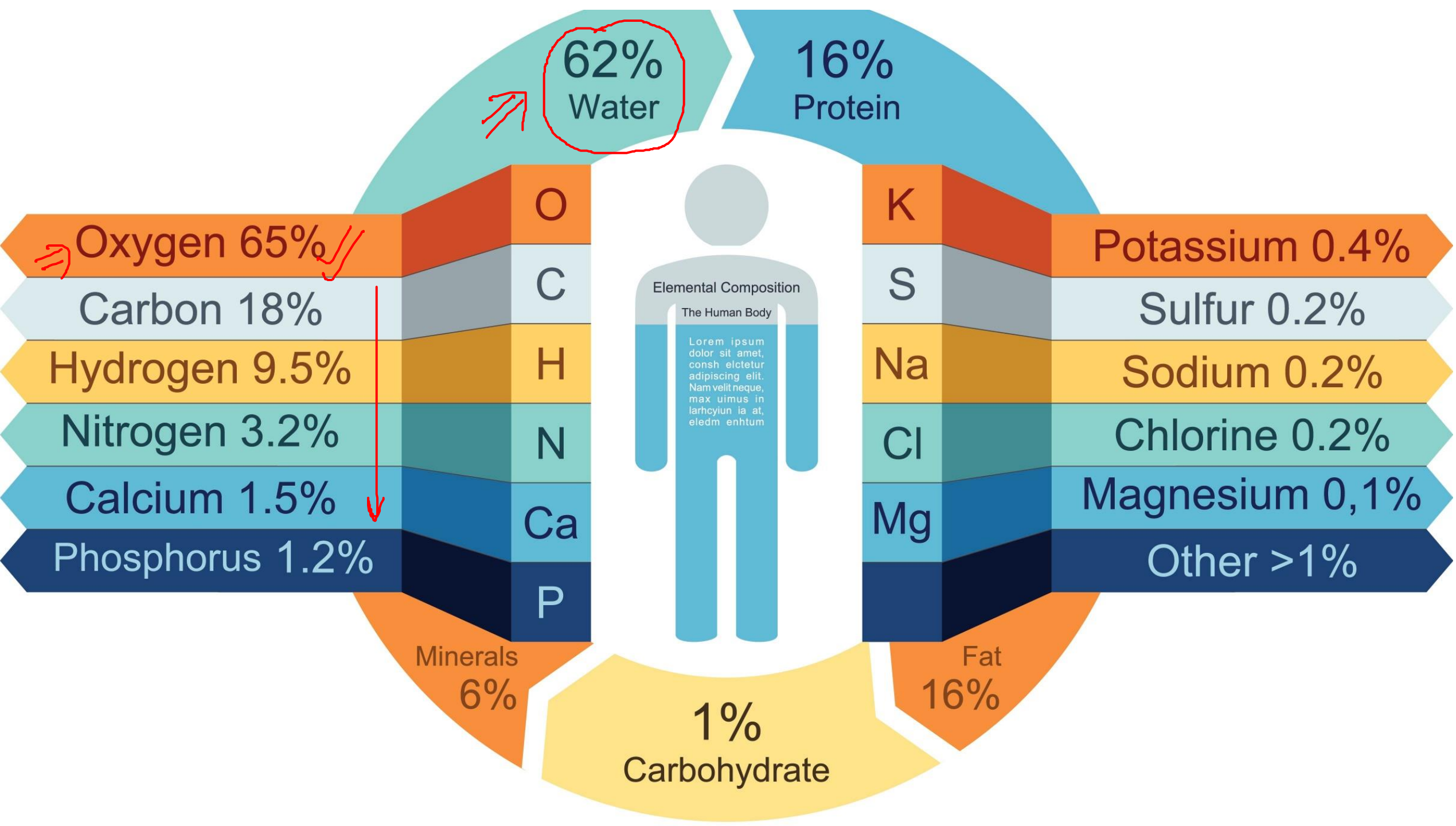
Phosphorous $\Rightarrow 1\%$

{ Note: Bones \Rightarrow Ca + Ph } ✓✓

\nrightarrow Na, Mg etc

Teeth \Rightarrow Ca + Ph.





EARTH CRUST COMPOSITION

- ⇒ Oxygen ⇒ 46% ✓ ⇒ [highest level]
- ⇒ Silicon ⇒ 28.2% ⇒ [metalloid or semicond]
- ⇒ Aluminum ⇒ 8.2% ⇒ [metal]
- ⇒ Iron ⇒ 5%
etc. ...

Elemental Composition of the Earth's Crust

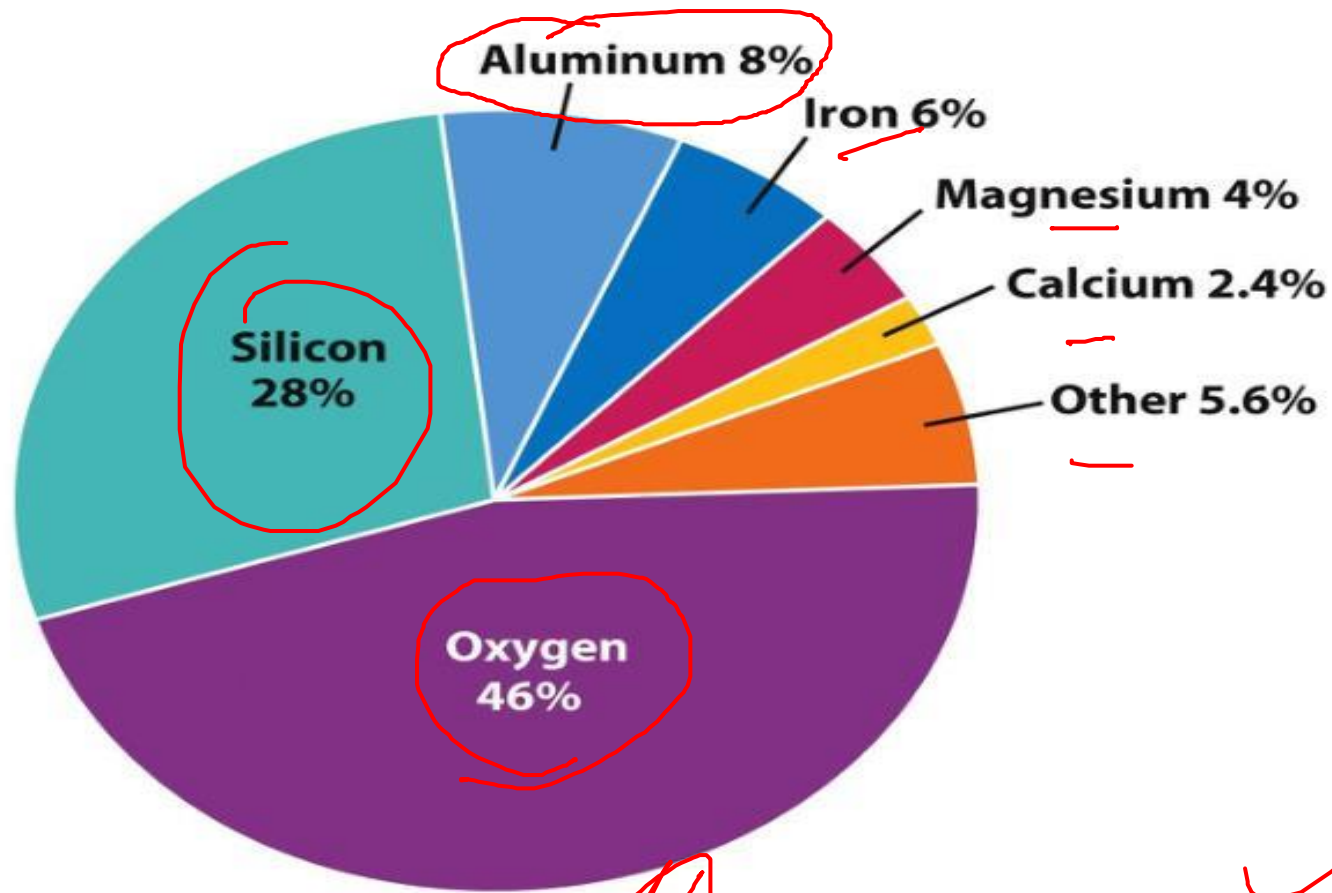


Figure 8.26
Environmental Science
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→ Air Composition

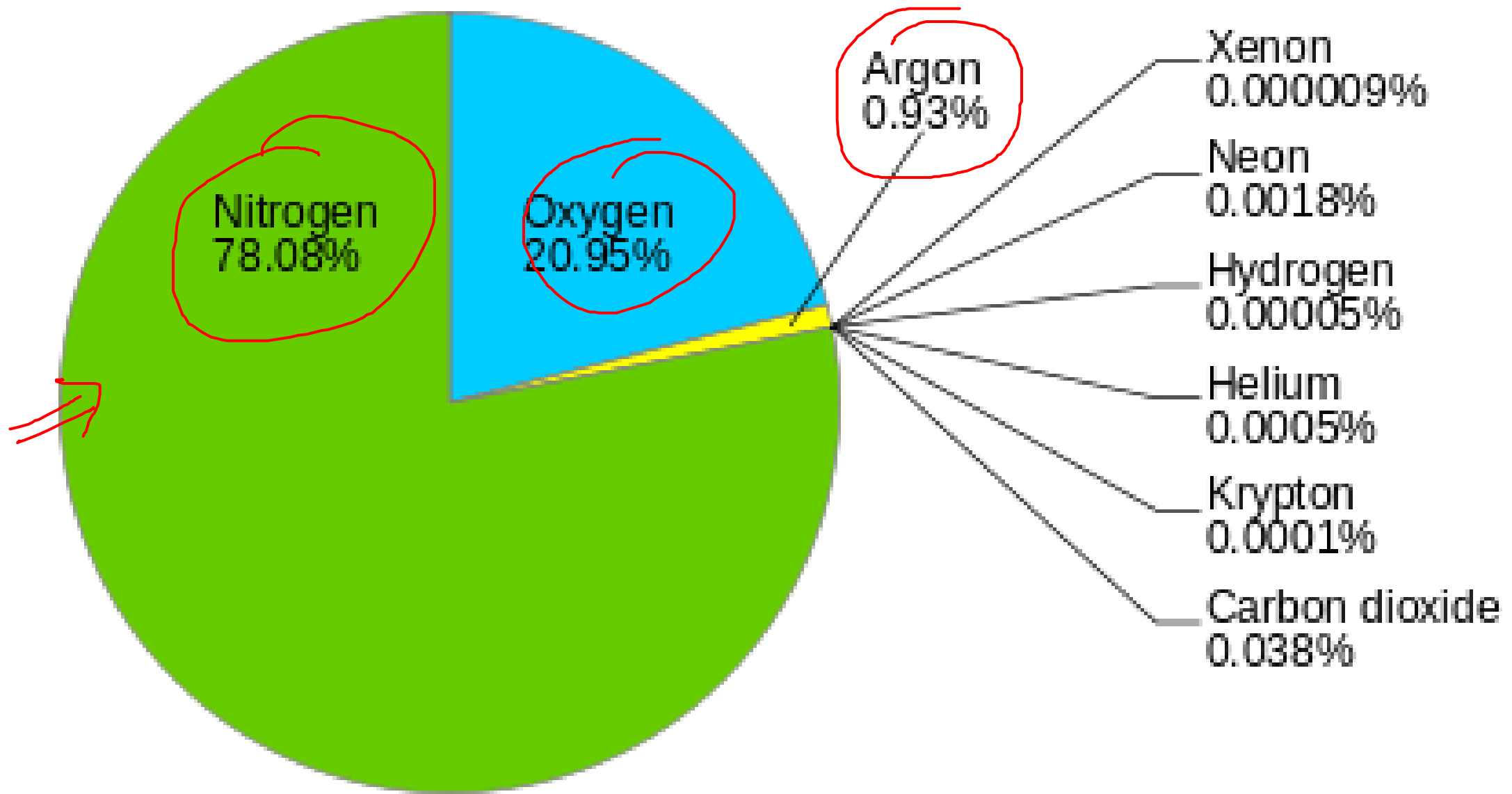
* 1. Nitrogen $\Rightarrow 78\%$ ✓

2. Oxygen $\Rightarrow 21\%$

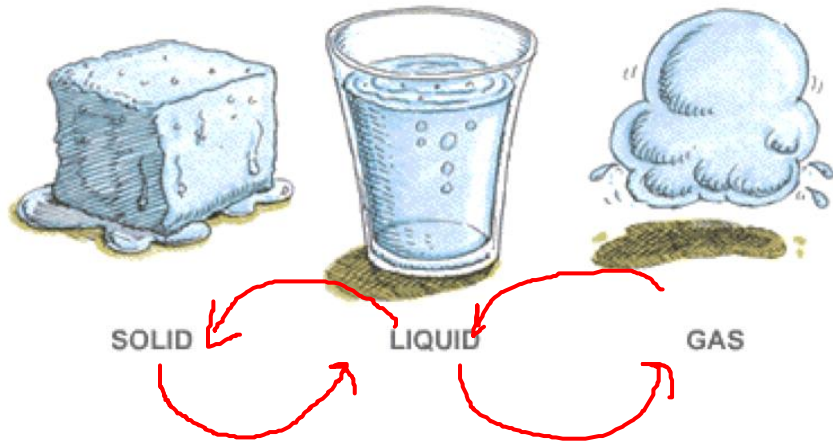
Imp → 3. Argon $\Rightarrow 0.93\%$ ✓ \Rightarrow अक्रिय गैस
[Inert gas]

4. $\text{CO}_2 \Rightarrow 0.03\%$

5. All other particles.

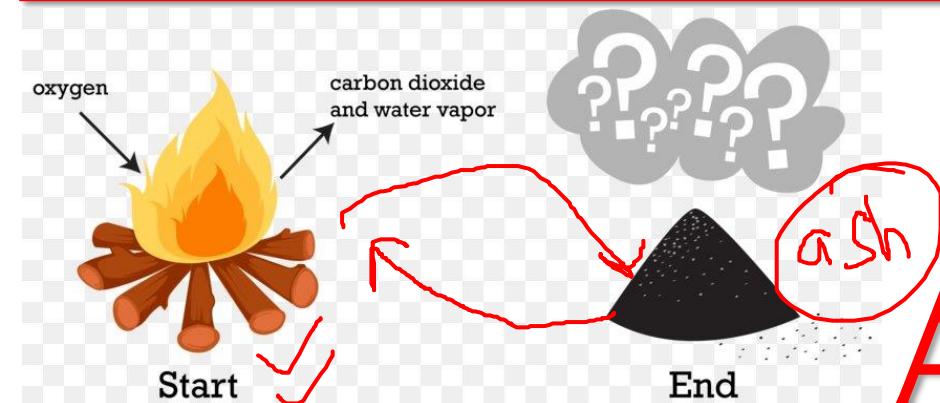


PHYSICAL AND



1, 2

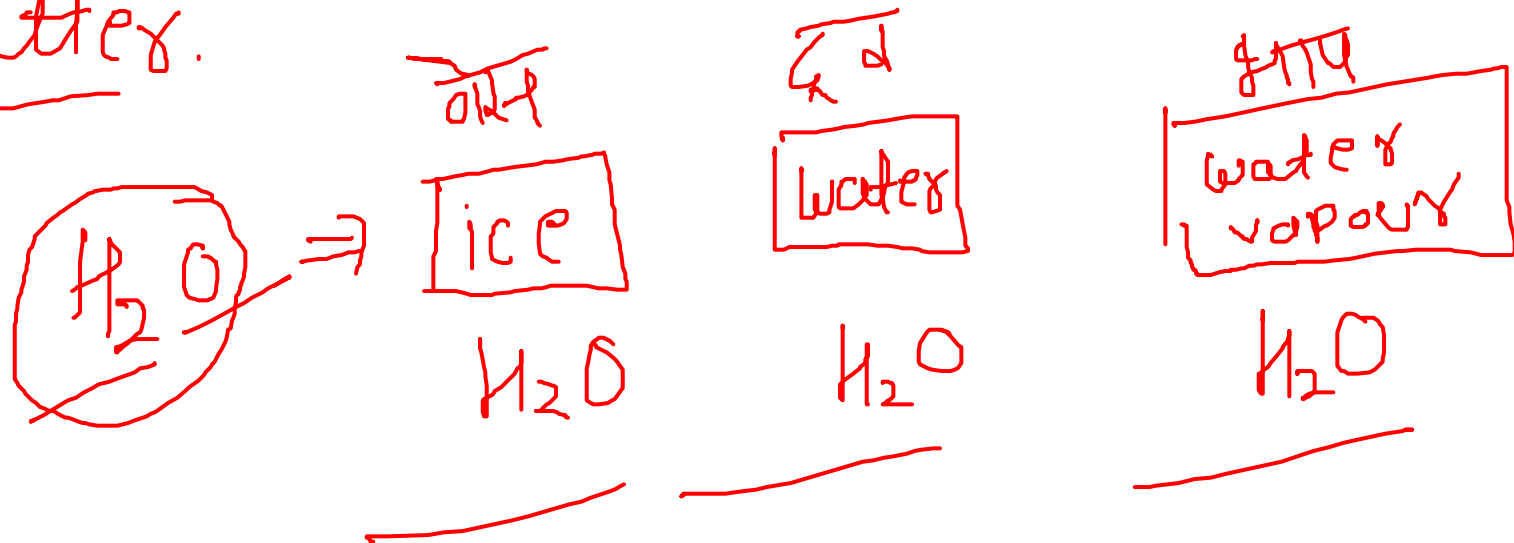
CHEMICAL PROPERTIES



AND CHANGES

* PHYSICAL Property / changes:-

⇒ Physical Properties can be observed or measured without changing the composition of matter.

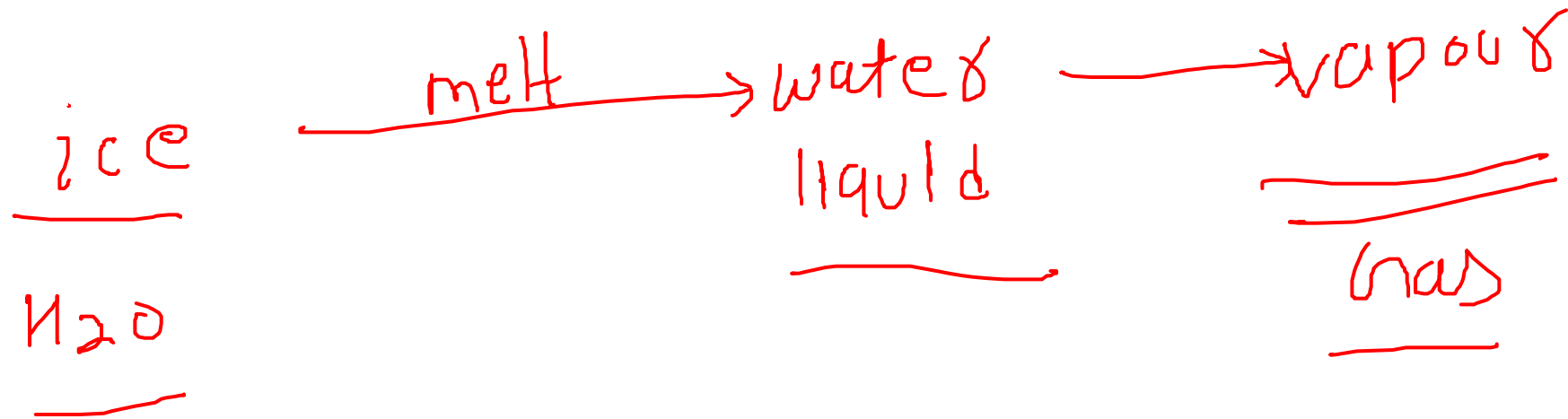


e.g.:- { Mass, Volume, Shape & Size, length,
State of matter, texture, color,
odor, melting point, Boiling Point,
Density, Solubility, Hardness,
conductivity, Ductile, malleability. }

Physical Change

* Physical Change:-

{ A change in physical any of above }
properties called physical change.



*1. \Rightarrow A physical change is generally being
reversible.

2. \Rightarrow

* Chemical Changes:- / Properties:-

⇒ Chemical property of any matter depends on its valency ✓, its

⇒ internal structure ✓

अंतरा संरचना

* ⇒ reactivity ✓✓

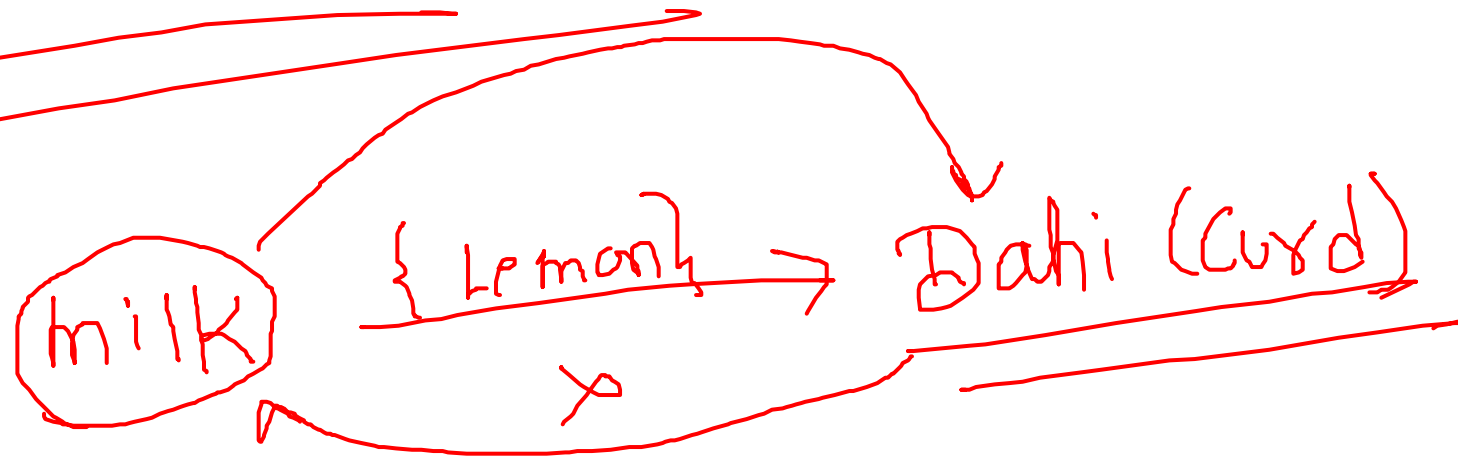


- e.g:-
- ⇒ Flammability (ज्वलनशीलता)
 - ⇒ Combustion (दहन)
 - ⇒ Reactivity (अभिक्रियाशीलता)
 - ⇒ [Oxidation] Corroding [जंग लगाना] ⇒ Rusting
 - ✓ Acidity (अम्लता)
 - ⇒ Toxicity (विषाक्तता)

* Chemical changes:-

A change in any chemical property is called chemical change.

eg:-



* Always new substance is formed.

* e.g.: Burning of Substances.

⇒ Rusting of iron

⇒ { Food Digestion }

⇒

During chemical change some new substance / things also developed.

⇒ Heat (ऊष्मा)

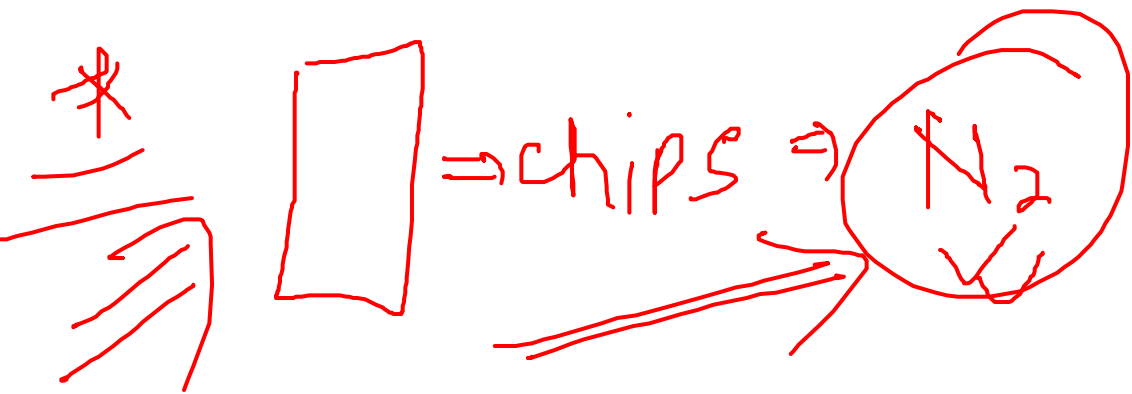
⇒ Light (प्रकाश)

⇒ change in colour,

⇒ Smell.

⇒ new gas produce

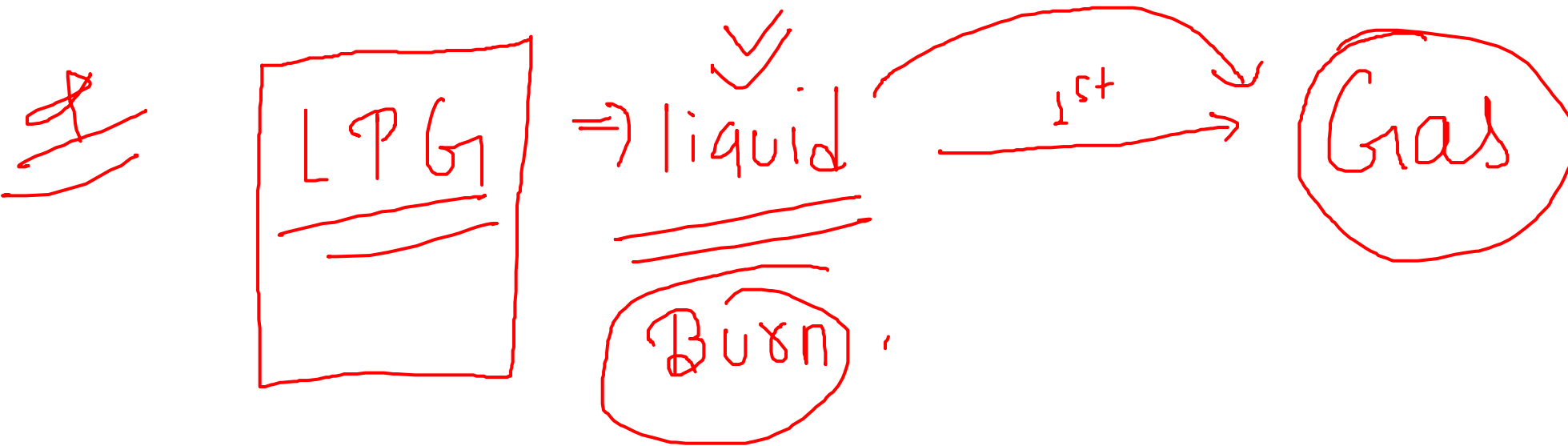
Q & A



Q x A

- ① Photosynthesis \Rightarrow chemical.
- ② Suger Dis. in water \Rightarrow Physical
- ③ make Aluminum foil \Rightarrow Physical

Blood \Rightarrow [Plasma] \checkmark



① Physical

* Anaerobic Bacteria ① → Digest Animal waste
⇒ produce ⇒ Biogas.
⇒ ②

⇒ ①
②
X chemical

* Air \Rightarrow N_2

Argon \Rightarrow 0.931.

* Human Body

① Element \Rightarrow O_2 \Rightarrow 65%.

② Compound \Rightarrow H_2O \Rightarrow 65-70%.

③ 2nd element \Rightarrow Carbon \Rightarrow 18%.

$\Rightarrow B + T \Rightarrow Cal + Phos.$

m

① Si

Earth crust

② Ge

① Non-metal \Rightarrow O₂ \Rightarrow 46%

③ C ✓

② metal \Rightarrow Aluminum \Rightarrow 8.2%

④ Ga] X

③ metalloid \Rightarrow Silicon (28.2%)

metal $< 4e^-$

non-metal $> 4e^-$

Sem. $= 4e^-$



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