

# Worksheet: The Periodic Table

In this worksheet, we will practice defining groups, periods, and blocks and linking the properties of elements to their positions in the periodic table.

**Q1:** According to which property are the elements in the modern periodic table organized left to right?

- A Reactivity
- B Relative atomic mass
- C Melting point
- D Atomic number
- E Density



**Q2:** Which of the following best describes a period in the Periodic Table?

- A A collection of elements in a single column
- B A collection of elements in a single diagonal
- C All elements with a specific number of neutrons in their nuclei
- D All nonmetals
- E A collection of elements in a single row

**Q3:** Which of the following best describes a group in the Periodic Table?

- A A collection of elements in a single diagonal
- B A collection of elements in a single row
- C All non-metals
- D All elements with a specific number of neutrons in their nuclei
- E A collection of elements in a single column

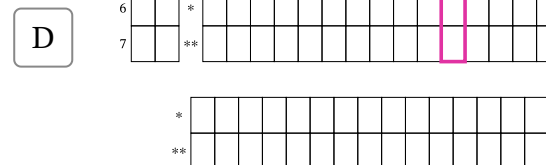
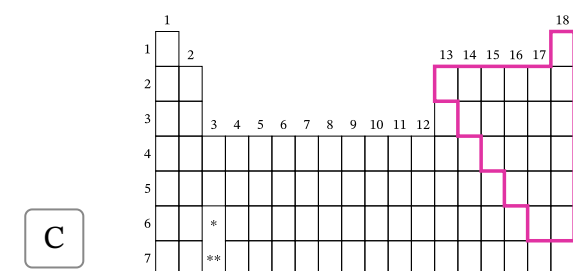
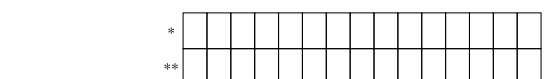
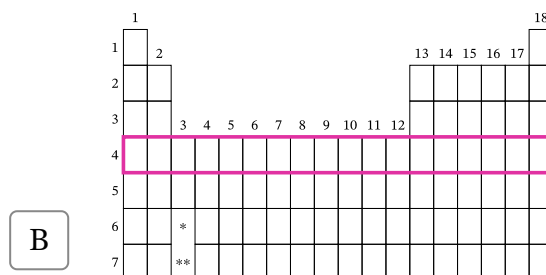
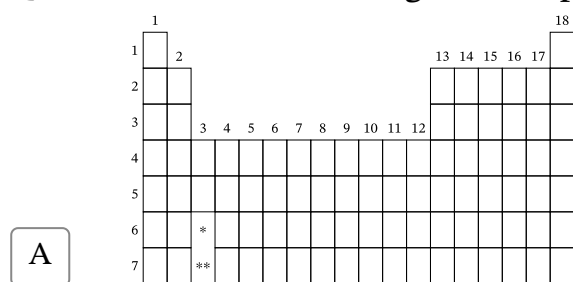
**Q4:** What do elements in the same group of the periodic table contain an equal number of?

- A Valence electrons
- B Electrons
- C Valence electron orbitals
- D Valence electron shells
- E Electron shells

**Q5:** Which atomic feature do elements in the same period of the periodic table contain an equal number of?

- A Electron shells
- B Neutrons
- C Electrons
- D Protons
- E Electron orbitals

**Q6:** Which of the following shows a period on the Periodic Table?



**Q7:** Which of the following shows a group on the periodic table?

**A**

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**B**

\*  
\*\*

**C**

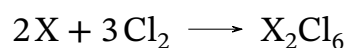
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**D**

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**Q8:** Phosphorus is in Group 15 of the Periodic Table. How many covalent bonds does an atom of phosphorus usually form?

**Q9:** Given the equation below, which one of the following groups could X be in?



**A** Group 15

**B** Group 13

**C** Group 17

**D** Group 2

**Q10:** What is the shell number of the valence shell in a chlorine atom?

**Q11:** For which of the following elements is the second electron shell the valence shell?

**A** Hydrogen

**B** Helium

**C** Carbon

**D** Aluminum

**E** Chlorine

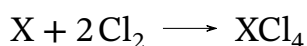
**Q12:** Which of the following is an alkaline earth metal?

- A Scandium  D Lithium  
 B Rubidium  E Yttrium  
 C Strontium

**Q13:** Oxygen commonly forms two covalent bonds. In which group of the Periodic Table is oxygen located?

- A Group 16  D Group 2  
 B Group 6  E Group 18  
 C Group 4

**Q14:** For the given reaction, which of the following elements could be represented by X?

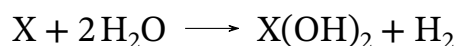


- A Silicon  B Calcium  C Indium  D Rubidium

**Q15:** In which period of the Periodic Table is the fourth electron shell of an atom the valence shell?

**Q16:** In which group of the periodic table is there an atom with a valence shell electron configuration of  $(n - 1)d^5ns^1$ ?

**Q17:** Fill in the blank: For the given reaction, element X is a \_\_\_\_\_ element.



- A group 2  C group 17  
 B group 15  D group 1

**Q18:** Aluminum is in Group 13. How many electrons are there in the valence shell of an aluminum atom?

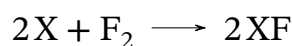
**Q20:** How many occupied electron shells are present in a hydrogen atom?

**Q21:** An unknown element forms an ion with a charge of 2+. In which group of the Periodic Table is this element most likely to be located?

- A Group 1     B Group 18     C Group 0     D Group 2     E Group 7

**Q22:** Sulfur is in Group 16. What is the charge of the sulfide anion?

**Q23:** For the following reaction, which of the given elements would X most likely represent?



- A Potassium     B Strontium     C Magnesium     D Gallium

**Q24:** Which of the following is not an alkaline earth metal?

- A Beryllium     B Lithium     C Calcium     D Magnesium     E Radium

**Q25:** Which of the following is **not** an alkali metal?

- A Potassium  
 B Calcium  
 C Sodium  
 D Cesium  
 E Lithium