How vitamins Minerals-trace elements affect health/human body

Scientific method of Vitamins and trace element

1. Observation/Question: What effect does Vitamin B12 have on human body?
2. Hypothesis: Vitamin B12 has a positive effect on the human body.
3. Experiment: To see the effect of the deficiency of Vitamin B12 in human body. To set up the experiment, we can select two groups of people:

(A) First five people in which the Vitamin B12 is given

(B) The other 5 people gets a placebo and tell them that it is B12 .

1. Results: After one month, we would see the people in set (A) will see the result. People in set (B) will be observe as well to see what the placebo will do and make them feel. (Mayo Clinic Staff, 2021).
2. Theory: If humans do not consume a normal amount of Vitamin B12, anemia will occur (Mayo Clinic Staff, 2021).

The numbers of protons, neutrons, and electrons of Vitamin B12

- $C_{63}H_{88}CoN_{14}O_{14}P$ → 181 atoms all together (protons, neutrons, and electrons) (National Library of Medicine, 2022)
  - Carbon: 63
  - Hydrogen: 88
  - Cobalt: 1
  - Nitrogen: 14
  - Oxygen: 14
  - Phosphate: 1
- Atomic mass: 1,355.38 g/mol (National Library of Medicine, 2022)
- Charge: 0 (National Library of Medicine, 2022)

Dietary trace minerals :

- Trace minerals provide pivotal metabolic support as they are some basic building blocks for the enzymes our body uses
- Ingestion of these minerals can help prevent hemochromatosis
- Minerals form about 5% of the human diet , there are macro minerals, trace element minerals, and ultratrace minerals