STD 10 CHEMISTRY CHAPTER 4 PRODUCTION OF METALS (EM) NOTES FIRST BELL CLASS 20 &21

MINERALS

To see Class 20 Click here

The metallic compounds found in the earth's crust are called minerals.

ORE

A mineral from which a metal is economically, easily and quickly extracted is called the ore of the metal.

Characteristics of an ore

Abundance
Easily and cheaply separable
High metal content
Less impurity

To see Class 21 Click here

METALS AND THEIR ORES

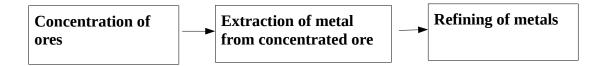
Click here to see Levigation

TVIE IT IE O T II V	D IIILIII OILLO	<u> Circ</u>
Metal	Ores	Chemical formula
Aluminium	Bauxite	Al ₂ O ₃ .2H ₂ O
Iron	Haematite Magnetite	Fe2O3 Fe3O4
Copper	Copper pyrites Cuprite	CuFeS2 Cu2O
Zinc	Zinc blende Calamine	ZnS ZnCO3

Metallurgy

All the processes leading to the separation of a pure metal from its ore is known as metallurgy

Three important stages in metallurgy



Methods of Concentration of ores

Click here to see Froth floatation

Method	Properties of ore	Properties of impurities	Examples
Levigation/ Hydraulic washing	High density	Low density	Oxide ore Ores of gold
Froth floatation	Low density	High density	Sulphide ores
Magnetic separation	Magnetic ore Non-magnetic ore (Tin)	Non-magnetic impurity Magnetic impurity (Iron tungstate)	Magnetite Tin stone(SnO ₂)
Leaching	Ore disssolves in a suitable solution	Impurities are insoluble in the same solution	Bauxite

Click here to see Magnetic separation

Worksheet

- 1. Which metal's ore is calamine?
- 2. Which is the ore of aluminium?
- 3. Which metals have sulphide ores?
- 4. Which are the ores of Iron? Write the chemical formula?
- 5. Which is the magnetic impurity present in tin stone?
- 6. What are the major steps present in metallurgy?
- 7. Write the chemical formula of Bauxite?
- 8. Which are the minerals of aluminium?
- 9. Complete the table

Ore	Method of concentration
Tinstone Bauxite Zinc blende	

Prepared by USHAKUMARY. S
HST physical Science
Govt HSS Karunagappally