

The Insider's Guide to the Galaxy Presents...

Finest Minutes

a guide to completing RASC's Finest NGC Objects Observing List



Part 0 -

Intro to RASC's Finest NGC Objects Observing Certificate

The following pages introduce RASC's Finest NGC Objects Observing Certificate – including where to find a list of the required objects to view and how to submit your observations

Background:

The New General Catalogue or NGC contains 7840 entries and forms the core of most people's "life list" of observing targets. The NGC was originally published in 1888 by J.L.E. Dreyer and therefore predated photographic astronomy. The Finest NGC list, compiled by Alan Dyer and published in the annual RASC Observer's Handbook, complements the Messier Catalogue, as there is no overlap. The list of 110 deep-sky objects includes many fine deep-sky treasures as well as a few some mildly challenging objects.

About the RASC Messier Certificate:

The Finest NGC certificate has been awarded since 1995. Observing the Finest NGC list is an excellent project for those who have completed their Messier Certificate and are looking for a new visual observing program. A 200 mm telescope is recommended to complete the list, although it can be done with a 150 mm telescope under good skies. Several Finest NGC objects can be observed in even smaller instruments, so these could be used to get started on the brighter objects. With all instruments, a nebular filter will enhance the view of the faint glowing clouds of gas. Objects can be observed in any order.

Note: Some targets are low in Declination. E.g. NGC 253, the Sculptor Galaxy, has a declination of -25° and NGC 6520, aka Collinder 361 in Sagittarius, has a Dec of -28°

This Observing Program is designed to be an INDIVIDUAL EFFORT. When you complete the program and apply for your certificate, you will have met these requirements: you located the object yourself, made your own observation at the eyepiece, kept your own logbook or pre-programmed observing forms, and then applied for your certificate on your own merit. Enjoy your journey through this program!

Contact the Observing Committee Chair: observing@rasc.ca

Overview of the Messier Catalogue:

Messier Object Type	Number	Notes
Open Clusters	12	Including the famous Double Cluster in Perseus, NGC 7789 in Cassiopeia and NGC 6633 in Ophiuchus.
Globular Clusters	2	NGC 5466 in Bootes and NGC 6712 in Scutum.
Bright Nebulae	14	Includes the great Veil Nebula as well as the North American and Rosette nebulae.
Planetary Nebulae	24	Includes many fine PN's like the Ghost of Jupiter, the Cat's Eye, the Blinking Planetary, the Helix, and the Blue Snowball nebulae.
Galaxies	58	Includes many fine PN's like the Ghost of Jupiter, the Cat's Eye, the Blinking Planetary, the Helix, and the Blue Snowball nebulae.
Total	110	

Recording Observations Overview:

Recording observations gives you a permanent record of all the great times you had while observing and recording scientific details of an observation can help researchers.

Very few, if any, astronomers remember everything that they have observed through the years, and for that reason alone it is wise to keep a record of your observations. Many experienced astronomers have commented on how much they enjoy looking through their logbooks and recalling the many precious memories that are contained there. It is truly worth the effort to write down your observations.

How to Record Observations:

One of the most practical ways of recording observations is to have a template form completed ahead of time that contains all of the known data, like the object's name, number, location, size, magnitude, and so on. You then simply write down your description of the object in the space provided and then use the time saved to explore other treasures in the night sky. The template can also include an area to make a drawing. Each week we will provide a template log form for each of the objects discussed in *Messier Minutes*. Alternatively, you can download the entire logbook from <https://rasc.ca/finest-ngc-objects>.

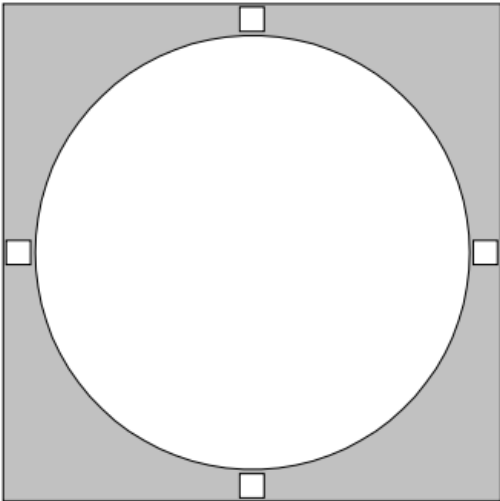
Drawing at the Eyepiece

Drawing at the eyepiece can be a very rewarding experience for all the same reasons as making notes. The bonus of a drawing is that it will clearly show what you see to other people who may visualize a text description differently than you. Drawing is also the best way to learn how to see the fine detail in the astronomical objects you observe.

Example of Log Page:

From RASC's Messier Catalogue Observing Forms

RASC Finest NGC - 1			
Saturn Nebula			
NGC Number	7009		
Constellation	Aquarius		
Type	PN		
Visual Magnitude**	8.3p		
Size	Distance	>25" 2,900 ly	
RA (Epoch 2000.0)	21:04.2		
Dec (Epoch 2000.0)	-11:22		
UM I	UM II	299, 300 123	
Sky Atlas 2000	16, 17		
Season	Autumn		
Remarks***	!! Saturn Nebula; small bright oval		
Date	Time		
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Telescope			
Eyepiece	Magnification		
Observing Location			




Notes			

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

Log Page Legends:

From RASC's My Finest NGC Album

FIELD	DESCRIPTION
NGC Number:	This is the New General Catalogue designation that consists of a 1-4 digit number.
IC Number:	This is the Index Catalogue designation that is a supplement to the New General Catalogue.
Constellation:	These are the official three letter designations for the 88 recognized constellations.
Type:	<p>PN = Planetary Nebula. OC = Open Cluster. GC = Globular Cluster. SNR = Supernova Remnant. EN= Emission Nebula. RN = Reflection Nebula. E/RN = Emission and Reflection Nebula. G = Galaxies as per diagram below:</p> 

FIELD	DESCRIPTION
Visual Magnitude:	Apparent visual magnitude is a measurement of the objects brightness as seen using average human eyesight.
Size:	Dimensions of an object using degrees, minutes of arc (1/60 degree) and seconds of arc (1/60 minute.)
Distance:	Distance of object measured in light years. Note that these are estimates and sources of this data can vary.
R.A. (Epoch 2000.0):	Coordinates in Right Ascension, divided into 24 hourly sections as they rise in the east.
Dec. (Epoch 2000.0):	Coordinates in Declination as measured +90 degrees north and -90 degrees south of the celestial equator.
UM I:	Map number where you can find the object in the first edition of Uranometria 2000.
UM II:	Map number where you can find the object in the second edition of Uranometria 2000.
Sky Atlas 2000:	Map number where you can find the object in Sky Atlas 2000.
Season:	Season of the year when the object is best seen after dusk.
Remarks:	Brief description of the object and some key observing tips.
Date:	Field for recording the date of the observation.
Time:	Field for recording the time of the observation. Please specify Time Zone or Universal Time.
Seeing:	Place a circle around or an X on top of one number that best describes the stability of the atmosphere. 1 = Best 2 = Above Average 3 = Average 4 = Below Average 5 = Poor Note: A somewhat hazy sky may provide good seeing; therefore use this for measuring stability only.
Transparency:	Place a circle around or an X on top of one number that best describes how clear the sky is. 1 = Best 2 = Above Average 3 = Average 4 = Below Average 5 = Poor Note: A crystal clear sky may provide less than perfect seeing; therefore use this for measuring clarity only.
Telescope:	Field for recording the aperture and type of telescope used. Example: 25 cm reflector.
Eyepiece:	Field for recording the focal length and type of eyepiece used. Example: 17mm Plossel.
Magnification:	Field for recording the magnification of the telescope/eyepiece combination used. Magnification equals the focal length of the telescope as measured in millimeters divided by the focal length of the eyepiece in millimeters. To calculate the focal length of your telescope in millimetres, use this formula: (Aperture in inches multiplied by the focal ratio) then multiply by 25.4. For example an 8 inch aperture scope with a focal ratio of F6 would have a focal length of (8 x 6 = 48 inches) Conversion: 48 inches x 25.4 = 1219.2 mm.
Observing Location:	Field for recording the location of the observing site.

How to Apply for an Observing Certificate:

1. Complete all the required observations
 - a. Include date, time, where you observed, what you observed with, the viewing conditions, and notes on what you saw for each target
 - b. *Note:* a sketch is optional!
2. Complete the [Visual Observing Certificate Application](#)
 - a. If you can – Have two members of your centre, verify your observations
 - b. If you cannot apply directly to the observing committee
3. Email observing@rasc.ca your application
4. Upload your observing logs via their *Uploader Service*
5. Wait for approval of your application
6. Receive your pin and certificate in the mail!