Lab #9 Piezo/TE
1. Observe sparks
2. Connect to LED

A small, spring-powered hammer rise off the surface of the piezo crystal strikes the crystal as the gas is turned on. The impact creates a large voltage across the crystal, and therefore a spark between the wires, which ignites the gas.
Piezoelectric Buzzer

1. Observe movements
2. Connect to LED
3. Connect to Function Gen.
4. Connect to Tone Gen.

A piezoelectric diaphragm consists of a piezoelectric ceramic plate which has electrodes on both sides and a metal plate.

When AC voltage is applied across electrodes, the bending is repeated, producing sound waves in the air.

Photograph of piezoelectric elements of a contact microphone removed due to copyright restrictions. Refer to: Photograph on Wikimedia Commons.
Thermoelectric Cooler

1. Take it apart
2. Measure resistance of TE module
3. Measure Seebeck coefficient of TE module