The Quality of an Engineer

The quality of an engineer can be assessed by an examination of the lab notebook. If it looks like something that would be handed in by an “A” student, LOOK OUT!

The purpose of the circuit should be stated clearly followed by a written explanation. The circuit diagrams should be sketched with care so others can read the circuit and others can recreate the circuit for testing and experiments. A detailed list of components used along with the measured values must be included with the circuit diagrams. This list includes ratings, specifications and pin-out of each part. Detailed notes of any changes of any values of any components are stated.

Tables, charts or graphs of initial circuit performance are produced. New tables, charts, and graphs are produced to show each subsequence performance change when a component is changed. The engineer will not take shortcuts in procedures or skip tests. The best engineers keeps notes on ***everything***. He does not wait until later to record the notes, detailed notes are made ***during*** the design, assembly, and experimental process.

Sometimes things might not go as planned, sometimes notes might be ~~lined out~~ and/or corrected. ***Nothing is erased.*** Keeping notes on errors and the unplanned performance are included to be mindful of what happened as to not repeat that process or procedure.

The engineer is not going to later write up the observations, he/she writes the observations and sometimes summaries during the experiment. Writing observations later is the worst thing that could be done. The engineer will usually write conclusions immediately after the procedures. If analysis’s, summaries, and reports are prepared later, it should be obvious to the reader this was done and that it is different from the lab work.

As you work on this project, do so as an engineer.