





Cobalt
 Used in blue pigments
 Used in battery electrodes
 The redness of blood
 Used in medicine and dyes



Tin
 Two isotopic forms
 - Alpha tin (grey) - stable
 - Beta tin (white) - tetragonal
 Banding of tin - green food dye called
 tin dye
 Tin pest - catastrophic deterioration
 of tin objects



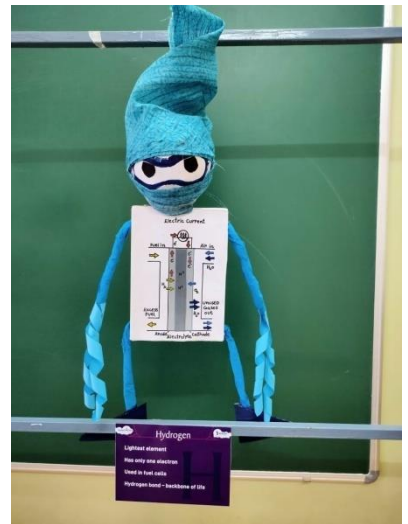
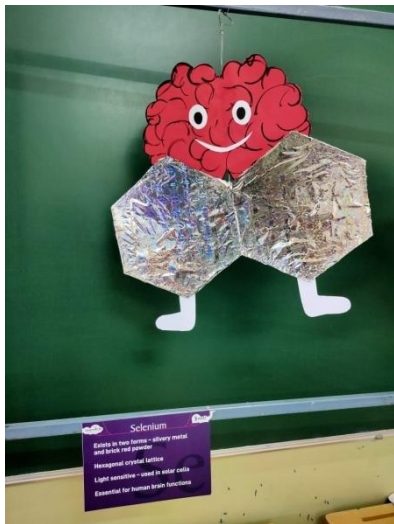
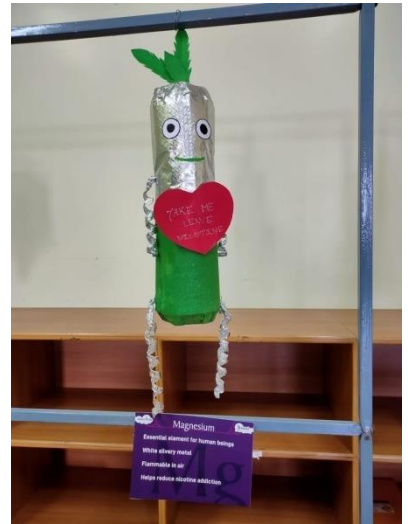
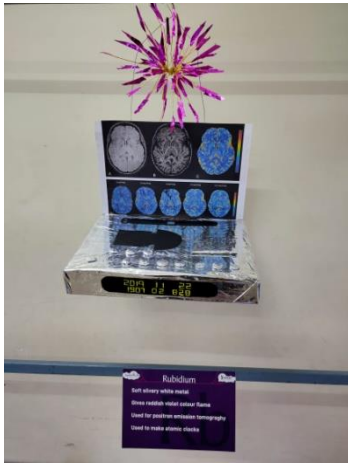
Germanium
 Essential for semiconductors
 Used in making solar cells
 Used in catalysis
 Used in X-ray fluorescence
 Used in optical fibres and IR diodes



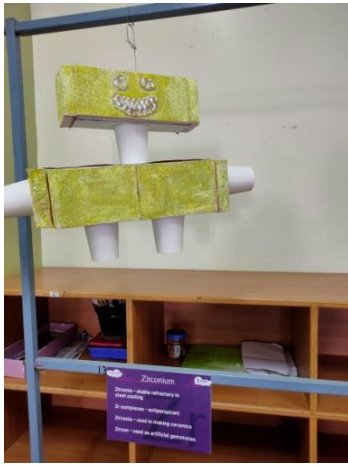
Scandium
 Rare earth in nature
 Turns light pink or yellow on oxidation
 Strong, lightweight and tough metal
 Used to make baseball bats



Chlorine
 Pale green colour in gaseous state
 Corrosive - oxidises tissues rapidly
 Disinfects at lower concentration
 Poisonous at high concentration







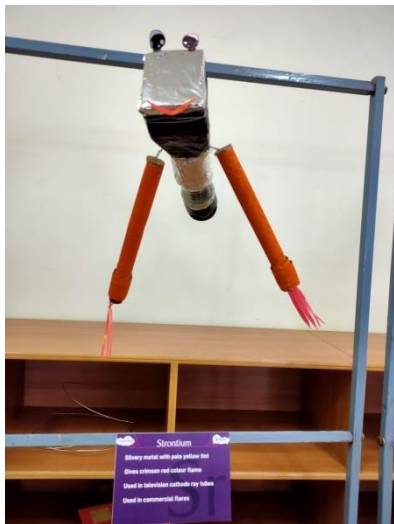
Zirconium
 Zirconium is a silvery white metal.
 It is very hard and strong.
 It is used in making alloys.
 It is used in making nuclear reactors.
 It is used in making zirconium oxide.



Chromium
 High lustre, high corrosion resistance.
 Alloyed with iron, it is used in making stainless steel.
 It is used in making pigments.
 It is used in making chrome plating.
 It is used in making different coloured glasses.



Silicon
 Present in rocks and sand.
 Forms chain silicates.
 Semiconductor.
 Used in computer chips.



Strontium
 Silvery metal with pale yellow tint.
 Gives crimson red colour flame.
 Used in televisions cathode ray tubes.
 Used in commercial flame.



Zinc
 Oysters have high zinc content.
 Used to make button cell batteries.
 Zinc oxide is a physical sunscreen.
 Used as an anti-corrosive coating on steel.



Calcium
 Silvery white colour.
 Gives brick red colour in flame test.
 Needed for bones and teeth.
 Milk is a good source of Ca.