

## **My favorite eclipse equipment:**

Patricia Reiff, [Reiff@rice.edu](mailto:Reiff@rice.edu)

**Note:** I have no financial interest in any of these products. These are just what I have found that have been useful for me. I am giving the Amazon links but most can be ordered from many photo or other stores.

### **Visual Observations:**

*Binoculars:* Nikon 8252 Aculon 10-22x50 Zoom

Presently on sale (\$155) at Amazon: [https://www.amazon.com/Nikon-8252-ACULON-10-22x50-Binocular/dp/B00B9Z24J0/ref=asc\\_df\\_B00B9Z24J0](https://www.amazon.com/Nikon-8252-ACULON-10-22x50-Binocular/dp/B00B9Z24J0/ref=asc_df_B00B9Z24J0)

(note – for children you can use much less expensive binoculars. EACH PERSON SHOULD HAVE THEIR OWN – totality is too short to share binoculars!)

*Binocular tripod adapter:*

Cheap (\$14): <https://www.amazon.com/BARSKA-AF10546-Binocular-Tripod-Adaptor/dp/B000BYH8EQ/>

Or Pentax version (\$40): [https://www.bhphotovideo.com/c/product/321675-REG/Pentax\\_69554\\_TP\\_3\\_Tripod\\_Adapter\\_f.html](https://www.bhphotovideo.com/c/product/321675-REG/Pentax_69554_TP_3_Tripod_Adapter_f.html)

*Tripod:*

Variable. For binoculars you don't need fluid head but for video you do want that.

Be sure that it is heavy duty so kids won't bump or tip it over.

Also be sure it has fairly long legs AND can tip up the binoculars to 60 degrees, since the total eclipse will be high in the sky for Texas. (not all tripods can tip up that high – note that many have a slot so you can tip it up more).

*Stepstool for Tripod:*

So that children or shorter people can look through the binoculars without having to crank them down.

*Solar filters for the binoculars:*

Sold in sizes for camera or video lenses or binoculars. Pops off easily for totality. For the binoculars mentioned above you want - 50mm. Buy a little larger than the outside diameter of your lens (it comes with some felt to tighten it up. If too large, be sure to secure with gaffer tape so they won't fall off during the partial phase.

<https://www.rainbowsymphony.com/collections/solar-filters>

*Gaffer tape:*

Critical to make a filter for a normal binoculars by cutting up a pair of eclipse glasses. Be sure that ONLY the filter is uncovered – cover all the cardboard and any open area with the gaffer tape. More expensive than duct tape BUT doesn't leave a residue when removed.

[https://www.amazon.com/Premium-EdenProducts-Strongest-Residue-Non-Reflective/dp/B07JDMFNT3/ref=asc\\_df\\_B07JDMFNT3/](https://www.amazon.com/Premium-EdenProducts-Strongest-Residue-Non-Reflective/dp/B07JDMFNT3/ref=asc_df_B07JDMFNT3/)

Remember, you only need ONE pair of filtered binoculars for a group – the partial phases are slow. For everyone else, they should have a pair of UNFILTERED binocs hanging around their neck ready for totality and ONLY for totality. (for children you might not trust them to peek ahead of time). Blow a whistle at 2<sup>nd</sup> contact when it is safe to remove filters and another one at 3<sup>rd</sup> contact.

**Cameras** – note there are tons of info out there on photographing eclipses. PLEASE don't spend all of totality behind a lens! ENJOY IT!

#### **Video Camera:**

Get one that allows MANUAL focus (set on infinity) and MANUAL iris adjustment – otherwise it may be overexposed. Practice on the full moon for totality, practice on the Sun with a filter for the partial phases (one from Rainbow Symphony or a more expensive one from a camera store).

Note if your video camera has an LCD panel (as opposed to a see-through viewfinder), you can remove the filter a minute before totality so you won't miss the incoming diamond ring. Use 4K to get more resolution. Be sure your tripod has a fluid head so it won't jerk as you follow the sun. The most fun is to hear the crowd reactions to totality!

#### **Still Camera:**

(Similar to Video camera). Preferably, use one that allows MANUAL focus (set on infinity) and MANUAL exposure adjustment – otherwise the images will likely be overexposed. Practice on the full moon for totality, practice on the Sun with a filter for the partial phases (one from Rainbow Symphony or a more expensive one from a camera store). For still cameras, the better quality filters give a crisper image. If your tripod doesn't have tracking, use short exposures. BRACKET the images - short exposures for the prominences, longer for the extended corona. Underexposed is better than overexposed, and be sure to use RAW + JPG format.

For non-SLR cameras: Be sure flash is OFF (or taped over). If it has "scenes", choose "sunrise/sunset" to reduce overexposure.

For iPhone: zoom in and select the sun then slide the exposure slider up or down so you don't overexpose. Better yet, put it in "video" mode and set it where it can record your reactions to totality... a personalized fun remembrance. Be sure it's on a tripod or selfie stick when it gets dim.

Note if your camera has an LCD panel (as opposed to a see-through viewfinder), you can remove the filter a minute before totality so you won't miss the incoming diamond ring. If you have a SLR with a see-through viewfinder, keep the filter on till 2<sup>nd</sup> contact. If your camera has a separate (not through the lens) viewfinder be sure it is taped over or filtered.