

Mendeleev's periodic table"

Mendeleev had as close collaborator Borodin, physician and one of the greatest musicians of the XIX century.



The periodic table was developed over a period of fifty years (1820 -1870) by a number of chemists , and ultimately was produced in a near final form by the brilliant Russian chemist, Dmitri Mendeleev. The basic notions of the periodic table are that the chemical properties of the elements are similar for all elements in the same family and that the properties are periodic or recurring if the elements are taken in order and placed into the periodic table. But what is the order? Basically Mendeleev used the order of atomic weights. Beginning with the lightest element, hydrogen, the periodic table was put together by adding the next element in order of atomic weight and continuing with the next heaviest atomic weight and so until all elements were placed in the table.

The ordering of elements according to atomic weights presented some problems. His hypotheses were completely justified by later discoveries of the new elements and the work of Henry Mosely on the atomic number concept . Periodic trends occur in the properties of the elements.

The ordering of the energy of orbitals is in agreement with the divisions of the periodic table remarkably well. It has been pointed out that the periodic chart was originally arranged on the basis that chemical and physical properties show periodicity provided that the elements are taken in the order of their atomic numbers. If the orbitals of the wave theory are filled in the order stated previously periodic changes in electronic arrangement coincide with the periodic changes in chemical properties...

We see that the modern theory of the atom agrees with the arrangements of elements into periods of the same sort that were developed when similarities in chemical properties were considered. It is a striking confirmation of the effectiveness of the theory that it agrees so well with experimental observations