

# Galileoscope DIY Sun Filter and Solar Shade

The DIY Sun Filter is designed with safety in mind. The heart of the system is Thousand Oaks Solar Film that meets Transmission Requirements of ISO 12312-2.

**The Galileoscope must be used with supervision of an adult.**

## **IMPORTANT SAFETY INFORMATION**

The DIY Sun Filter is designed to work IN FRONT of the objective lens of your Galileoscope.

The DIY Sun Filter is NOT designed to filter magnified sunlight. NEVER USE IT TO LOOK INTO AN EYEPIECE OF A TELESCOPE OR BINOCULAR. The magnified light will melt the film, sending highly magnified sunlight directly into your eye. Immediate eye damage will result.

Before each use, inspect the DIY Sun Filter to ensure there are no tears or pinholes in the solar film. Hold the filter up and look at a bright light – NOT THE SUN – to search for light leaks. The reflective side of the solar film MUST be pointed at the light source. The flat black surface is what you look at.

Store the DIY Sun Filter so it is protected from damage and dust – a small cardboard box will work fine.

## Installation Instructions for DIY Sun Filter

Use care to not touch either surface of the solar film. (Figure 1)

1: Carefully fold the petals of the DIY Sun Filter FORWARD, so the printed surface is inside the cone that is created. (Figure 2)

2: Insert the device into the Galileoscope dew shield. (Figure 3)



Figure 1



Figure 2



Figure 3

3: Ensure the device is inserted as far as it will go, so it is seated just in front of the objective lens. (Figure 4)

4: Use tape to attach at least 2 of the petals to the dew shield. (Figure 5)



Figure 4

Figure 5

You are now ready to use your Galileoscope to safely view the sun.

## Solar Shade

The Solar Shade is designed to shield your eyes from sunlight, making it easier to see the eclipse in the eyepiece and to safely point the telescope at the Sun.

## Installation Instructions for Solar Shade

- 1: If the circular hole in the Solar Shade has cardboard in it, remove the circular piece. (Figure 6A & 6B)
- 2: Remove the Galileoscope eyepiece and small main-tube clamp ring (Part F in the Galileoscope assembly instructions). (Figure 7)
- 3: Align the Solar Shade with the tall side up – so it will be above the telescope. Be sure to place the Sun Shade so the white side is facing the Sun. This reflects some heat and makes it easier to see the shadow from the V notch and I post sighting system. (Details below.)
- 4: Slide the Sun Shade over the eyepiece and focuser until it engages the telescope tube. Do not widen the size of the hole by forcing the cardboard onto the tube. (Figure 8)
- 5: Put the small main-tube clamp ring back in place, then install the eyepiece. (Figure 9 & 10)

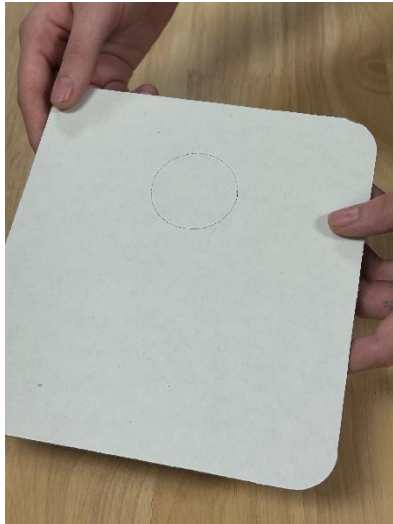


Figure 6A



Figure 6B



Figure 7



Figure 8



Figure 9



Figure 10

## Using The Sun Filter And Sun Shade

With supervision of an adult, ensure the Sun Filter is correctly installed in the dew shield of the Galileoscope.

Use the lowest power eyepiece to view the Sun.

- 1: Once again, ensure the Solar Filter is correctly installed in the dew shield.
- 2: With the Galileoscope attached to a tripod using the  $\frac{1}{4}$ -20 attachment point, aim the Galileoscope at the sun.
- 3: Pull the focus tube most of the way out, to assist in finding focuser faster.

4: Look for the shadows cast onto the Sun Shade by the sighting system on top of the Galileoscope. One post is a V notch, the other is a single I post. (Figure 11)

5: Align the shadows so the V notch and I post are as shown. (Figure 12).

6) Look in the eyepiece. You should see an orange circle. Focus on the image by pulling or pushing the focus tube on the eyepiece. (Figure 13)

7) You will have to adjust the aiming of the Galileoscope as the Sun moves across the telescope's field of view.

With adult supervision you can now safely observe the Sun with your Galileoscope, DIY Sun Filter, and Sun Shade.



Figure 11

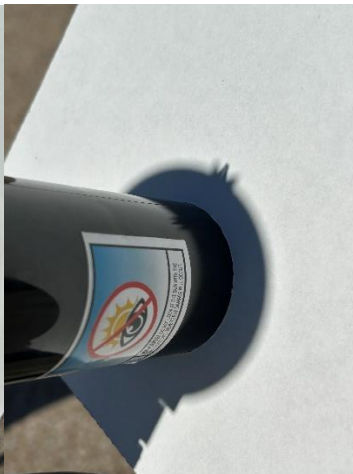


Figure 12



Figure 13

To purchase additional solar eclipse products including Galileoscopes with DIY Sun Filter and Sun Shade, go to [www.explorescientific.com/eclipse](http://www.explorescientific.com/eclipse)

Use this QR Code to access Galileoscope How-To Instructions and Videos

