



Introduction

Students will practice various soldering techniques by completing the workbook included in the solder practice kit. Once complete, students should verify their work by powering the circuit with a 9V battery (not included in kits).

The circuit could also be supplied by cutting off the 9V connector, stripping the leads, and connecting a power supply to the leads.

Materials List

1. Solder Practice Kit
2. Soldering Iron or Solder Station
3. Solder (lead-free solder included in practice kit may be used)
4. Diagonal Cutters
5. Solder Pump (kit includes a small amount of solder wick; we recommend students try both methods of solder removal)
6. Safety Glasses
7. 9V Battery or Power Supply

Solder Practice

Be sure to wear eye protection while soldering. If using leaded solder, ensure you clean your work area and wash your hands after soldering.

1. Ensure your workspace is clear and organized. Make sure you have adequate light; you may want to use a desktop lamp for additional light.
2. Before starting work, verify your kit is complete using the inventory on page 1 of the workbook.
3. Turn on your soldering iron and allow it to heat up. Attempt to tin your irons tip by melting a small amount of solder on the tip and cleaning it, giving it the characteristic bright shiny surface. As you are working, the tip will oxidize, becoming dull and darker. You will need to re-tin the tip occasionally as you work.

Note: You want to set your iron to the lowest temperature at which the solder readily melts onto the tip. A good starting point for leaded solder is 600°F (325 °C) and 700°F (350 °C) for unleaded. An excessively hot iron temperature will lead to board or



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component damage. If you notice scorch marks or discoloration on the board, try reducing the temperature.

4. The solder instructions start on page 5. Be sure to complete all of the assembly steps (through page 12), including the multimeter checks.

Be sure to pay attention to the orientation of capacitors, LEDs, and transistors.

5. When complete, power the circuit and verify operation. Page 13 of the workbook has troubleshooting steps if your circuit does not work.