

Essential Items to Have in the Field

First, let's discuss what, in my opinion, are some essential items to have in the field. Telescopes themselves, mounts, eyepieces and other basic tools of our field will not be discussed here, as they're very much based on individual preferences, one's personal budget and the type of objects the observer has a preference for viewing, or even when one is imaging versus observing.

Finder Scopes, Telrads and the like: Absolutely essential - otherwise you'll just be wandering the skies in the dark!

Star Charts: Everyone has their preference, but for many years, I've found the now-discontinued Meade Star Charts especially helpful and easy to follow. They're available on Ebay, and they're well worth the cost at \$34.95. The constellations are organized by Season of the Year, clearly mark the interesting objects (Messier and others). and further list those objects visible through a small telescope. I use it everytime out when doing serious observing, and use it religiously when employing the "vector method" which I will discuss below

Planispheres: These are directionally-oriented and let the observer know which constellations are available on certain dates and at what time. With the advent of astronomy apps, I find that the small ones are not particularly helpful. However, the large "David Levy Planisphere" can be helpful, especially for beginners or during outreach sessions. At a cost of \$19.95, it's well worth the investment

Red Light flashlight: Something else that's essential, and there are many types available online. Don't forget a regular one, too for packing up when you're done observing!

Illuminated red magnifying glass: This one's optional, but I've found it extremely helpful to use when I'm looking over my star charts in the dark. They're no longer available through any astronomical supply retailer, online or otherwise, but may be found by going to <http://www.magnifier.com>

Cleaning eyepieces: In whatever case you use to carry your eyepieces, you should have a supply of lens wipes, along with a bottle of lens cleaner that you can get from an optical shop and a lens cloth. Eyepieces should be handled with care, and should be cleaned after getting home after each use, or in the morning after an observing session.

Observing table: A foldable camp table will do just fine. Where else are you going to put your star charts, or your planisphere if you have one?

A folding chair: I guess I'm lazy, but I like sitting down when I'm putting my gear together or taking it down. This may not be necessary for some of you, but it's helpful when I'm looking at a star chart, too!

An observing chair (optional): Great to have during outreach sessions!

A white sheet to put under my telescope (optional): I'm the only one in the club who does this, but I find it helpful if I drop something in the dark, or just to place things underneath my telescope to get it out of the way.

As I develop more tips from field observing, I will try to pass them on to you, and I encourage Wes to once again share his great tips on dealing with dew, unless they're already included on the club's website. Larry, at your discretion and if appropriate, you may want to edit this and place some of these suggestions on there as well.

A few words on "The Vector Method"

I don't know what to call it, really - it's just a method of limited usefulness that I've used for many years to locate dark sky objects that is not based on the measurements of body parts. for whatever star chart or planisphere you're using, It is dependent, on orienting a particular constellation so that it's positioned exactly as it appears on the planisphere or chart. Once you've done that, you can use the distance

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between stars within that constellation as measuring sticks for the distance in the sky to the object you're trying to observe. In this example, the objective is to observe the galaxies M81 and M82 in Ursa Major, which in a small telescope are within the small field of view through a 22mm eyepiece.

Orient the asterism of the Big Dipper with how it appears in the star chart, and you'll notice that the two galaxies appear close together at a vector ENE of the upper right star in the bowl. (In this case, and in others as well, I'm using the vectors, "East" and "North" only as to their position vis a vis the reference point.) Furthermore, the distance to the galaxies appears to be the same as the distance between the upper two stars in the bowl. Using your finder scope or Telrad, estimate the approximate location of the objects, altering the location slightly, if necessary. This method **is** a bit laborious, but it works!

That's all that I have for now, except for the attached documents which may be helpful to you. The "Stars of the Season" documents are based on my Meade Star Chart, and depending on the season, will likely include constellations that are visible at various times of the evening. These notes will probably be most helpful for an observer with a small, non-go to telescope, although they will include information on how best to locate the constellation, and in many cases, the objects within them.

Scott