

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](#)

Metal	Ores	Chemical formula
Aluminium	Bauxite	$\text{Al}_2\text{O}_3 \cdot 2\text{H}_2\text{O}$
Iron	Haematite Magnetite	Fe_2O_3 Fe_3O_4
Copper	Copper pyrites Cuprite	CuFeS_2 Cu_2O
Zinc	Zinc blende Calamine	ZnS ZnCO_3

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	-----

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