Formal Laboratory Report

Aluminum Foil and Rodents of Unusual Size

In this lab, you were asked to determine the thickness of a sheet of aluminum foil in terms of the number of atoms stacked one on top of the other. Doing so required you to consider the extreme small size of atoms, the extreme large number of them that make up even the smallest visible objects. These are numbers that are difficult to consider – 6.02×10^{23}, one mole of anything, is of a size vastly larger than anything humans encounter on a day-day-basis.

Each student must submit his or her own formal lab report. This entire document should be about one but no more than two pages in length. For this lab report, you will be required to do the following:

1. Briefly discuss the background for this investigation, including a treatment of the difficulties involved in determining the thickness of such a thin sheet of metal.
2. Report your results on the thickness of a sheet of aluminum foil.
3. Describe the procedure you used to get to your result. Be sure to be *very* specific about why the various steps you took are valid.
4. Describe your impressions of the scale of this number, and of the scale of individual atoms. Explain your level of comfort with a) imagining and b) working with numbers of such large and small scales.
5. If you believe that there is some way that this lab could be improved to provide a better experience, write a few sentences discussing your thoughts.
6. Separately, write a few sentences that discuss the topic outlined in the "Ongoing Learning" section of the lab handout.

You will be evaluated based on the indicators provided on the lab handout – The Mole Concept, Arithmetic, Atomic Structure, Teamwork, Literacy (writing), Laboratory Technique, and Safety. Your writing will be evaluated using the Cherry Hill 9-12 Writing Rubric.