



Periodic Table Project

This activity is an introduction to the periodic chart and the trends in periodic properties of elements that the chart shows. By having you make your own chart I hope to help you see some of the underlying structure that the chart contains and to allow you to better appreciate all of the information that the chart can give you.

On the following page you have data similar to that available to Dmitri Mendeleev when he developed the periodic table that we now use. All of the numbers have been altered so that they are no longer easily recognizable. The names have been changed to protect the innocent.

Your task, should you choose to accept it, is to create order from the chaos below. Specifically, you need to create an organizational system that has a logical order behind it. This can be anything BUT:

- based on the names and/or symbols
- a single row or column of data

It does NOT need to conform to the structure that Mendeleev used, although it can.

You should also determine if any element(s) is/are missing. If you find anything missing you should fill in the gap. In other words, name the element that is missing, and estimate the values for all of the properties.

The data you are being given are as follows:

Symbol and name-- no explanation needed (I hope)

GMM—Gram molecular mass (mass of one mole of the element)

EN—Electronegativity--the strength with which an element pulls on another element's electrons in a bond

At. R.—Atomic radius

Ion R.—Ionic radius--the radius of the most common ion formed from the element

Den.—Density

IP.—Ionization potential--how difficult it is to pull off an electron

More details for each of these will be given in class. However, whether or not you completely grasp the significance of these numbers, you should be able to use the numbers themselves to arrange the elements.

A HINT: Start with the same basic organizer that Mendeleev did (mass), and then look to see what happens.

ANOTHER HINT: Make a photocopy of the following page and cut out the squares. This will allow you to shuffle and rearrange the elements.

Name	
GMM	EN
At R	Ion R
Den	IP

A Artisan	
61.01	5.33
1.28	0.040
2.77	6.42

Br Brooksine	
88.99	12.86
0.61	0.112
5.04	10.9

Ch Chemistrium	
80.47	10.50
0.69	0.114
3.29	8.70

Dd Donald-duckium	
35.16	12.37
0.47	0.11
1.99	12.21

E Egotism	
40.16	14.00
0.41	0.087
2.27	11.44

Fi Filth	
30.15	10.38
0.57	0.0009
4.17	9.46

G Goofium	
119.19	10.38
0.77	0.123
7.63	8.19

Hp Houseplant	
108.20	8.18
0.96	0.033
8.46	6.64

Id Idiotium	
100.60	4.07
1.40	0.061
2.46	5.13

J Jax	
70.49	7.73
0.92	0.025
3.70	6.85

Kn Knowwhatimeanium	
22.62	6.39
0.88	0.019
2.94	7.83

Lt Lazertag	
27.13	8.30
0.747	0.012
3.72	6.97

Mc McAfoosium	
124.56	12.05
0.71	0.121
4.96	9.92

Nx Nixontapes	
57.70	3.79
1.40	0.059
1.54	4.32

Oj Orangejuice	
47.69	16.20
0.36	0.084
2.697	14.63

Ph Pharmaceutical	
67.72	6.55
1.15	0.031
4.29	5.03

Q Quisp	
77.74	8.91
0.77	0.131
2.89	8.81

Rx Rid-X	
111.43	8.87
0.84	0.138
9.09	8.24

St Stuff	
17.42	3.99
1.29	0.037
0.84	4.53

T Ticklish	
98.137	3.34
1.75	0.082
1.37	3.65