



HS PLTW Engineering

10-12/General Electronics

Safety

4/6/2020



10-12 Digital Electronics

Lesson: **4/6/2020**

Objective/Learning Target:

Students will understand general safety in the electronics classroom.

Practice:

- By the end of this lesson you will have reviewed the general safety rules for the classroom and laboratory.
- Reviewed safety rules specific to possible electrical injuries.

Basic Safety Rules

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- Read and follow all written Instructions.
- Locate the material data sheets and manuals for the equipment you are working with – READ THEM CAREFULLY.
- Make sure all safety equipment is working properly.

Basic Safety Rules (continued)

- Make sure the area is clear of ANY water.
- Remove any jewelry and push up baggy sleeves.
- Make sure all safety equipment is working properly.
- If you find a broken tool or something that is damaged – notify your instructor

Basic Safety Rules (continued)

- Make sure to check circuits with a voltmeter to see if they are energized

Fire Extinguisher Types

- For electrical fires Class C is the best option
- Class B or D will also work but not as well
- Class A is water based and are NEVER to be used on an electrical fire

Current, Voltage, Electrocution

- Most of the projects in digital electronics operate at or around 5 volts and between 15 to 20 milliamps (mA).
- Any current higher than 25mA can injure you
- 6 Amps and higher can have fatal consequences

Quiz yourself (answers on last slide)

1. What should you do if a tool does not seem to be working correctly?
2. What should you do if you are wearing jewelry or baggy sleeves?
3. What amperage can begin to cause a person harm?
4. If you see a broken or frayed electrical cord what should you do?

Quiz yourself (answers)

- 1: Discontinue use, notify instructor
2. Remove the jewelry during class, push up your sleeves.
3. 15 mA
4. Discontinue use, notify instructor

Helpful links

[Basics steps for electronic safety](#)

[Safely working with electronic circuits](#)