

The following are examples of questions from General Chemistry I that are based on the Periodic table of elements. One might be forgiven (or not ?) for considering these problems elementary.

- i) Complete the following **abbreviated** Periodic table of elements using the **fictitious** elements described below:

- Li, V, Me, and Es are chemically unreactive elements and are listed in order of **decreasing atomic size**.
- Elements En, An, and In are alkaline earth metals and are listed in order of **increasing metallic character**.
- Elements E, O and A are halogens and are listed in order of **increasing electronegativity**.
- Element Do has a $1s^1$ electronic configuration.
- Elements R, Iv, and Th are alkali metals and are listed in order of **increasing ionization energy**.
- Elements G, Pa, Vl, and Ab are transition metals. The atomic numbers of Ab and Vl are one unit larger than those of G and Pa, respectively. The atomic weight of G is greater than that of Pa.

Hint: Chowtime

- ii) The combined symbols of a fourth period transition metal, the element whose electron configuration is $1s^2 2s^2 2p^1$, and a radioactive alkaline earth metal spell the name of a poisonous snake. Identify the three elements.

The combined symbols of a fourth period transition metal, an inert gas, and the most electronegative element spell the name of a strip of cloth typically worn around the neck or shoulders. Identify the three elements.

The combined symbols of the smallest member of the halogen family, an inert gas, and the first member of the lanthanide series spell a word indicative of comedy based on unlikely or exaggerated situations. Identify the three elements.

The combined symbols of the element whose outermost electron configuration is $6s^2 6p^4$, a fourth period alkali metal, and a lanthanide element named after a Swedish village spell the name of a popular card game. Identify the three elements.

The combined symbols of the second member of the actinide series, the major constituent of air, a fourth row transition metal, and the transuranium element named after the scientist associated with the theory of relativity spell the name of a type of underwear worn by women and children. Identify the four elements.

- iii) Spell the names of ten different elements using element symbols to do so.

Example: CARBON or CaRbON

