

# Name:



How is the Periodic Table Arranged?

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Below is a portion of the periodic table. In the answer spaces provided in the table, fill in the [1] atomic number, [2] electron configuration, [3] number of shells, and [4] number of outer shell electrons as indicated in the key below. Then, answer the questions that follow.



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Symbol
[1] Atomic Number _____
[2] Electron Configuration _____
[3] Number of Shells _____
[4] Number of Outer Electrons _____



Modern

H [1] _____ [2] _____ [3] _____ [4] _____	He [1] _____ [2] _____ [3] _____ [4] _____							
Li [1] _____ [2] _____ [3] _____ [4] _____	Be [1] _____ [2] _____ [3] _____ [4] _____	B [1] _____ [2] _____ [3] _____ [4] _____	C [1] _____ [2] _____ [3] _____ [4] _____	N [1] _____ [2] _____ [3] _____ [4] _____	O [1] _____ [2] _____ [3] _____ [4] _____	F [1] _____ [2] _____ [3] _____ [4] _____	Ne [1] _____ [2] _____ [3] _____ [4] _____	
Na [1] _____ [2] _____ [3] _____ [4] _____	Mg [1] _____ [2] _____ [3] _____ [4] _____	Al [1] _____ [2] _____ [3] _____ [4] _____	Si [1] _____ [2] _____ [3] _____ [4] _____	P [1] _____ [2] _____ [3] _____ [4] _____	S [1] _____ [2] _____ [3] _____ [4] _____	Cl [1] _____ [2] _____ [3] _____ [4] _____	Ar [1] _____ [2] _____ [3] _____ [4] _____	
K [1] _____ [2] _____ [3] _____ [4] _____	Ca [1] _____ [2] _____ [3] _____ [4] _____							

KEY

Answer the questions below by referring to the data on the table you filled in on the first page.

- In what order are the elements of the *Periodic Table* arranged? \_\_\_\_\_  
\_\_\_\_\_
- What do all the elements in a vertical column of the *Periodic Table* have in common? \_\_\_\_\_  
\_\_\_\_\_
- What do all the elements in a horizontal row of the *Periodic Table* have in common? \_\_\_\_\_  
\_\_\_\_\_
- By what two characteristics are all the elements of the *Periodic Table* placed in a particular row and column? \_\_\_\_\_  
\_\_\_\_\_
- Imagine element number 15 had never been discovered. What characteristics would you predict it to have based on its location on the periodic table?  

H	He							
Li	Be	B	C	N	O	F	Ne	
Na	Mg	Al	Si	P	S	Cl	Ar	
K	Ca							

  
 \_\_\_\_\_  
 \_\_\_\_\_
- Which element has 3 outer electrons and 2 shells? \_\_\_\_\_
- How is helium different from neon and argon? How is it similar? \_\_\_\_\_  
\_\_\_\_\_

Rev:

## Understanding Periods and Groups

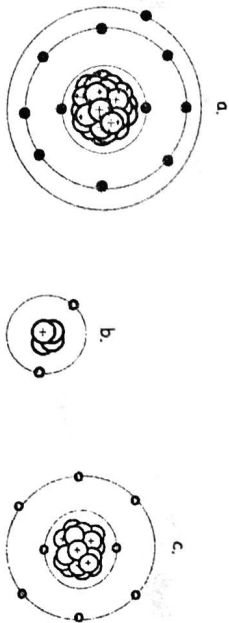
Directions: Using your Periodic Table of Elements and your knowledge of periods and groups, answer the following questions.

- How many periods make up the periodic table?
- How many groups make up the periodic table?
- How many elements make up period one (1)? Period three (3)? Period six (6)?
- How many elements make up group seven (7)? Group fourteen (14)? Group eighteen (18)?
- Name the element that resides here:
  - Group eighteen (18) - Period five (5) \_\_\_\_\_
  - Period seven (7) - Group two (2) \_\_\_\_\_
  - Group one (1) - Period one (1) \_\_\_\_\_
  - Period three (3) - Group sixteen (16) \_\_\_\_\_
  - Group ten (10) - Period six (6) \_\_\_\_\_
  - Period one (1) - Group eight (8) \_\_\_\_\_

6. Which of the following pairs would most likely have similar physical and chemical properties? Explain your answer.

- Lithium and Selenium
- Vanadium and Radon
- Sodium and Potassium

7. Which of the following represent an atom from period three? Explain your answer.



8. Which of the following atoms could reside in the same group? Explain your answer.

