The Decalogue for Effective and Efficient Circuit Building and Testing.

1. Have a clear representation of the circuit you are building.

2. Make an arrangement/agreement with your partner about sharing circuit building and testing responsibilities. Ideally you should rotate responsibilities from lab to lab.

3. One person builds the circuit the other supplies the materials needed for the circuit. It is always disastrous for two people to wire the same circuit.

4. Establish the power supply lines on your protoboard. You should do this and then leave them connected for use at each lab.

5. Test your power traces for voltage levels.

6. Follow the circuit diagram and build the circuit is sections and test each section as you complete it.

7. Keep the wires short and make an effort to color code your connections. For example use black for all ground connections and red for the +5V, orange for the +15V and blue for the -15V etc.

8. Mark the circuit diagram with your progress.

9. Keep components unobstructed so that you can replace them if they are destroyed. We saw last lab that for a couple of groups the heater element was broken (got too hot while testing and burned the contents). Replacing the element was a problem since the interconnection wires prevented access. In this case it is better to start from scratch.

10. Many things can go wrong but the most frequent problem arises from connection errors or missing connections.