

CBSE • CLASS 10 • SOCIAL SCIENCE

GEOGRAPHY

CHAPTER 05

Minerals and Energy Resources



CHAPTER NOTES



WHAT IS A MINERAL?

Definition:

A mineral is a homogeneous, naturally occurring substance with a definable internal structure.

- Minerals occur in many forms: diamond is very hard; talc is very soft.
- The physical and chemical conditions of formation affect a mineral's properties.

Properties used to identify and classify minerals:

colour, hardness, crystal form, lustre and density.

Rocks and minerals:

- Rocks contain minerals in different proportions.
- Some rocks, such as limestone, may be mainly one mineral. Most contain several minerals.
- The chapter mentions over 2,000 identified minerals; only a few are common in most rocks.

STUDYING MINERALS AND ORES

Geographers study:

- Minerals as part of Earth's crust and their links with landforms.
- The distribution of minerals and the economic activities linked to them.

Geologists study:

- How minerals formed, their age, and their physical and chemical composition.

Ore: an accumulation containing a useful mineral mixed with other materials.

When does a deposit become a mine?

- Its useful mineral must be concentrated enough for extraction to be commercially viable.
- Rock structure affects how easily ore can be mined and the cost of extraction.
- Concentration, ease of extraction and closeness to markets affect economic viability.

MINERALS IN DAILY LIFE

- Minerals supply materials for pins, buildings, ships, railway lines, roads, tools and machinery.
- Metals such as iron and aluminium help make vehicles. Their engines need energy to work.
- Living organisms need minerals for life processes and to use other nutrients.

Minerals in toothpaste:

Mineral / Material	Use in toothpaste
Abrasives	silica, limestone, aluminium oxide and phosphate minerals clean teeth.
Fluorite	a source of fluoride used to reduce cavities.
Rutile, ilmenite and anatase	sources of titanium oxide used for whiteness.
Mica	gives sparkle to some toothpastes.
Petroleum	provides plastic for the toothbrush and toothpaste tube.

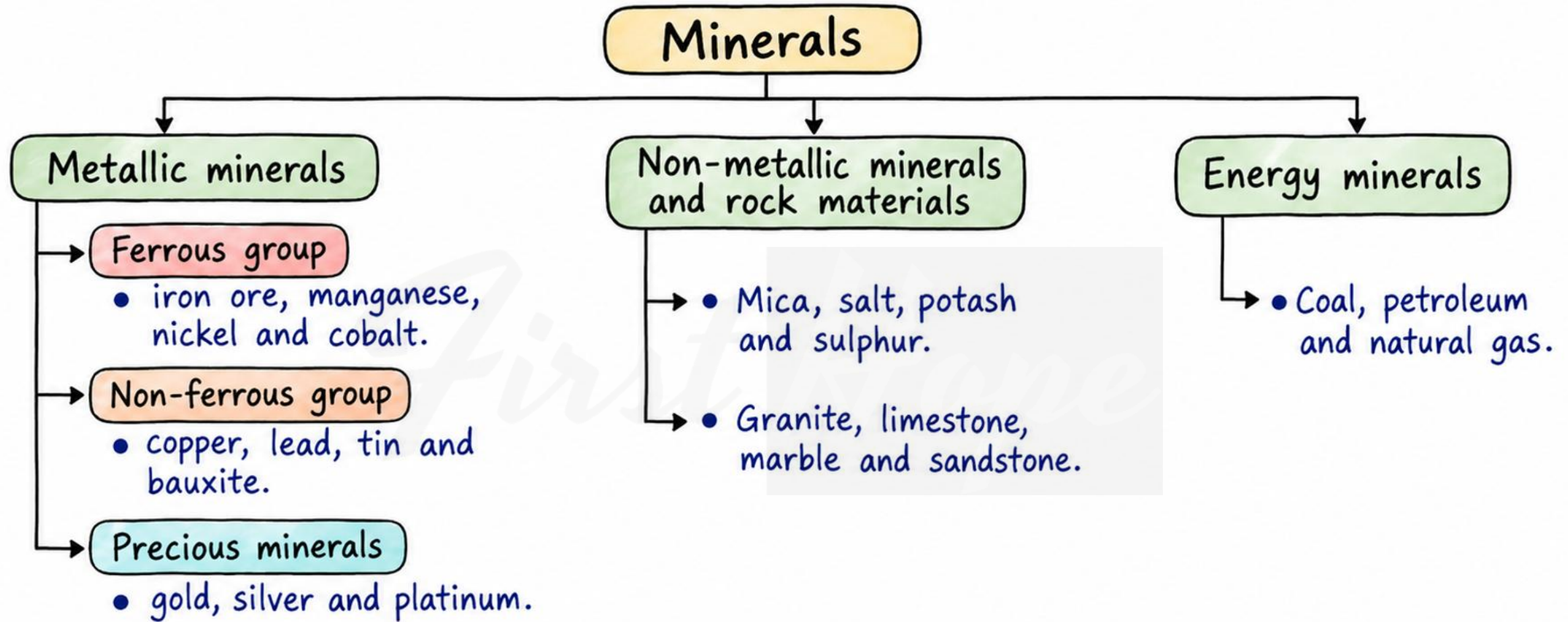
Chapter illustration

Minerals: about 0.3%

Other nutrients: 99.7%

The chapter uses these figures to show that small amounts of minerals are important for life processes.

CLASSIFICATION OF MINERALS



- Ferrous minerals support metallurgical industries.
- Chapter estimate: about three-fourths of the value of metallic mineral production comes from the ferrous group.
- Non-ferrous minerals are important for metallurgical, engineering and electrical industries.



FREE PREVIEW

[Click here to visit our website](#)

SCHOOL NOTES & NCERT SOLUTIONS

Complete notes and
NCERT solutions are
available on
FirstHope app only.



[Scan or click here](#)

Click here to get the app



Available on Google Play

JOIN THE FIRSTHOPE COMMUNITY

Join our Telegram channel

Click here to join Telegram



[Scan or click here](#)

@FirstHope_CBSE_Notes

Instagram

@firsthope.school

[Click here to follow >](#)

YouTube channel

@firsthope.school

[Click here to watch >](#)

FirstHope website

firsthope.co.in

[Click here to visit our website >](#)

CBSE / Class 9 / Class 10 / Class 11 / Class 12

Preview notes and NCERT solutions. Full PDFs in the FirstHope app.