

**Making Calculations:
Relating the Main Ideas**

Name key

Class _____ Date _____

Atoms that have the same number of protons and electrons are electrically neutral. However, atoms may gain or lose electrons during chemical reactions. This creates an imbalance of negative and positive charges. Atoms may have a negative charge because they have gained extra electrons. Such atoms are called negative ions. Other atoms may have a positive charge because they have lost electrons. These atoms are called positive ions.

The following table contains information about several atoms. Using what you have learned in the preceding paragraph and in Section 3-2, complete the table. Enough information has been provided for you to fill in all the blanks.

Element	Atomic Number	Mass Number	Number of Protons	Number of Neutrons	Number of Electrons	Ion or Neutral Atom
Aluminum (Al)	13	27	13	14	13	neutral atom
Bromine (Br)	35	80	35	45	36	-1 ion
Carbon (C)	6	12	6	6	6	neutral
Carbon (C)	6	14	6	8	6	isotope neutral
Helium (He)	2	4	2	2	2	neutral atom
Hydrogen (H)	1	1	1	0	1	neutral atom
Hydrogen (H)	1	1	1	0	0	+1 ion
Lithium (Li)	3	7	3	4	2	+1 ion
Nitrogen (N)	7	14	7	7	7	neutral atom
Oxygen (O)	8	18	8	10	8	isotope neutral
Oxygen (O)	8	16	8	8	6	+2 ion
Potassium (K)	19	39	19	20	19	neutral atom