**Alkali Metals**

Make a plot of ***Specific heat versus Atomic number***. Fit it to a Power-Law.

|  |  |  |  |
| --- | --- | --- | --- |
| Alkali metal | Atomic number | Atomic weight | Specific heat (J/g/°K) |
| Lithium | 3 | 6.941 | 3.582 |
| Sodium | 11 | 22.99 | 1.228 |
| Potassium | 19 | 38.098 | 0.757 |
| Rubidium | 37 | 86.468 | 0.363 |
| Cesium | 55 | 132.905 | 0.242 |
| Francium | 87 | 223 | — |

Yes, it is something of a trick question.

1. The columns are not next to each other. One possibility is to copy-paste-delete-whatever to get the two desired columns next to each other. Another possibility is to highlight the first column, then hold down Ctrl and highlight the second column. Then let go of Ctrl and continue making the graph.
2. We don’t have a value for the specific heat of Francium. Excel will interpret the value as 0. Behind the scenes in a Power-Law fit, a logarithm is used, and you cannot take the logarithm of zero. Thus you have to exclude that data point from your plot.

What is the power (of your Power-Law trendline)?

What is the coefficient?

If you were to use the formula to predict a specific heat of Francium, what is the predicted specific heat?