

Lasers Shopping List

eCamp Physics Lab

This is a Bonus Lab, which means that the experiments in this section require adult help (we're working with electronics and soldering), and the materials are more expensive and hard to find than the grocery store. Use the experiments in this section for kids wanting to go even further and deeper into the subject. Since these are more involved, be sure to browse through the videos for these experiments first before purchasing materials for these additional labs.

This lab builds on the ideas from the Electric Lab, and actually reuses a number of components from it. You'll want to cross off the items you already purchased from the Electricity Shopping List so you don't duplicate.

Materials for the Laser Light Show

- Red [laser pointer](#) (NOT GREEN!)
- Old CD you can scratch
- 5-6 small mirrors (like [mosaic mirrors](#))
- Ice cube
- Window
- Feather
- 3 large paper clips
- 10 brass fasteners
- Index card
- Cardboard
- Rubber band or zip tie
- Scissors, tape
- Steamy dark bathroom room (like after a hot shower with the windows covered)
- Two 3V DC motors
([Radio Shack part #273-223](#))
- Two AA battery packs
([Radio Shack part #270-408](#))
- Four AA batteries
([Radio Shack part #278-1157](#))
- Three alligator wires
([Radio Shack part #278-1157](#))
- Optional: plastic gem pieces

Materials for the Flashlight-Laser Tag, Laser Burglar Alarm, and Laser Listener

- Red laser pointer (NOT GREEN!)
- 2 AA batteries
- Old pair of headphones (you need the plug section)
- Computer OR laptop OR portable amplifier
([Radio Shack part #277-1008](#))

- CdS Cell ([Radio Shack part #276-1657](#))
- One AA battery holder
([Radio Shack part #270-408](#))
- PNP Transistor 2N3906 or 2N4403
([Radio Shack part #276-1604](#))
- NPN Transistor 2N3904 or 2N222A
([Radio Shack part #276-2016](#))
- 4.7k-ohm resistor
([Radio Shack part #271-1330](#))
- LED (Radio Shack part [#276-026](#), [276-012](#), [276-016](#), [276-311](#), or similar)
- Soldering equipment or breadboard
([Radio Shack part #276-003](#))
- *Optional*: NC (normally-closed) switch
([Radio Shack part #275-1548](#))

Materials for the Crystal Radio Project:

- Toilet paper tube
- Magnet wire ([Radio Shack part #278-1345](#))
- 4.7k-ohm resistor
([Radio Shack part #271-1330](#))
- Alligator clip test leads
([Radio Shack part #278-1157](#))
- 100' stranded [insulated wire](#)
(for the antenna)
- Scrap of cardboard
- 4 brass fasteners
- Germanium diode (1N34A) from [GSST](#):
www.gssteched.com
- Telephone handset or get a Crystal earphone (also from [GSST](#))