



Across

- 1 When elements react chemically, ___ are formed. (9)
- 6 Gaining or losing electrons makes an atom an ___. (3)
- 7 All atoms of an ___ contain the same number of protons. (7)
- 8 The ___ properties of isotopes of an element are the same. (8)
- 9 Energy is absorbed in ___ reactions. (11)
- 11 An ion has ___ chemical properties than the original atom. (9)
- 13 The ___ is used to organize information about elements. (8,5)
- 17 A column on the

periodic table is known as a ___ or family. (5)

- 18 Chemical ___ show reactants on the left and products on the right. (9)
- 19 Elements on the left side of the periodic table are ___. (6)
- 21 Elements on the periodic table are arranged according to the number of ___. (7)
- 22 The boxes in the periodic table are arranged in increasing order based on the ___ number. (6)
- 23 Elements have fewer ___ properties as one reads from left to right across the periodic table. (8)

Down

- 2 ___ are located to the right of the stair-step line on the periodic table. (9)
- 3 Elements in a group (column) have similar properties because they contain the same number of ___ in the outer energy level. (9)
- 4 There are more than 118 known ___. (8)
- 5 Electrons in the outer energy level are called ___ electrons. (7)
- 10 ___ occur along the stair-step line. (10)
- 12 Atoms of an element with differing numbers of neutrons are known as ___. (8)

- 14 The number of protons is indicated by the ___ . (6,6)
- 15 From a compound's chemical ___, one can identify the elements and the number of atoms of each element. (7)
- 16 Elements with an atomic number greater than 92 are not found ___ in measurable quantities on Earth. (9)
- 20 ___ is equivalent to the average number of protons and neutrons in the atom of an element. (6,4)