Chemistry Unit 4: Electrons and the Periodic Table

Chapter 4: p. 98-116; chapter 5: p. 123-151

Wave and Particle Duality

For each of the following scientists, write a few sentences that describe what they discovered about electrons or subatomic particles. You may use your book or other sources

1. Bohr
2. DeBroglie
3. Planck
4. Einstein
5. Heisenberg
6. Schrodinger

Quantum Numbers

For each of the quantum numbers below, tell what each means. You may have to use an outside source for 9 and 10

7. n
8. l
9. m_s
10. m_l

p. 140 Periodic Trends

For each of the following, define the term ***and*** describe what the ***trend*** is on the periodic table. This means tell how the term changes as you travel across or down the table.

11. Atomic radii
12. Ionization energy
13. Electronegativity

14. Which atom has the greater electronegativity, carbon or fluorine?
15. Which atom has the greater atomic radius, sodium or chlorine?
16. Which atom has the greater ionization energy, cesium or iodine?

Electron Configuraton Worksheet

Fill in the blanks with the correct electron configuration

	1s	2s	2p	3s	3p
Li					
Be					
B					
C					
N					
O					
F					
Ne					
Na					
Mg					
Al					

Write out the electron configuration for the following

1. Silicon

2. Sulfur

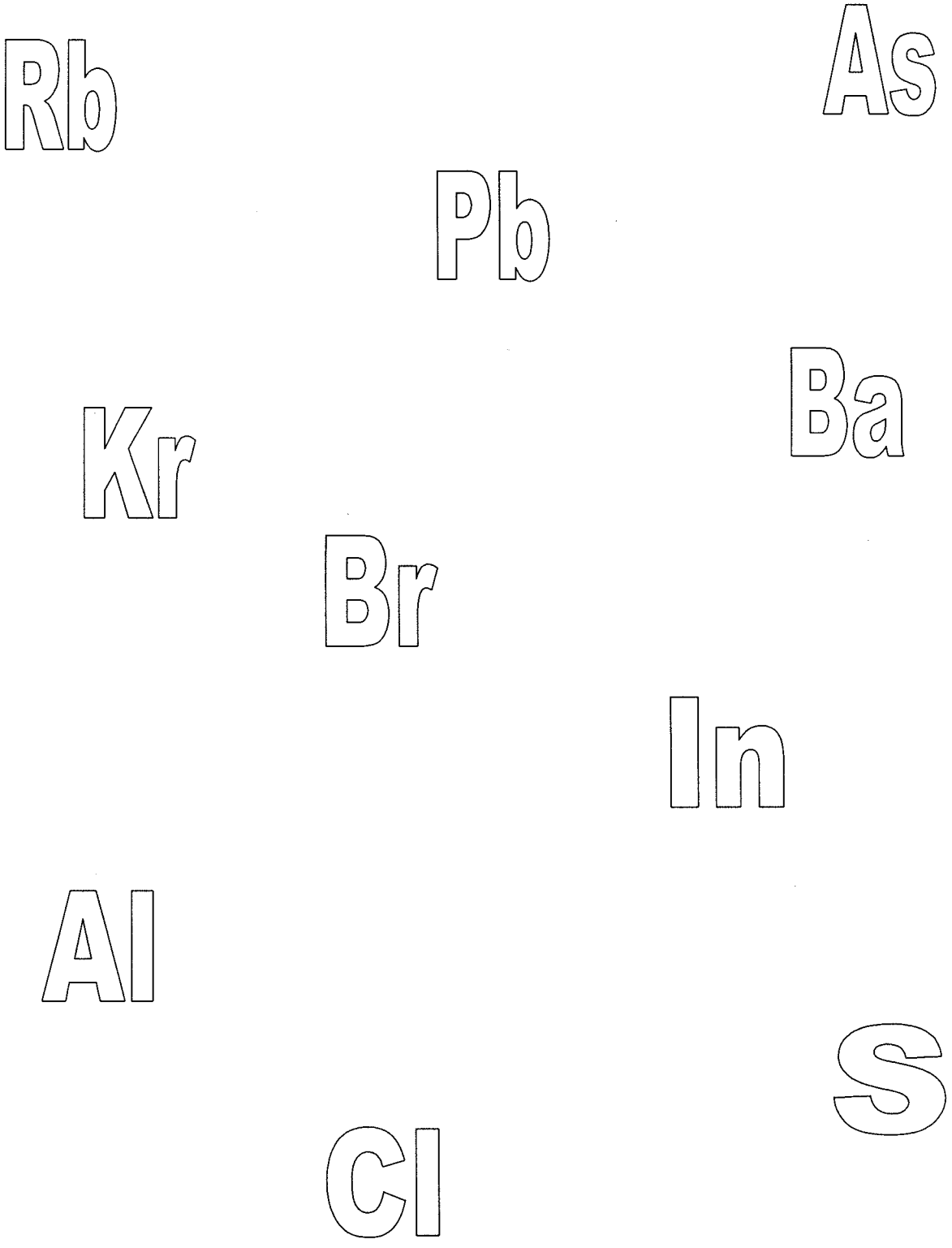
3. Argon

4. Potassium

5. Calcium

Valence Electrons and Lewis Structures

For each of the following elements, state how many valence electrons it has and draw the correct Lewis structure on its symbol



Fill in the missing information on the chart.

	symbol	protons	neutrons	valence electrons	oxidation number
potassium					
bromine					
oxygen					
calcium					
boron					
beryllium					
indium					
sulfur					
magnesium					
arsenic					
tellurium					
cesium					
iodine					

Periodic Table Coloring Sheet

1. Color the alkali metals red
2. Color the alkaline earth metals orange
3. Color the lanthanides and actinides gray
4. Color the transition metals yellow
5. Color all the metalloids purple
6. Color the halogens green
7. Color the noble gases blue
8. Draw a line separating the metals from the nonmetals
9. Label the energy level at the left of each row
10. ***At the top*** of the s and p columns, write how many valence electrons are there
11. ***Below*** the s and p columns, write the oxidation number of the group.