

The Sun Funnel is a device for telescopes that allows a *group* of people to observe a *magnified* image of the sun *safely*. It works by projecting the sun onto the rear side of an enclosed screen.

You have to provide your own refractor telescope and eyepiece. For complete instructions, safety precautions, and tips for using the *original* Sun Funnel, see <http://tinyURL.com/sunscope>.

You can also make your own version of a Sun Funnel using a 3D printer, a 5-inch diameter tube that is ten inches long, and a piece of rear projection screen.

High quality projection material from Da-Lite company even shows the umbra and penumbra of sunspots, or you can substitute a shower curtain liner if you just want to show the shape of an eclipsed sun without as much detail.

To 3D-print a Sun Funnel, download the files from [URL to park files]. You can likely find a 3D printer at your local library, college, maker space, [...or online option?]

The end ring holds the screen taut over the tube...

Insert an eyepiece through the base...

Then, with your telescope aimed well away from the sun, insert the rest of the eyepiece barrel into the telescope focuser and secure the eyepiece with the thumb screw.

Slide the tube over the base...You're ready to go.

Slew the telescope to aim it at the sun. A trick is to minimize the shadow of the telescope cast onto the ground. Then bring the sun into focus.

To change the size of the projected image, slew the scope away from the sun and swap out the eyepiece...

Use caution when observing the sun:

- Always remove the finder scope first;
- Do not leave your telescope unattended;
- Do not point continuously at the sun for a long duration to prevent heat buildup;
- The Sun Funnel is designed for refractor telescopes. If you use a reflector, you must stop down the aperture to prevent telescope damage; it is not recommended for Schmidt-Cassegrain telescopes. [I'll provide a photo.]
- See printed precautions at <http://tinyURL.com/sunscope>.
- If you are uncertain about observing the sun or using a Sun Funnel, *don't*.

The 3D-printed version of the Sun Funnel was designed...