

## General Safety Rules

1. Follow all written instructions
2. Read manuals, Material safety data sheets, or other documents that discuss specific safety precautions
3. Do not disable safety lockouts, ground prongs, or other devices designed to prevent injury.
4. Avoid damp and wet areas when working with electricity
5. Avoid wearing jewelry or baggy clothing
6. Assume circuits are on and check with voltmeter before handling wires
7. Broken or damaged tools should be labelled and not used.
8. Have a classmate control the power so that passkeys do not turn the power back on
9. Use only the appropriate class of fire extinguisher to put out electrical fires:  
c. is preferred, B or D are acceptable and will work. A is UNACCEPTABLE!

Never use A!!!

## Electrical Injuries - Electrocution

Current	1,000 $\Omega$	100,000 $\Omega$	Comments
1mA	1V	100V	Tingling sensation
15mA	5V	500V	Maximum current to sustain without injury
15-20mA	10V	1000V	Sustained muscular contraction
100-300mA	100V	10,000V	Ventricular fibrillation, fatal if continued
6A	6000V	600,000V	Permanent damage, likely fatal

## Burns

Electrical Resistance produces heat, and with more current, the more severe the burn.

Shorted components will burn you on contact

Soldering irons will burn your skin instantly on contact

## Chemicals

Smoke from burning or melting components

Battery chemicals

Older, lead-based solder

PCB etching materials.

## Wounds

Small wires can easily puncture the skin

Pulling out Integrated Circuits (ICs) can cut or puncture the skin if done incorrectly

When cutting wire, small pieces of wire can fly off and hit someone's eye

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Signature: *Shivam Jain*

Date: *8/27/24*

Team Members:

Witness:

Date:

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