chapter 3, sections 3.1 → 3.7, p. 80

(2) As a consequence of the work alchemists did, several elements were discovered and methods for preparing compounds were recorded.

(4) Elements up through atomic #92 (uranium) occur naturally (more or less). This means that they are found in nature. The transuranium elements (#93 & above) can only be made in a lab. The most common elements on earth are listed on p. 48 (O, Si, Al, Fe, Ca, etc.).

(6) See chart, bottom of p. 48. I'm pretty sure that the most common elements in human beings is what the question meant to refer to. No, that distribution is not the same as that found in the earth in general.

(8) Fe, iron. Hg, mercury. Na, sodium. K, potassium. Sb, antimony. Sn, tin. Many other examples.

(9) (a) Ne (c) K (e) Ba

(11) (a) copper (c) calcium (e) chromium (g) chlorine

(13) Any amount of a compound always has the same proportion by mass of elements. Example: water is always 11% H and 89% O, no matter how much water you have. Dalton explained this by stating that a compound is made of molecules, each of which has the same ratio of atoms,

Ch. 3, sections 3.1 → 3.7, p. 81

(15) see #13

(16) (a) PCl_3 (c) $CaCl_2$ (e) Fe_2O_3

(18) (a) False. the nucleus is positive.
(b) False. Protons are far heavier than e^-'s.
(c) True

(20) protons

(22) electrons (or valence electrons), electron configuration

(24) F (26) No. They all have same # of p^+'s, but may have different #'s of neutrons.

(27) (a) 32 (c) 24 (g) 4 (28) (a) $^{17}_{8}O$ (b) $^{60}_{27}Co$ (e) $^{131}_{53}I$

(29) (a) $^{244}_{94}Pu$ $94p^+$, $94e^-$, $244-94 = 150n^0$
(c) $^{227}_{89}Ac$ $89p^+$, $89e^-$, $227-89 = 138n^0$
(e) $^{193}_{77}Ir$ $77p^+$, $77e^-$, $193-77 = 116n^0$

(32) Similar properties = same vertical column
They are called groups... or families.

(34) Leftside. More metals.

(36) N_2, O_2, F_2, Xe

(38) An element w/ properties halfway between those of metals & nonmetals. They are, more or less, the blocks that have a side (not a corner) touching the staircase. Al, however, is considered a metal.