

My favorite eclipse equipment:

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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:

Many cheap binoculars are not good for astronomy. Check by looking at a star (not a planet). Does it have its color spread out? That's chromatic aberration and not good for astronomy (but probably fine for birdwatching).

Another thing to look for is the socket in the hinge (maybe covered by a cap). That's how you can screw in the "Binocular tripod adapter". Get at least ONE that you can put on a tall tripod **with filters** to see the partial and annular phases. And/or, one without filters on a LOW tripod that you can use for projecting an image (*but be sure folks don't try to look through them*).

Binoculars: Nikon 8252 Aculon 10-22x50 Zoom is the one I use, but others will work. Big astronomical binoculars (10x80 or 20x80) are great but big and heavy so definitely need a tripod.

Presently on sale (\$155) at Amazon: 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 in totality 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



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). Again, a tall tripod to use with filters for folks to look through. And/or a LOW tripod to use for projection through the binoculars.

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>

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 not to peek ahead of time).

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/

Whistle:

The leader should have a whistle on a lanyard around their neck. Blow the whistle at 2nd contact when it is safe to remove filters and use their binoculars and another one at 3rd contact to “cover up”.

SunSpotter:

This is an extra safe projection device to view the sun any time, and can even look straight up. Available from Science First but cheaper (for some reason) from Fisher Scientific (\$273) than at ScienceFirst (\$533)



<https://www.fishersci.com/shop/products/sun-spotter-telescope/S01384>

You can also DIY but would be tricky to make it: <https://stargazerslounge.com/topic/337796-project-write-up-diy-sunspotter/>

Cameras – note there is tons of info out there on photographing eclipses. But PLEASE don't spend all of totality behind a lens! ENJOY IT, especially if it is your first totality.

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. Some cameras in dark scenes will spend all their time “hunting” for the right focus and the shot is lost. 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 and automatically focus at infinity.

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 2nd contact. If your camera has a separate (not through the lens) viewfinder be sure it is taped over or filtered.

For my links to various sites with information, go to https://space.rice.edu/eclipse/eclipse_resources.html