

# How is the Periodic Table Organized?

## Worksheet

The periodic table is organized by periods (horizontal rows) and groups (vertical columns). Elements are arranged by increasing atomic number, grouping those with similar outer-electron configurations together.

## Questions

1. Elements in the same group have the same

- A) atomic mass
- B) valence electrons
- C) number of protons
- D) period number

2. How many columns (groups) does the periodic table have?

- A) 6
- B) 12
- C) 18
- D) 20

3. Which statement best describes a period?

- A) Elements with similar properties
- B) A vertical column
- C) A horizontal row of increasing atomic number
- D) All transition metals

4. Noble gases are in Group

- A) 1
- B) 2
- C) 17
- D) 18

5. Which group contains the most reactive metals?

6. What is the trend in atomic radius across a period?

7. Why do Group 17 elements share similar properties?

8. Define: What is a period in the periodic table?

9. Define: What is a group in the periodic table?

10. Define: Why do elements in the same group behave similarly?

## Answer Key

1. B) valence electrons - Group members have identical valence-electron configurations, making them chemically similar.
2. C) 18 - The periodic table has 18 groups (columns) labeled 1-18.
3. C) A horizontal row of increasing atomic number - A period is a horizontal row; elements increase in atomic number left to right.
4. D) 18 - Group 18 (far right) holds the noble gases with full valence shells.
5. Group 1 (leftmost column) contains the alkali metals Alkali metals like sodium and potassium are highly reactive
6. Across a period left to right, atomic radius decreases Example: Period 3 - Na (186 pm) to Cl (99 pm)
7. All Group 17 elements have 7 valence electrons Similar electron configurations lead to similar chemical behaviour
8. A horizontal row of elements arranged by increasing atomic number.
9. A vertical column of elements with the same number of valence electrons.
10. They have the same number of electrons in their outermost shell.

### **Bounlu**

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