

IA 1



PUBLIC UNDERSTANDING OF BIOTECHNOLOGY

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# PERIODIC TABLE of the ELEMENTS

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VIII A 18

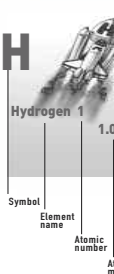


1

IIA 2



ALKALI METALS
ALKALI EARTH METALS
TRANSITION METALS
OTHER METALS
OTHER NONMETALS
HALOGENS
NOBLE GASSES
RARE EARTH METALS

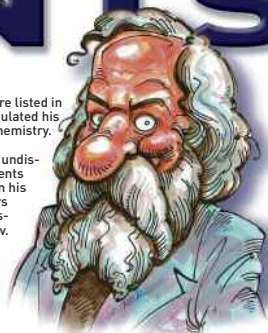


## DMITRI MENDELEYEV (1834 - 1907)

The Russian chemist, Dmitri Mendeleev, was the first to observe that if elements were listed in order of atomic mass, they showed regular (periodical) repeating properties. He formulated his discovery in a periodic table of elements, now regarded as the backbone of modern chemistry.

The crowning achievement of Mendeleev's periodic table lay in his prophecy of then, uncovered elements. In 1869, the year he published his periodic classification, the elements gallium, germanium and scandium were unknown. Mendeleev left spaces for them in his table and even predicted their atomic masses and other chemical properties. Six years later, gallium was discovered and his predictions were found to be accurate. Other discoveries followed and their chemical behaviour matched that predicted by Mendeleev.

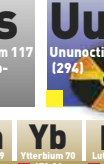
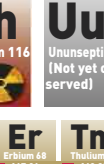
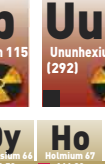
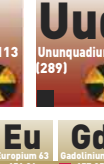
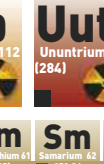
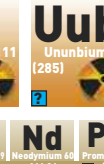
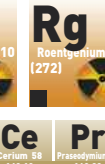
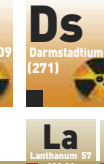
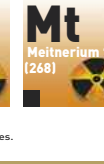
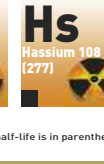
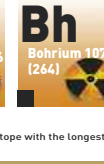
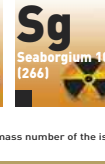
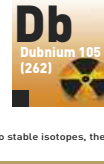
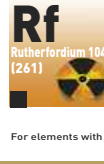
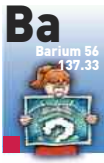
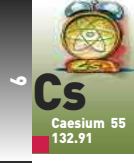
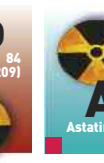
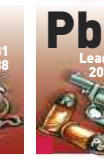
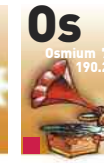
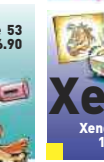
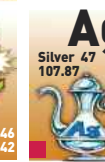
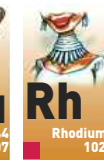
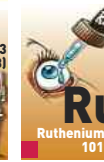
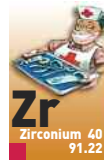
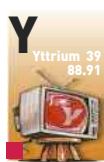
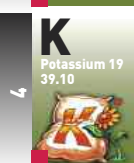
This remarkable man, the youngest in a family of 17 children, has left the scientific community with a classification system so powerful that it became the cornerstone in chemistry teaching and the prediction of new elements ever since. In 1955, element 101 was named after him: Md, Mendelevium.



At room temperature the element is:

- Gas
- Liquid
- Natural solid
- Man-made solid (synthetic)

III B 3



Lanthanide Series

Actinide Series

For elements with no stable isotopes, the mass number of the isotope with the longest half-life is in parentheses.

<b>La</b> Lanthanum 57 138.91	<b>Ce</b> Cerium 58 140.12	<b>Pr</b> Praseodymium 59 140.90	<b>Nd</b> Neodymium 60 144.24	<b>Pm</b> Promethium 61 (145)	<b>Sm</b> Samarium 62 150.36	<b>Eu</b> Europium 63 151.96	<b>Gd</b> Gadolinium 64 157.25	<b>Tb</b> Terbium 65 158.92	<b>Dy</b> Dysprosium 66 162.50	<b>Ho</b> Holmium 67 164.93	<b>Er</b> Erbium 68 167.26	<b>Tm</b> Thulium 69 168.93	<b>Yb</b> Ytterbium 70 173.04	<b>Lu</b> Lutetium 71 174.96
<b>Ac</b> Actinium 89 227.02	<b>Th</b> Thorium 90 232.03	<b>Pa</b> Protactinium 91 231.03	<b>U</b> Uranium 92 238.02	<b>Np</b> Neptunium 93 (237)	<b>Pu</b> Plutonium 94 (244)	<b>Am</b> Americium 95 (243)	<b>Cm</b> Curium 96 (247)	<b>Bk</b> Berkelium 97 (247)	<b>Cf</b> Californium 98 (251)	<b>Es</b> Einsteinium 99 (254)	<b>Fm</b> Fermium 100 (257)	<b>Md</b> Mendelevium 101 (258)	<b>No</b> Nobelium 102 (259)	<b>Lr</b> Lawrencium 103 (260)