Kémia angolul

Szerkesztő: Tóth Edina

Kedves Diákok!

A Kémia angol nyelven verseny a 2018/2019-es tanévben is folytatódik, várjuk fordításaitokat. Munkáitokat a KÖKÉL 2010/4. számának 281-282. oldalán megjelent irányelvek alapján pontozzuk ebben a tanévben is.

Maximálisan **100 pontot** lehet kapni hibátlan fordításra. Ha valaki nem tudja befejezni a teljes szöveget határidőre, dolgozatát akkor is küldje be, hiszen a részszöveg fordításával elért pontok is beleszámítanak a pontversenybe.

A pontverseny első három helyezettje jutalomban részesül.

A pontversenyre benevezni és a fordításokat beküldeni **a http://kokel.mke.org.hu** weblapon keresztül lehetséges.

A formai követelményekre ügyeljetek: **minden egyes lap bal felső sarkában, a fejlécben szerepeljen a beküldő teljes neve, iskolája és osztálya**. Csak a **névvel ellátott dolgozatok** kerülnek értékelésre! Fordításaitokat szaktanárotoknak is érdemes elküldeni a többszöri átolvasást követően.

Beküldési határidő: 2018. november 14.

Jó fordítást, jó versenyzést kívánok!

Elöljáróban:

Ma már el sem tudjuk képzelni nélküle, de volt kémia az elemek periódusos rendszere előtt. A következő szöveg a jövőre 150 éves „periódusos táblázat" múltjába ad betekintést. De kronológia és anekdoták helyett a szervetlen kémia egy professzorának szavaival, aki a táblázat „aktív kitöltésének" korában élt.
Egyes szakkifejezéseket már modern alakok váltottak fel, mások pedig eltűntek a tudományos felfedezések viharában. Utóbbiakat írásmódjukban illik „magyarítani". Ha a régi alak a magyar szaknyelvben nem azonosítható vagy nem ismert, akkor a modern szakkifejezést használjuk. Jó munkát kívánok!

The Periodic System

How Many Elements Are There? — In ancient times all forms of matter were supposed to be derived from the four " elements," — earth, air, fire, and water. Since this theory was overthrown there has never been a time when man could agree on the probable number of elements. At no time has the answer to this question been more nearly within reach than at the present. A study of the atomic numbers of the elements has led to the conclusion that from helium to uranium inclusive there are 91 elements, making with hydrogen a total of 92 possible elements within the limits of our present knowledge. Nearly all of the recent periodic arrangements also indicate the existence of 92 elements within these limits. It is a startling fact that in

Mendeléeff's table, he placed the 63 elements known in 1871 and left enough blanks to make almost exactly a total of 92 elements. At first thought this appears to be a wonderfully accurate prediction, but upon close inspection it is found to be merely a strange coincidence. Only three of Mendeléeff's blanks have actually been filled. Some others may be filled by elements yet undiscovered, but most of his blank spaces never will be filled. He knew nothing of the Zero Group and the rare earth group was quite incomplete. So it is more probable that the number of elements for which his table provided was determined more by convenience than by any deep-seated conviction.

If the region between helium and uranium contains 91 elements then five are as yet undiscovered. These have been predicted and named: (1) eka-manganese with an atomic number 43 and an atomic weight approximately 100; (2) dwimanganese, atomic number 75 falling between tungsten and osmium; (3) eka-iodine, atomic number 85; (4) eka-neodymium, a rare earth element of atomic number 61; and (5) ekacaesium of atomic number 87. Of these, greatest interest has attached to the last named on account of the unsuccessful effort to locate the element. (See Caesium.) Some interest is also being shown in eka-manganese on account of the fact that its discovery was announced by Ogawa, a Japanese chemist, who claimed that the element which he called nipponium, named from Nippon, a name for Japan, confirmed all the prophecies of Mendeléeff regarding this element. He has been accused of " faking " the whole report, since separate investigations by Sir William Ramsey and R. B. Moore have failed to verify his results.

In addition to the 92 elements already provided for, there are three regions of doubt: (1) before hydrogen, (2) following uranium and (3) between hydrogen and helium. Studies in radioactivity have suggested the possibility of atoms heavier than uranium, but the existence of such elements has never been demonstrated, and if they have ever existed on the earth they are doubtless unstable under conditions now extant. Hence, these are usually referred to as " extinct " elements (Bayley).

Spectrum analysis has given evidence of the existence of several unrecognized elements, some heavier than hydrogen and some lighter. The existence of a gas asterium, unknown upon earth, is suspected in the hottest stars. Nicholson likewise suggests the existence of a series of simple elements, including arconium with an atomic weight 2.9 as calculated from the width of the spectral lines and by the differences between the calculated and observed wave lengths. Protofluorine with an atomic weight 2.1 is probably identical with coronium 3 first observed in the corona of the sun and later reported from the volcanic gases of Mt. Vesuvius. Nebulium with a calculated atomic weight of 1.31 was reported present in the spectrum of certain nebulae, and is probably identical with aurorium reported in 1874 by Huggins from a study of the spectrum of the aurora borealis. Protohydrogen has also been reported with an atomic weight of 0.082. Etherion was reported6

by Brush at the Boston meeting of the American Association for the Advancement of Science in 1898. It was described as a gas which may be expelled from powdered glass and other substances under high temperatures and pressures less than 1/1000000 of an atmosphere. Its atomic weight was calculated as about that of hydrogen, and it was described as possessing enormous heat-conducting power, but lacking in chemical affinity. From the manner of obtaining this gas and its general behavior Crookes suggests that the peculiar properties noted are due to the presence of water vapor, which would quite certainly be present under the conditions described and behave as the new " gas " did.

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Discoveries of a very large number of new elements have been claimed in recent times. Charles Baskerville, in the presidential address delivered before the chemists of the American Association for the Advancement of Science, St. Louis, 1903, gives a list of more than 180 such announcements since 1777. Of these only about 36 may be considered as actual discoveries of new elements, while over 130 have failed of confirmation or have been definitely rejected because the observations were made upon impure materials or upon elements already known. Of the remainder some may still be considered as having an undetermined status and others are what we now call isotopes.

Forrás:

B. Smith Hopkins: Chemistry Of The Rarer Elements, D.C. Heath and Company 1923