

## TEACHING TRANSPARENCY WORKSHEET

19

# The s-, p-, d-, and f-Block Elements

Use with Chapter 6,  
Section 6.2

1. What are the four sections, or blocks, of the periodic table? \_\_\_\_\_
2. What does each block represent?  
\_\_\_\_\_
3. What do elements in the s-block have in common?  
\_\_\_\_\_
4. What is the valence electron configuration of each element in group 1? \_\_\_\_\_
5. What is the valence electron configuration of each element in group 2? \_\_\_\_\_
6. Why does the s-block span two groups of elements?  
\_\_\_\_\_
7. Why does the p-block span six groups of elements?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
8. Why are there no p-block elements in period 1?  
\_\_\_\_\_  
\_\_\_\_\_
9. What is the ending of the electron configuration of each element in group 4? \_\_\_\_\_
10. What is the electron configuration of neon? \_\_\_\_\_
11. In what period does the first d-energy sublevel appear? \_\_\_\_\_
12. Why does the d-block span ten groups of elements?  
\_\_\_\_\_  
\_\_\_\_\_
13. What is the ending of the electron configuration of each element in group 3? \_\_\_\_\_
14. What is the electron configuration of titanium? \_\_\_\_\_
15. In what period does the first f-energy sublevel appear? \_\_\_\_\_
16. Determine the group, period, and block for the element having the electron configuration  $[\text{Xe}]4f^{14}5d^{10}6s^26p^3$ .  
a. group \_\_\_\_\_      b. period \_\_\_\_\_      c. block \_\_\_\_\_

**Section 6.2** *continued*

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

Use the periodic table on pages 178–179 in your textbook and the periodic table below to answer the following questions.

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

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 18 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 16? \_\_\_\_\_