



REVIEW OF THE PERIODIC TABLE AND RUSSIA



Казанский федеральный
УНИВЕРСИТЕТ

REVIEW OF THE PERIODIC TABLE AND RUSSIA

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Russian scientists have always been leaders in many scientific fields and have many inventions and discoveries in their brilliant scientific record

The periodic table of elements, which was introduced to the world community by the famous Russian chemist, Dmitri Mendeleev was a clear example of one of the most outstanding discoveries

Периодическая таблица Д. И. Менделеева

Период	Ряд	ГРУППЫ ЭЛЕМЕНТОВ									
		I	II	III	IV	V	VI	VII	VIII		
1	1	(H)						H 1,00787 Водород	He 4,0026 Гелий	Обобщенный алюминий	Алюминий алюмин
2	2	Li 6,941 Литий	Be 9,0122 Бериллий	B 10,811 Бор	C 12,01115 Углерод	N 14,0067 Азот	O 15,9994 Кислород	F 18,9984 Фтор	Ne 20,179 Неон	Li 6,941 Литий	
3	3	Na 22,98976928 Натрий	Mg 24,3047 Магний	Al 26,9815385 Алюминий	Si 28,0855 Кремний	P 30,973762 Фосфор	S 32,065 Сера	Cl 35,453 Хлор	Ar 39,948 Аргон		
4	4	K 39,0983 Калий	Ca 40,078 Кальций	Sc 44,9559122 Скандий	Ti 47,88 Титан	V 50,9415 Ванадий	Cr 51,9961 Хром	Mn 54,938044 Марганец	Fe 55,845 Железо	Co 58,933194 Кобальт	Ni 58,71 Никель
4	5	Cu 63,546 Медь	Zn 65,38 Цинк	Ga 69,723 Галлий	Ge 72,6308 Германий	As 74,9216 Мышьяк	Se 78,96 Селен	Br 79,904 Бром	Kr 83,80 Криpton		
5	6	Rb 85,4678 Рубидий	Sr 87,62 Стронций	Y 88,905848 Иттрий	Zr 91,224 Цирконий	Nb 92,90638 Ниобий	Mo 95,94 Молибден	Tc [98] Технеций	Ru 101,07 Рутений	Rh 102,90550 Родий	Pd 106,42 Палладий
5	7	Ag 107,8682 Серебро	Cd 112,411 Кадмий	In 114,818 Индий	Sn 118,710 Олово	Sb 121,757 Сурьма	Te 127,60 Теллур	I 126,90447 Йод	Xe 131,29 Ксенон		
6	8	Cs 132,90545196 Цезий	Ba 137,327 Барий	La* 138,90547 Лантан	Hf 178,49 Гафний	Ta 180,94788 Тантал	W 183,84 Вольфрам	Re 186,207 Рений	Os 190,23 Осмий	Ir 192,222 Иридий	Pt 195,084 Платина
6	9	Au 196,966569 Золото	Hg 200,59 Ртуть	Tl 204,37 Таллий	Pb 207,2 Свинец	Bi 208,98040 Висмут	Po [209] Полоний	At [210] Астат	Rn [222] Радон		
7	10	Fr 87 Франций	Ra [226] Радий	Ac** [227] Актиний	Rf [261] Рифордий	Db [262] Дубний	Sg [263] Сегбий	Bh [264] Бергвий	Hs [265] Хасвий	Mt [266] Миттерний	Ds [267] Домогуновий
7	11	Rg [272] Рентгеновий	Cn [285] Коперниций	Nh [286] Нихоний	Fl [289] Флеровий	Mc [290] Мoscовий	Lv [293] Ливенберговий	Ts [294] Теннессин	Og [294] Оганессон		

58	Ce 140,12 Церий	59	Pr 140,90765 Прометий	60	Nd 144,242 Неодим	61	Pm [147] Прометий	62	Sm 150,36 Самарий	63	Eu 151,964 Европий	64	Gd 157,25 Гадолиний	65	Tb 158,925 Тербий	66	Dy 162,50 Диспрозий	67	Ho 164,93032 Гольмий	68	Er 167,259 Эрбий	69	Tm 168,934 Тульзий	70	Yb 173,045 Иттербий	71	Lu 174,967 Лютеций
90	Th 232,0377 Торий	91	Pa 231,036888 Протактиний	92	U 238,02891 Уран	93	Np [237] Нептуний	94	Pu [244] Плутоний	95	Am [243] Америций	96	Cm [247] Кюрий	97	Bk [247] Берклий	98	Cf [251] Калифорний	99	Es [252] Эйнштейний	100	Fm [257] Фермий	101	Md [258] Мейтнерий	102	No [259] Нобелий	103	Lr [260] Лоренций

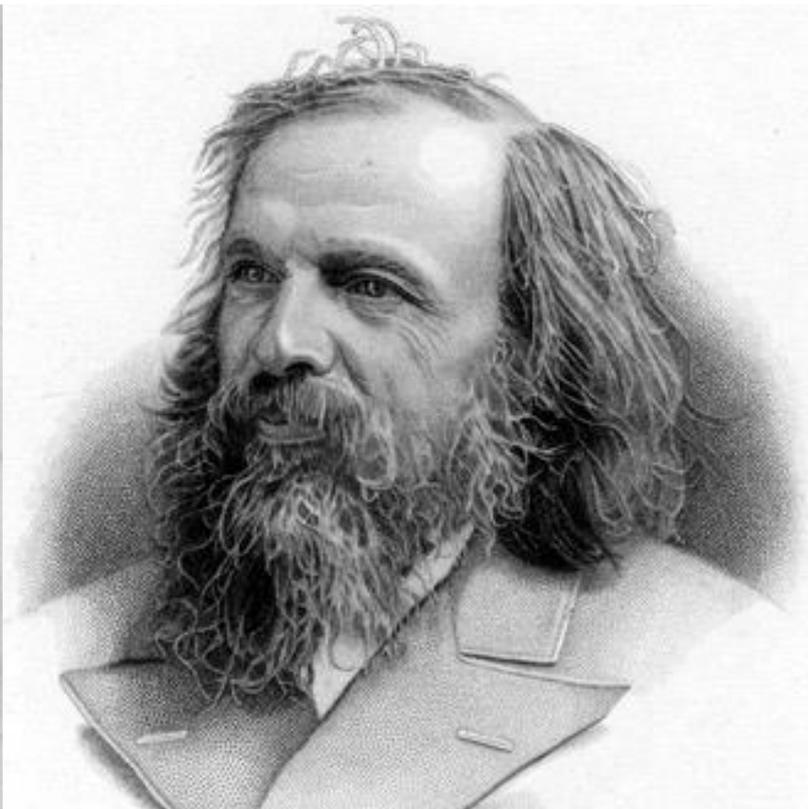
Review of The Periodic Table and Russia

Scientific discovery & Russia

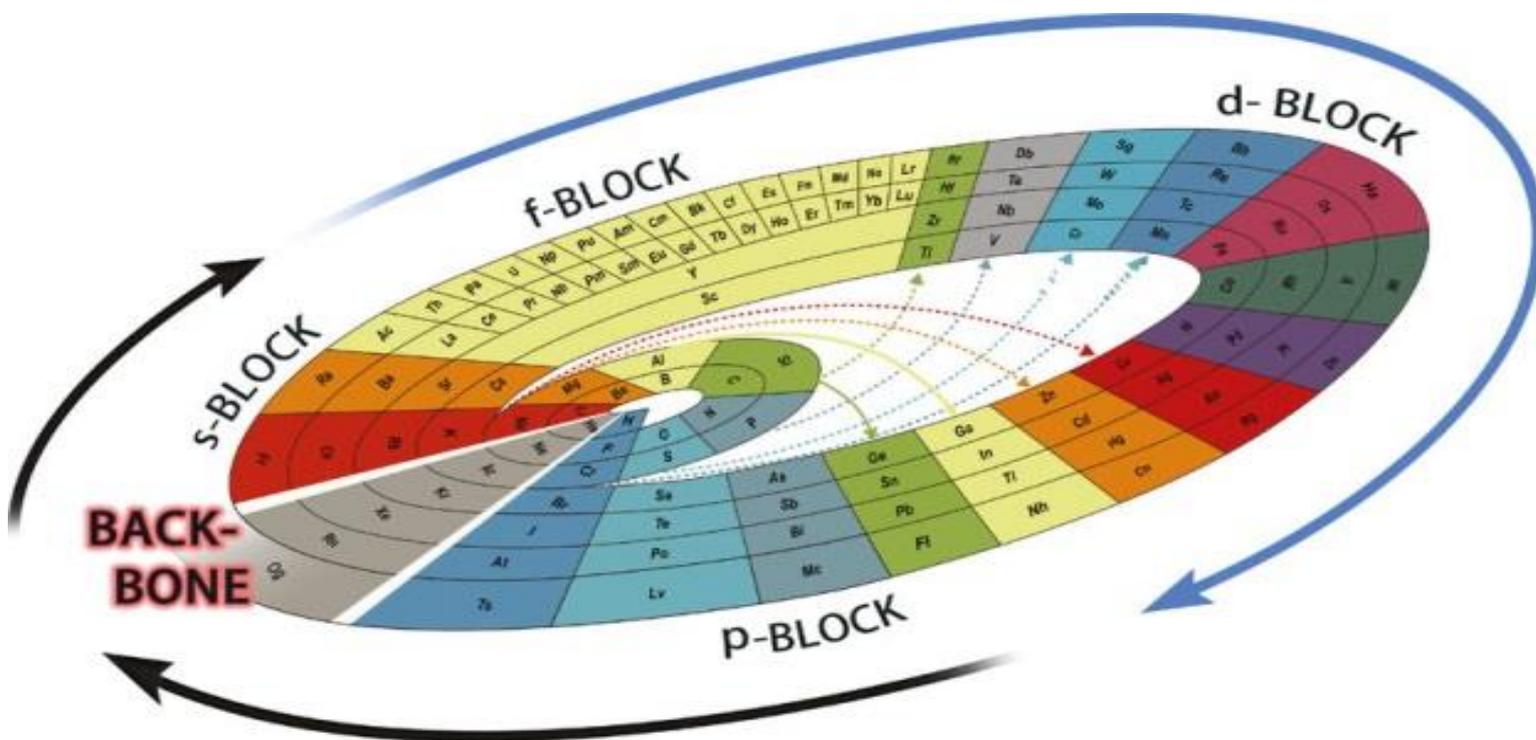
Russian scientist Dmitri Mendeleev established the periodic law of elements. According to this law, when chemical elements are classified based on increasing atomic mass, the elements are divided into groups, each of which has similar properties.

ОПЫТЪ СИСТЕМЫ ЭЛЕМЕНТОВЪ,
ОСНОВАННОЙ НА ИХЪ АТОМНОМЪ ВѢСѢ И ХИМИЧЕСКОМЪ СХОДСТВѢ.

		Ti—50	Zr—90	?—180.	
		V—51	Nb—94	Ta—182.	
		Cr—52	Mo—96	W—186.	
		Mn—55	Rh—104,4	Pt—197,3	
		Fe—56	Ru—104,4	Ir—198.	
	Ni—Co—59	Pl—106,6	Os—199.		
	Cu—63,4	Ag—108	Hg—200.		
H=1	Be—9,4	Mg—24	Zn—65,2	Cd—112	
	B—11	Al—27,4	?—68	Ur—116	Au—197?
	C—12	Si—28	?—70	Sn—118	
	N—14	P—31	As—75	Sb—122	Bi—210?
	O—16	S—32	Se—79,4	Te—128?	
	F—19	Cl—35,5	Br—80,	I—127	
Li—7	Na—23	K—39	Rb—85,4	Cs—133	Tl—204.
		Ca—40	Sr—87,6	Ba—137	Pb—207.
		?—45	Ce—92		



Graphical displays of the chemical properties of the elements, in the form of Periodic Tables, have been designed with the aim of either classifying real chemical substances or emphasizing formal and aesthetic concepts



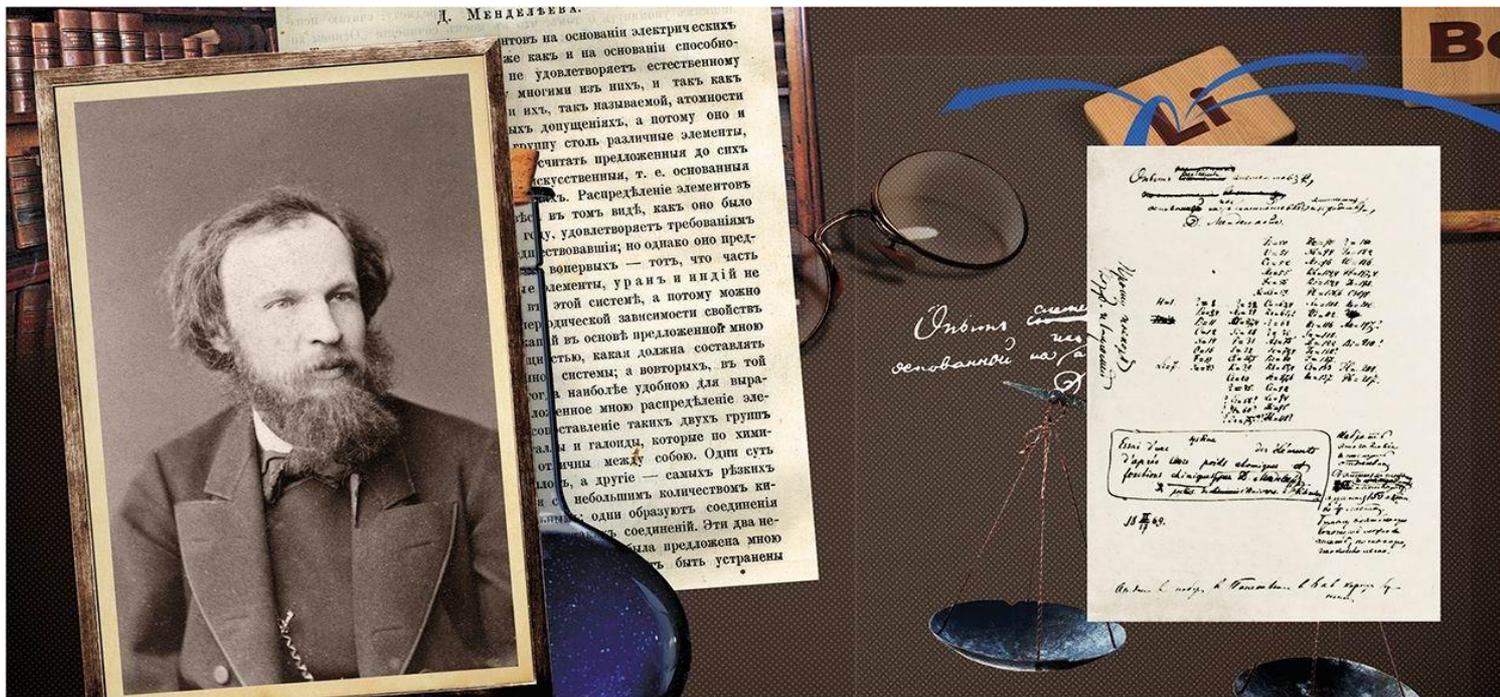
Periodic Tables have become an integral part of basic natural sciences, of all chemical classrooms, and even of popular culture and arts across the globe.



Review of The Periodic Table and Russia

Method of effect on the development

Mendeleev dedicated his textbook to his mother with what he claimed were her last words to him. One of the effects of Mendeleev's table in Russia and Mendeleev's effects was an interest in chemistry.



The combination of experimental data and theoretical insight supports a more nuanced understanding of the complex periodic trends and the non-periodic phenomena.



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Review of The Periodic Table and Russia

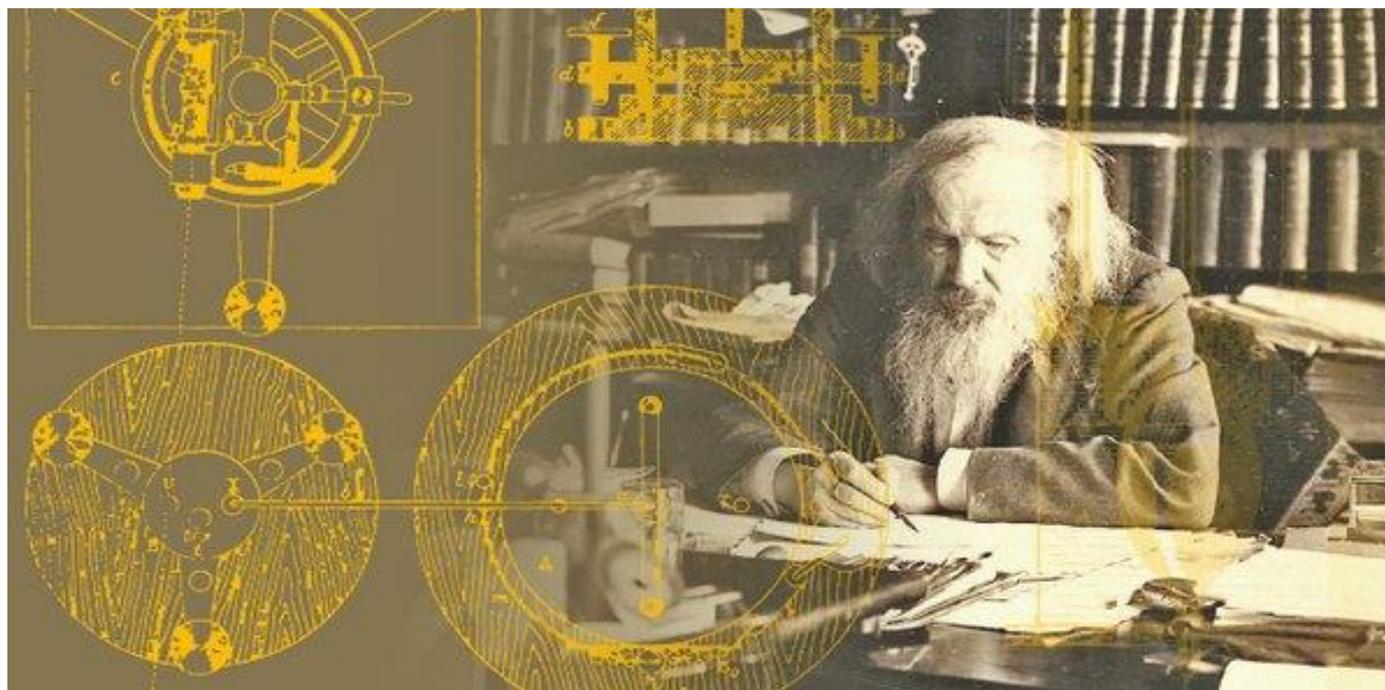
Prospects the development of science and cooperation



A new stage in the scientific and technological breakthrough not only strengthens the role of knowledge, but also conditions to the transition to the most flexible development model, in which searching for innovative solutions becomes the key goals.

Advances in research in many different contexts were triggered by the discovery of the Natural System, yielding good ground for recognizing the importance of chemistry.

**Mendeleev's advice to the scientific departments of Russia:
refrain from illusions
insist on work and not on words
patiently seek divine and scientific truth**



Scientists continue to adjust the periodic table as new elements are found. Mendeleev's mission, to clarify chemistry, lives on.

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370
13



REVIEW OF THE PERIODIC TABLE AND RUSSIA

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