

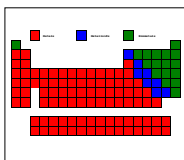
Section 5.1 Notes

Organizing the Elements

How did Mendeleev arrange the elements in the periodic table? How did Moseley arrange the elements in the periodic table?

DEFINITION OF PERIODIC

- Periodic - Items are arranged in a repeating pattern.
- Periodic Law - The law that states that the repeating chemical and physical properties of elements change periodically with the atomic numbers of the elements.

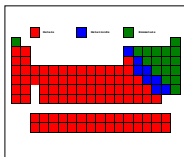


How did Mendeleev arrange the elements in the periodic table? How did Moseley arrange the elements in the periodic table?

HISTORY OF THE PERIODIC TABLE

A. Dmitri Mendeleev

1. Often considered the "father" of the Periodic Table.
2. He arranged the elements according to their mass numbers.
Ex. Li Be B C N O F Ne Na Mg Al Si
3. He noticed that some of the elements did not fit the pattern on his table so he reversed their position (i.e. Tellurium and Iodine).
4. Left holes in the list because he could predict where future elements would belong.
5. Predicted the properties of 7 unknown "missing" elements: Sc, Ga, & Ge were found in his lifetime – and his predictions were correct



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MENDELEEV'S PERIODIC TABLE

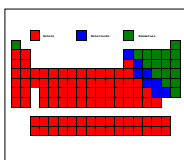
			Ti = 50	Zr = 90	? = 180
			V = 51	Nb = 94	Ta = 182
			Cr = 52	Mo = 96	W = 186
			Mn = 55	Rh = 104,4	Pt = 197,4
			Fe = 56	Ru = 104,4	Ir = 198
		Ni = 59	Co = 59	Pd = 106,6	Os = 199
H = 1		Cu = 63,4	Zn = 65,2	Ag = 108	Hg = 200
Be = 9,4	Mg = 24	? = 68	Cd = 112		
B = 11	Al = 27,4	? = 70	Ur = 116	Au = 197?	
C = 12	Si = 28		Sr = 118		
N = 14	P = 31	As = 75	Sb = 122	Bi = 210?	
O = 16	S = 32	Sc = 79,4	Te = 128?		
F = 19	Cl = 35,5	Br = 80	J = 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		
		?Er = 56	La = 94		
		?Yt = 60	Dj = 95		
		?In = 75,6	Th = 118?		

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HISTORY OF THE PERIODIC TABLE

B. Henry Moseley:

1. Arranged the elements according to their atomic numbers.
2. Properties of elements were now aligned regardless of their atomic masses

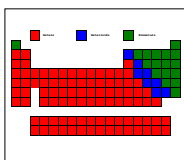


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PARTS OF THE PERIODIC TABLE

A. Periods:

1. There are 7 periods on the periodic table
2. The Horizontal Rows in the periodic table.
3. Elements become less metallic across each period



B. Groups:

1. There are 18 groups on the periodic table.
2. The Vertical Columns in the periodic table. The elements in these groups share similar chemical properties
