

**CONCEPT** Soldering is one of the most useful skills needed in our technically advancing world of electronics. If you can master this skill as well as learn other key aspects of the electronics trade, you can empower your future!

## REAL WORLD CONNECTIONS

When a project or repair requires soldering, you need to gather all the required elements to perform this task safely and efficiently. This list will get you started:

- Safety Glasses
- Solder Wick and/or Soldering Vacuum (for desoldering a joint)
- Proper work surface or soldering mat
- Soldering Aids or vices
- Pliers, Snippers, Flush Cutters
- Soldering Irons (multiple options with varying costs and options)
- Solder – Lead free is used most often in commercial applications

## APPLICATION

One relevant application of soldering tools is in the field of electronics repair and maintenance. For example, if a circuit board in an electronic device becomes damaged or a component needs to be replaced, soldering tools can be used to remove and replace the faulty part.

In this process, a soldering iron is used to heat up the solder on the component and the circuit board, causing it to melt and create a bond between the two. This allows for the component to be easily removed and replaced with a new one. A desoldering pump or wick can also be used to remove excess solder or clean up any mistakes.

This application of soldering tools is critical in the electronics industry, as it allows for the repair and maintenance of electronic devices without having to replace the entire unit. It also enables the customization and modification of electronic devices, as components can be replaced with upgraded or specialized parts to enhance their functionality.

