

Periodic Table Elements: A Chemistry Study Guide

Chemistry · Answer Key · 29 Questions

1. Who is credited with the modern arrangement of the periodic table?

- A) Dmitri Mendeleev**
- B) Antoine Lavoisier
- C) J.J. Thomson
- D) Ernest Rutherford

2. Elements in the same vertical column of the periodic table are called:

- A) Periods
- B) Groups**
- C) Series
- D) Blocks

3. The horizontal rows of the periodic table are known as:

- A) Groups
- B) Periods**
- C) Families
- D) Alloys

4. What does the atomic number of an element represent?

- A) The number of neutrons
- B) The number of electrons
- C) The number of protons**
- D) The total number of nucleons

5. Which of the following is a noble gas?

- A) Oxygen
- B) Nitrogen
- C) Helium**
- D) Chlorine

6. Alkali metals are found in which group of the periodic table?

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

7. Halogens are located in which group?

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

8. What is the most abundant element in the Earth's crust?

- A) Iron
- B) Silicon
- C) Oxygen**
- D) Aluminum

9. Which element is known as the 'universal solvent'?

- A) Alcohol
- B) Acetone
- C) Water**
- D) Benzene

10. Metals generally exhibit which property?

- A) Dull luster
- B) Poor conductivity
- C) Malleability**
- D) Brittle solid

11. Nonmetals are typically found on which side of the periodic table?

- A) Left
- B) Right**
- C) Middle
- D) Bottom

12. Which element has the chemical symbol 'Fe'?

- A) Fluorine
- B) Iron**
- C) Fermium
- D) Francium

13. What is the only element that is a liquid at room temperature and standard pressure?

- A) Gold
- B) Mercury**
- C) Bromine
- D) Sodium

14. The tendency of an atom to attract a bonding pair of electrons is called:

- A) Ionization energy
- B) Electron affinity
- C) Electronegativity**
- D) Atomic radius

15. As you move across a period from left to right, atomic radius generally:

- A) Increases
- B) Decreases**
- C) Stays the same
- D) Fluctuates

16. As you move down a group, ionization energy generally:

- A) Increases
- B) Decreases**
- C) Stays the same
- D) Fluctuates

17. Which of the following is a metalloid?

- A) Sodium
- B) Chlorine
- C) Silicon**
- D) Potassium

18. What are elements with atomic numbers greater than 92 called?

- A) Lanthanides
- B) Actinides
- C) Transuranic elements**
- D) Noble gases

19. Which element is essential for life and forms the backbone of organic chemistry?

- A) Oxygen
- B) Nitrogen
- C) Carbon**
- D) Hydrogen

20. The element with the symbol 'O' is:

- A) Osmium
- B) Oganesson
- C) Oxygen**
- D) Gold

21. What is the most electronegative element?

- A) Oxygen
- B) Nitrogen
- C) Chlorine
- D) Fluorine**

22. Which group consists of the alkaline earth metals?

- A) Group 1
- B) Group 2**
- C) Group 16
- D) Group 18

23. The number of neutrons in an atom is equal to the mass number minus the:

- A) Atomic number**
- B) Electron number
- C) Proton number
- D) Isotope number

24. Which of the following is a transition metal?

- A) Lithium
- B) Calcium
- C) Copper**
- D) Argon

25. What are isotopes of an element?

- A) Atoms with different numbers of protons
- B) Atoms with different numbers of neutrons**
- C) Atoms with different numbers of electrons
- D) Atoms with different chemical properties

26. The element with the symbol 'Na' is:

- A) Neon
- B) Nickel
- C) Sodium**
- D) Niobium

27. Which of the following is a nonmetal that is a gas at room temperature?

- A) Sulfur
- B) Phosphorus
- C) Nitrogen**
- D) Selenium

28. The periodic table is organized by increasing:

- A) Mass number
- B) Number of neutrons
- C) Atomic number**
- D) Number of valence electrons

29. What is the common name for the elements in Group 18?

- A) Halogens
- B) Alkali metals
- C) Noble gases**
- D) Alkaline earth metals