

Public Lab

# Smartphone Spectrometry Kit

Full assembly instructions can be found at:

[PublicLab.org/wiki/smartphone-spectrometer](http://PublicLab.org/wiki/smartphone-spectrometer)

Once you are ready to begin using your device, visit:

[SpectralWorkbench.org](http://SpectralWorkbench.org)

## Parts list

This kit includes the following parts:

- 3 injection molded plastic (ABS) parts
- 2 short screws
- 2 long screws
- black paper liners
- diffraction grating
- precision printed slit
- assorted double-sided strips
- jewelers screwdriver

## Support and Troubleshooting

Public Lab is an open community where we all help each other out; if you need support, please visit the [PublicLab.org](http://PublicLab.org) website and/or consider joining the "plots-spectrometry" mailing list when you register. You can also find help at the [SpectralWorkbench.org](http://SpectralWorkbench.org) website.

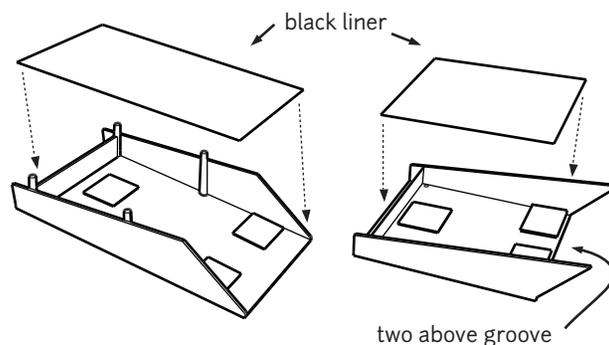
## Assembly

Assembly should take 15-20 minutes.

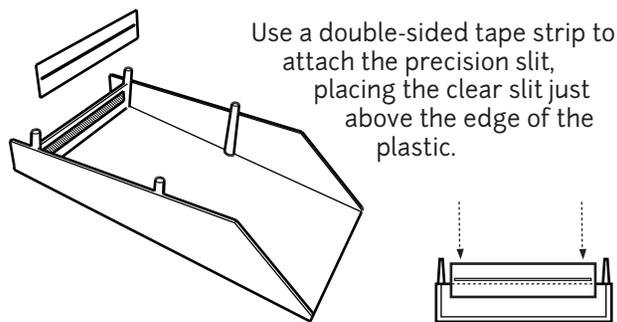
### Step 1: install the liners

Use double-sided white foam squares to adhere the absorbent black liners to the inside surfaces of the device. This will reduce reflections inside the chamber.

Two of the foam squares on the smaller piece should be placed as shown, just above the groove to support the back plate.

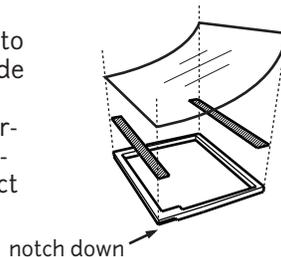


### Step 2: attach the collimating slit



### Step 3: attach the grating

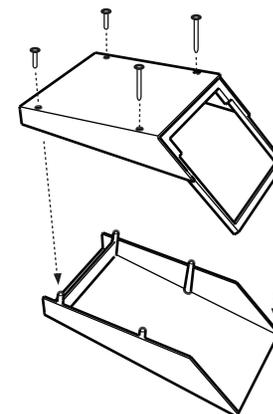
Use double-sided tape strips to stick the grating to the flat side of its frame. Attach one edge first and avoid dust and fingerprints. Optional: add a protective clear sheet first, to protect the grating.



### Step 4: assemble the device

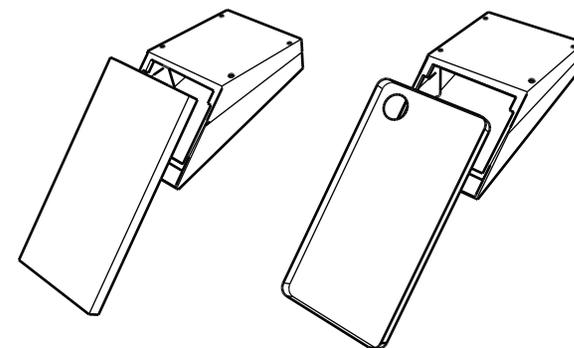
Carefully fit the pieces together, keeping the mounting plate in position as you slide the screw mounts into their holes.

Screw the parts together, using shorter screws near the slit as shown.

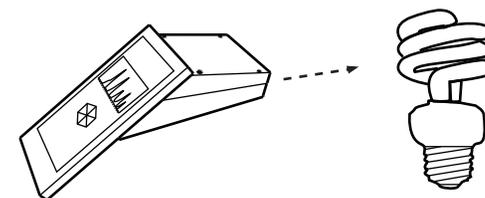


### Step 5: attach to your phone

Use glue dots to attach the device to your phone temporarily, or adhesive strips to permanently attach it to a black phone case for easy removal.



### Step 6: calibrate and use



Now you're ready to calibrate and begin using your spectrometer. You'll need a compact fluorescent bulb to calibrate; instructions are online at:

<http://SpectralWorkbench.org>

We are a community of researchers -- don't forget to share your work on [PublicLab.org](http://PublicLab.org)!