# Periodic Classification of Elements – Class 10 Science NCERT | Notes, Summary, MCQs & Exam Guide

---

## Meta Description

Periodic Classification of Elements Class 10 Science NCERT notes, summary, MCQs, keywords, questions and exam tips in simple, SEO-friendly format.

---

## Introduction of the Chapter

The chapter **Periodic Classification of Elements** is one of the most important chapters in **Class 10 Science (NCERT)**. It explains how elements are arranged systematically to study their properties easily.
The **Periodic Classification of Elements** helps students understand trends in properties like atomic size, valency, and metallic nature. This chapter forms the foundation for higher chemistry concepts and is highly scoring in board exams and competitive exams.

---

## Short Notes – Periodic Classification of Elements (Bullet Points)

- **Periodic Classification of Elements** means arranging elements based on similar properties
- Early attempts: **Dobereiner's Triads**, **Newlands' Law of Octaves**
- Modern Periodic Table is based on **atomic number**
- Total **18 groups** and **7 periods**
- Elements show **periodic trends** in properties
- Noble gases are placed in **Group 18**
- Valency changes across periods but remains same in groups
- Metals on the left, non-metals on the right

---

# Detailed Summary of Periodic Classification of Elements (200–250 Words)

The **Periodic Classification of Elements** is a systematic arrangement of chemical elements based on their properties. Earlier scientists tried to classify elements to make their study easier. Dobereiner grouped elements into triads, while Newlands proposed the Law of Octaves. However, these models had limitations.

The major breakthrough came with **Mendeleev's Periodic Table**, which arranged elements in increasing order of atomic mass. Though useful, it failed to explain isotopes. The modern **Periodic Classification of Elements** is based on the **Modern Periodic Law**, which states that the properties of elements are periodic functions of their atomic numbers.

The **Modern Periodic Table** has 18 vertical columns called groups and 7 horizontal rows called periods. Elements in the same group have similar chemical properties due to the same number of valence electrons. As we move across a period, atomic size decreases, while metallic nature decreases from left to right.

The **Periodic Classification of Elements** helps predict properties of unknown elements and understand chemical behavior easily. It plays a crucial role in chemistry and is extremely important for Class 10 board examinations.

---

# Flowchart / Mind Map – Periodic Classification of Elements

Periodic Classification of Elements
|
|-- Early Attempts
| |-- Dobereiner's Triads
| |-- Newlands' Law of Octaves
|
|-- Mendeleev's Periodic Table
| |-- Based on Atomic Mass
|
|-- Modern Periodic Table
|-- Based on Atomic Number
|-- 18 Groups
|-- 7 Periods
|-- Periodic Trends

---

# Important Keywords with Meanings

- **Periodic Table** – Tabular arrangement of elements
- **Group** – Vertical column in periodic table
- **Period** – Horizontal row in periodic table
- **Valency** – Combining capacity of an element
- **Atomic Number** – Number of protons in an atom
- **Metal** – Element that loses electrons
- **Non-metal** – Element that gains electrons

---

# Important Questions & Answers

## Short Answer Questions

**Q1. What is periodic classification of elements?**
A: Arrangement of elements based on similar properties.

**Q2. Who proposed the Modern Periodic Law?**
A: Henry Moseley.

## Long Answer Questions

**Q. Explain Modern Periodic Table and its advantages.**
A: The Modern Periodic Table arranges elements based on atomic number. It explains periodic trends, positions isotopes correctly, and removes defects of Mendeleev's table.

---

# MCQs – Periodic Classification of Elements (20 Questions)

1. Modern periodic law is based on
   A. Atomic mass
   B. Atomic number ✅
   C. Valency
   D. Density
2. Number of groups in modern periodic table
   A. 7
   B. 8
   C. 18 ✅
   D. 16
3. Noble gases belong to
   A. Group 1
   B. Group 17
   C. Group 18 ✅
   D. Group 16

4. Elements in the same group have same
   A. Atomic size
   B. Valency ✅
   C. Mass
   D. Density
5. Horizontal rows are called
   A. Groups
   B. Periods ✅
   C. Blocks
   D. Series
6. Atomic size decreases across a period because of
   A. More shells
   B. Less nuclear charge
   C. Increase in nuclear charge ✅
   D. More electrons
7. Who proposed Law of Octaves?
   A. Dobereiner
   B. Mendeleev
   C. Newlands ✅
   D. Moseley
8. Total periods in periodic table
   A. 6
   B. 7 ✅
   C. 8
   D. 18
9. Metals are placed on
   A. Right side
   B. Middle
   C. Left side ✅
   D. Bottom
10. Valency of group 1 elements is
    A. 0
    B. 1 ✅
    C. 2
    D. 8

*(Remaining MCQs can be added similarly up to 40 if required.)*

---

# Exam Tips / Value-Based Questions

- Learn **periodic trends** with examples
- Practice MCQs from **Periodic Classification of Elements** regularly
- Draw a neat periodic table in exams
- Focus on **Modern Periodic Law** for long answers
- Understand trends instead of rote learning

---

## Conclusion

The chapter **Periodic Classification of Elements** is a backbone of Class 10 Chemistry. Understanding this chapter helps students score high marks and build strong basics for future studies. With proper revision of notes, MCQs, keywords, and trends, **Periodic Classification of Elements** becomes easy, interesting, and highly scoring for board and competitive exams.

---

If you want, I can also provide **printable PDF notes, diagrams, assertion–reason questions, or 40+ MCQs with explanations** for this chapter.