

Laboratory Procedure and Precautions

Reason for Laboratory Investigations

Laboratory investigations are an important part of your electronics technology education. A well-performed experiment will demonstrate a circuit or a theory that you are studying. Performing an experiment and reporting on it should help improve your knowledge of the subject.

Safety in the Laboratory

Safety must be observed when working around electricity of any magnitude. Negligence around electricity can cause injury to you, others, or to the equipment. Remember that ***ELECTRICITY CAN BE LETHAL*** and the equipment that is used in the laboratory is quite expensive.

Be sure the power supply is **OFF** when making changes to your circuit and be sure to double check your circuit's wiring before turning the power **ON**.

Physiological Reactions To Current Levels In Humans

<u>Reaction</u>	<u>Current</u>
Barely perceptible	3-5 mA
Extreme Pain	35-50 mA
Muscle Paralysis	50-70 mA
Heart Stoppage	500 mA

Follow the procedure exactly as listed for each experiment unless otherwise instructed by your instructor. The procedure is designed to demonstrate the theory under investigation as efficiently as possible. Failure to follow the procedure exactly may result in incorrect data.

Record the experimental data on the record sheet provided or in an approved laboratory notebook as required by your instructor.

At the beginning of each investigation, write down the title of each experiment, the date, and the names of your partner(s) that worked with you. The experimental data should be recorded as neatly as possible. Where procedure is repeated because of error, cross out, but do not erase the faulty data.

After the experiment is completed, **SWITCH OFF ALL EQUIPMENT** and disconnect all supply cords. Return all instruments, cables, components, etc. to their proper storage locations. Instruments should have their supply cords coiled up, and dust covers (if available) should be placed over them. Leave your work area clean and tidy.

DO NOT waste any time in the laboratory; use your time efficiently. **DO NOT** wait until the last minute to ask any questions you have pertaining to the lab; there is no such thing as a "stupid question" when it comes to learning the material. Another class will normally take over at the end of your laboratory period. If you do not complete the investigations in the time allocated, you may need to use time outside of the lab to finish.