**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_\_\_\_\_**

**Element Data for Graphing Activity (Science 9 Pathways)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Element Symbol | Element Name | Atomic Number | Atomic Mass (amu) | Atomic Radius (Å) | Melting Point (ºC) | Boiling Point (ºC) | Density (g/cm3) |
| H | Hydrogen | 1 | 1.01 | 0.53 | -259 | -253 | 0.0000899 |
| He | Helium | 2 | 4.00 | 0.31 | -272 | -269 | 0.000179 |
| Li | Lithium | 3 | 6.94 | 1.67 | 181 | 1342 | 0.534 |
| Be | Beryllium | 4 | 9.01 | 1.12 | 1287 | 2471 | 1.85 |
| B | Boron | 5 | 10.81 | 0.87 | 2075 | 4000 | 2.37 |
| C | Carbon | 6 | 12.01 | 0.67 | 3550 | 3825 | 2.27 |
| N | Nitrogen | 7 | 14.01 | 0.56 | -210 | -196 | 0.00125 |
| O | Oxygen | 8 | 16.00 | 0.48 | -219 | -183 | 0.00143 |
| F | Fluorine | 9 | 19.00 | 0.42 | -220 | -188 | 0.00170 |
| Ne | Neon | 10 | 20.18 | 0.38 | -249 | -246 | 0.899 |
| Na | Sodium | 11 | 22.99 | 1.90 | 98 | 883 | 0.971 |
| Mg | Magnesium | 12 | 24.31 | 1.45 | 649 | 1090 | 1.74 |
| Al | Aluminum | 13 | 26.98 | 1.18 | 660 | 2519 | 2.70 |
| Si | Silicon | 14 | 28.09 | 1.11 | 1414 | 3265 | 2.33 |
| P | Phosphorus | 15 | 30.97 | 0.98 | 44 | 281 | 1.82 |
| S | Sulfur | 16 | 32.07 | 0.88 | 115 | 445 | 2.07 |
| Cl | Chlorine | 17 | 35.45 | 0.79 | -102 | -34 | 0.00321 |
| Ar | Argon | 18 | 39.95100. | 0.71 | -189 | -186 | 0.00178 |

Using the graphing guidelines we learned in class:

1. 1. Graph atomic mass vs atomic number. Draw a best-fit line through the graph.
   2. Calculate the slope of the graph, and determine the y-intercept. Write the graph’s equation (with units!). What does this graph tell you?
2. Graph atomic radius vs atomic number. Describe the trend(s) that you see.
3. Create a graph of your choice using any 2 of the variables provided. Describe the trend(s) that you see.