

Section 6.2 Classification of the Elements

In your textbook, read about organizing the elements by electron configuration.

Use the periodic table on pages 156–157 in your textbook to match each element in Column A with the element in Column B that has the most similar chemical properties.

Column A	Column B
_____ 1. arsenic (As)	a. boron (B)
_____ 2. bromine (Br)	b. cesium (Cs)
_____ 3. cadmium (Cd)	c. chromium (Cr)
_____ 4. gallium (Ga)	d. cobalt (Co)
_____ 5. germanium (Ge)	e. hafnium (Hf)
_____ 6. iridium (Ir)	f. iodine (I)
_____ 7. magnesium (Mg)	g. iron (Fe)
_____ 8. neon (Ne)	h. nitrogen (N)
_____ 9. nickel (Ni)	i. platinum (Pt)
_____ 10. osmium (Os)	j. scandium (Sc)
_____ 11. sodium (Na)	k. silicon (Si)
_____ 12. tellurium (Te)	l. strontium (Sr)
_____ 13. tungsten (W)	m. sulfur (S)
_____ 14. yttrium (Y)	n. zinc (Z)
_____ 15. zirconium (Zr)	o. xenon (Xe)

Answer the following questions.

16. Why do sodium and potassium, which belong to the same group in the periodic table, have similar chemical properties?

17. How is the energy level of an element's valence electrons related to its period on the periodic table? Give an example.

CHAPTER 6 STUDY GUIDE FOR CONTENT MASTERY

Section 6.2 *continued*

In your textbook, read about *s*-, *p*-, *d*-, and *f*-block elements.

Use the periodic table on pages 156–157 in your textbook and the periodic table below to answer the following questions.

s block																		s ²					
1 H																		2 He					
s ¹																		p block					
3 Li	4 Be																	5 B	6 C	7 N	8 O	9 F	10 Ne
s ²		d block										p ¹ p ² p ³ p ⁴ p ⁵ p ⁶											
11 Na	12 Mg	d ¹	d ²	d ³	d ⁴	d ⁵	d ⁶	d ⁷	d ⁸	d ⁹	d ¹⁰	13 Al	14 Si	15 P	16 S	17 Cl	18 Ar						
19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr						
37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe						
55 Cs	56 Ba	71 Lu	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn						
87 Fr	88 Ra	103 Lr	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Uun	111 Uuv	112 Uub												
		f block																					
		f ¹	f ²	f ³	f ⁴	f ⁵	f ⁶	f ⁷	f ⁸	f ⁹	f ¹⁰	f ¹¹	f ¹²	f ¹³	f ¹⁴								
		57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb								
		89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No								

18. Into how many blocks is the periodic table divided? _____
19. What groups of elements does the s-block contain? _____
20. Why does the s-block portion of the periodic table span two groups?

21. What groups of elements does the p-block contain? _____
22. Why are members of group 8A virtually unreactive?

23. How many d-block elements are there? _____
24. What groups of elements does the d-block contain? _____
25. Why does the f-block portion of the periodic table span 14 groups?

26. What is the electron configuration of the element in period 3, group 6A? _____