

Annual Messier Challenge



A plan to learn the joy and excitement of observing the Universe

One of the issues we as Novice Astronomers face is a program or plan of how to get started in observing. After gazing at the Moon and planets a few times, the next question is, "What now?"

Charles Messier was an 18th-19th century French astronomer who began his career as a comet chaser. Over the course of his life, he used, among others, his 3.5-inch refractor telescope to scan the cosmos looking for...comets. During this endeavor, he managed to identify and document the majority of what has become known as The Messier Catalogue.

This catalogue identifies 110 of the most observable and beautiful objects, visible in the northern hemisphere, that we as novice and more experienced astronomers alike, can enjoy searching out and observing. These objects can be found using almost any level of decent modern telescope with many visible simply with good binoculars or even by plain eyesight. Some can be seen from your backyard. Others will require darker locales or periodic trips to a dark site.

The Astronomical League (AL) offers a certificate and pin to those who complete their Messier Program. There are, of course, certain basic requirements as to documentation and methods. As members of the Houston Astronomical

Society (HAS), all of us are members of the AL. Please go to the AL website and check out the observing programs and requirements.

Most novice astronomers will quickly identify the Messier Catalogue as a logical next step in their journey. These objects run the gamut from easy to somewhat challenging. They can provide great learning practice if one wants to move on to more demanding observing. However, sometimes the idea of searching out all 110 objects can be somewhat daunting.

In the following pages, there is presented a program for observing the Messier Catalogue in phases. This program breaks down the catalogue into six parts based on the time of year when they are most easily observable. Fall has the fewest at 13, winter has the most at 23. All others are somewhere in between those two extremes. Each is very doable and entertaining while providing a valuable learning experience.

The idea here is not to have a marathon; but rather, a journey that, with a little effort, can be easily completed within a 12-month period. By using segmented observation periods, one will have the time to truly observe the objects, not just check them off a list. While completing the list is the object, the journey is the fun part and provides the experience to proceed to the next level whatever you decide that to be.

If one wishes to use a Go To system or use a celestial app, that is permissible with this plan for personal use; but not if one wants to complete the AL Messier Program. Again, refer to the AL website for requirements and techniques.

Learning astronomical observation is like a treasure hunt. The real fun is in the chase. Learning the constellations, pointer stars, star-hopping, and other “natural” celestial navigation techniques is the real challenge and presents the most satisfaction of a job well done.

Following is a breakdown of the segments and the number of objects:

Spring	20
Late Spring	20
Mid-Summer	16

Late Summer	18
Fall	13
Winter	23
Total	110

There are several opportunities in each segment to complete your observing list. You are free to observe whenever it is convenient and appropriate. Some objects will overlap enabling you to catch up if you need to or even get ahead.

I have prepared and published the entire group of observing lists by season. There are attached hereto as a printable addendum.

It is anticipated that loosely-organized events may be scheduled at the HAS Dark Site during each period where you may gather as a group, possibly with help from more experienced personnel and/or a group working with the Novice Lab. Group observing is in many ways the most fun and fulfilling.

Of course, you will have to be a current active member having taken and passed the Observatory online class and test.

Addendum: Observing lists with location data

Specific Chart Column Descriptions:

Primary/Alt I.D.	Messier #, New General Catalogue #, common name
Mag	Object magnitude
SBr	Surface Brightness (applies to galaxies and nebulae)
Rise	Time object rises above the horizon
Transit	Time Object is overhead
Set	Time object dips below the horizon
Begin, Optimum, End	Best window for observing
S.A.	Chart number in Sky Atlas 2000

PSA	Chart number in the <i>Sky and Telescope</i> Pocket Sky Atlas
Difficulty	Objective system estimate
Optimum E. P.	System estimate of the optimum eyepiece based on my personal eyepiece inventory. The telescope used in this example is a Celestron NexStar SCT 8 Evolution, 2000mm focal length. This telescope/eyepiece data is made available so the user can have some notion of the magnification needed as translates to their own equipment. To find the magnification suggested, divide your telescope's focal length by the mm of the eyepiece you wish to use. For example, 2000mm/40mm Plossl = 50X magnification. You can adjust your equipment accordingly.

Surface brightness is important as applies to galaxies and nebulas. IMO, it is more important than magnitude to the visual observer because it takes into consideration, among other things, the direction in which the object is pointed in relation to the observer. For instance, a 10-magnitude galaxy will appear brighter face on than if it were a 10-magnitude edge-on. Or, an 8-magnitude galaxy might be nearly invisible to us if it were tucked in behind a nebula or another galaxy.

Not all seasonal objects will be observable on a specific date many times because of the Moon. This may require a little research. Objects may even be visible on a following session. It is hoped that after a couple of sessions, you will become more proficient at searching out our celestial gems.

I know you will find this an interesting and enjoyable endeavor.

Jim King

Field Trips and Observing Chair