Good Afternoon! Today/tonight, I am going to introduce you to the art of astronomical sketching, particularly how to sketch Deep-Sky Objects.

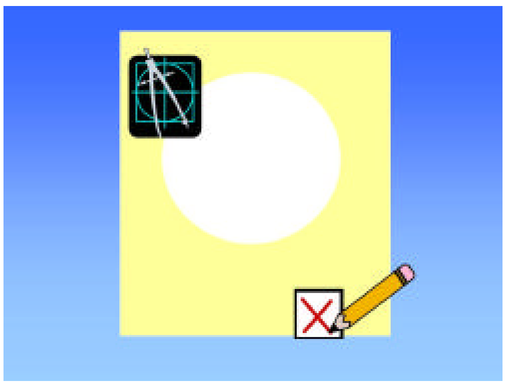
It's the first clear night of summer. The Moon has just set, and the Milky-Way flows across the horizon. and Messier objects appear to the naked-eye. Your telescope hops from one spectacular view to another. You would love to somehow capture this evening. . . . . .

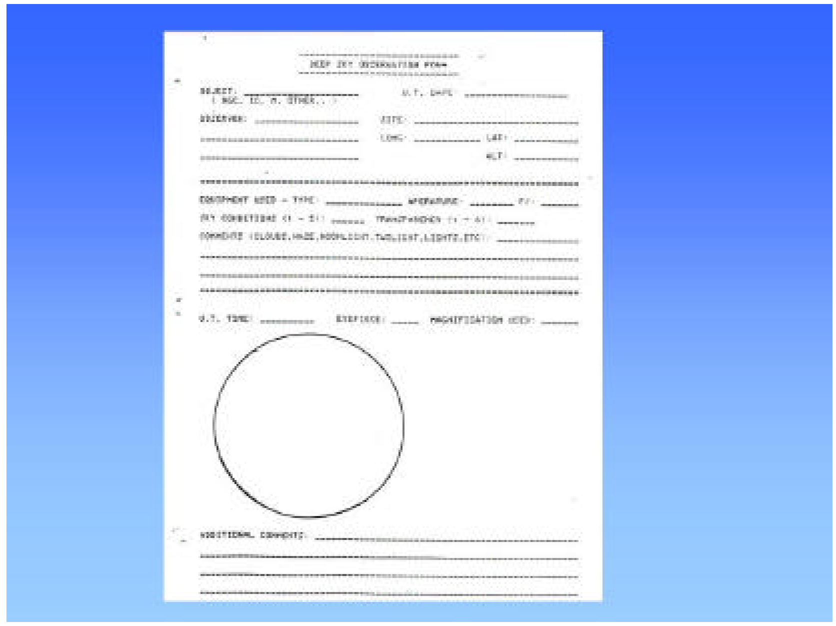
.... and you can... by *Sketching!*

Sketching is simple, inexpensive, and fun!
It also has a number of benefits. Taking the time to draw what you see in the eyepiece actually allows more detail to be seen when observing Clusters, Nebula, Galaxies, and other Deep Sky objects. Even the Sun, Moon, and Planets will show more finer detail as you study them for your sketch.
It increases your visual acuity.
Finally, it is a great way to share your observations with other amateur astronomers.

You don't need to be an artist to sketch Deep Sky objects. All you need to get started in sketching is pencil and paper. Draw a small circle on the paper to represent the field of view. Use the rest of the sheet to record date, time, sky conditions, eyepiece and filter used, and any other data you want to keep.

Sketch Form Template: using a pre-defined template helps to remind you at 2:00 am in the morning, what info to include with your sketch to make a complete observation!! (see last page for a sample template)

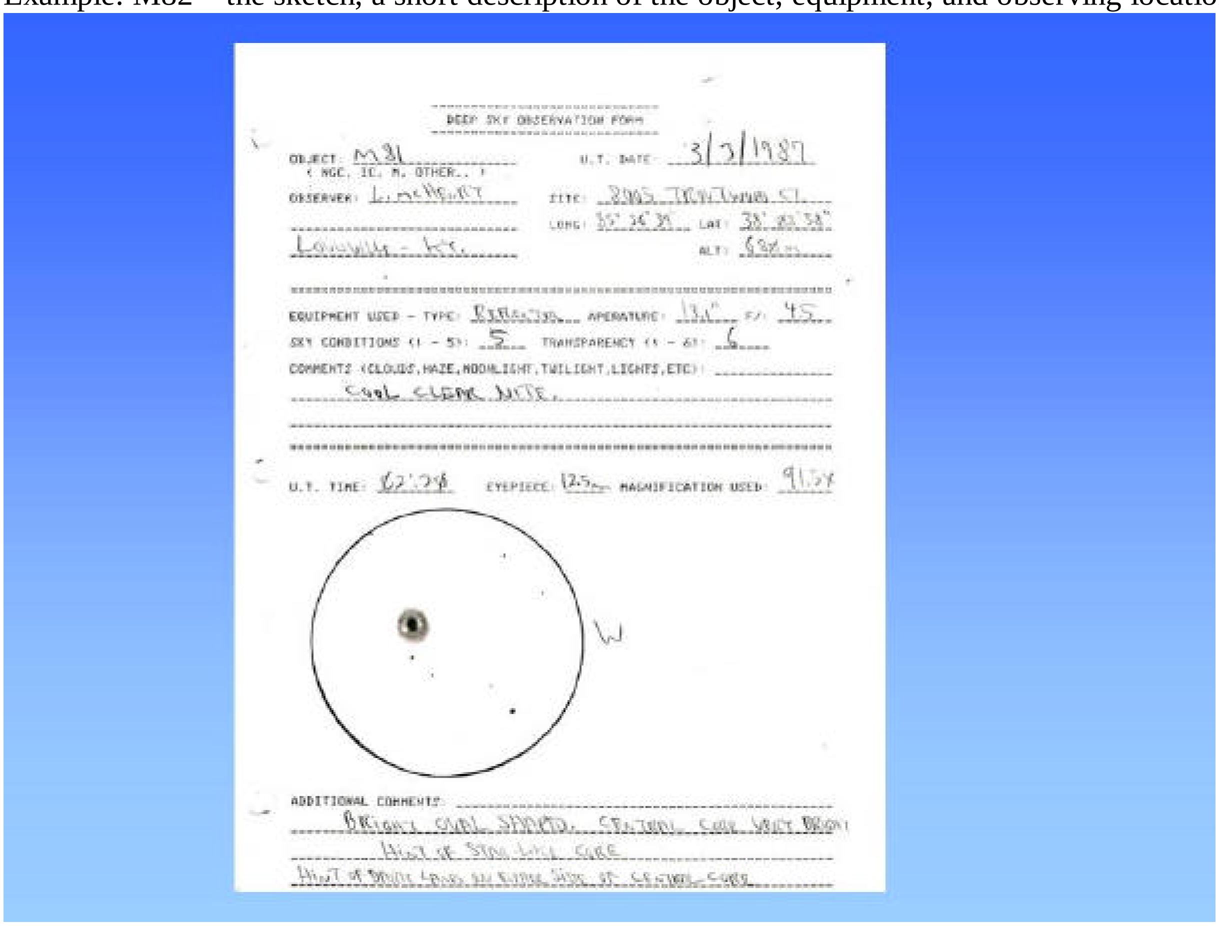




DEEP SKY OBSERVATION FORM

OBJECT: (NGC, IC, M, OTHER..) U.T. DATE:
OBSERVER: SITE: LONG: LAT: ALT:
EQUIPMENT USED - TYPE: APERATURE: F/:
SKY CONDITIONS (1 - 5): TRANSPARENCY (1 - 6):
COMMENTS (CLOUDS,HAZE,MOONLIGHT,TWILIGHT,LIGHTS,ETC):
U.T. TIME: EYEPIECE: MAGNIFICATION USED:
ADDITIONAL COMMENTS:

Sketch Example: M82 – the sketch, a short description of the object, equipment, and observing location.

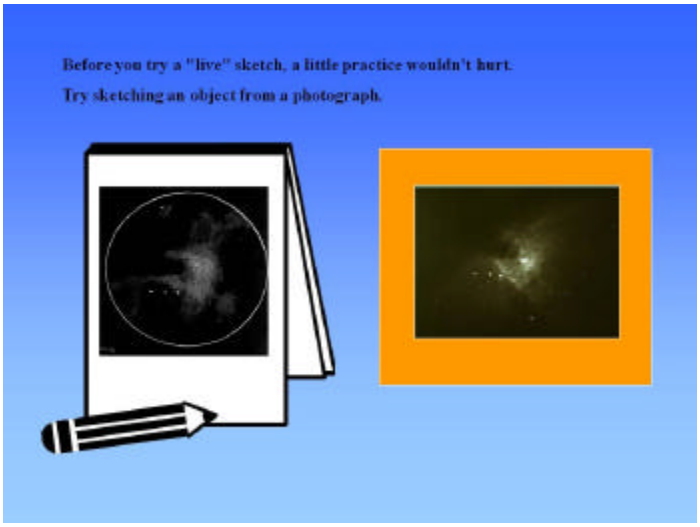


DEEP SKY OBSERVATION FORM

OBJECT: M81 (NGC, IC, M, OTHER..) U.T. DATE: 3/3/1987
OBSERVER: SITE: LONG: LAT: ALT:
Louisville - KY.
EQUIPMENT USED - TYPE: APERATURE: 13.1" F/: 4.5
SKY CONDITIONS (1 - 5): 5 TRANSPARENCY (1 - 6): 6
COMMENTS (CLOUDS,HAZE,MOONLIGHT,TWILIGHT,LIGHTS,ETC): Cool clear nite.
U.T. TIME: EYEPIECE: MAGNIFICATION USED:
ADDITIONAL COMMENTS:
Bright oval shaped. Central core very bright
Hint of star like core

Sketching Tools: pencils, erasers, blending stumps, clipboard with red-light, observing chair – it's important to be comfortable while doing your sketch!

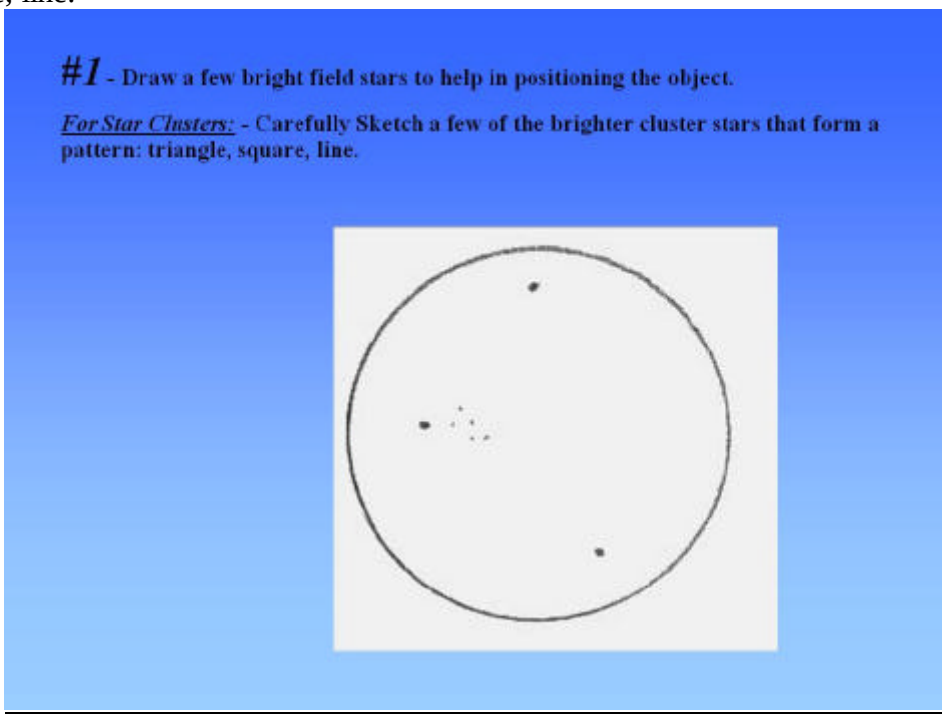
Before you try a "live" sketch, a little practice wouldn't hurt. Try sketching a Deep Sky object from a photograph. See how close you can get the overall size and shape of the object and it's relationship to the surrounding star field. Don't worry if everything doesn't look exactly as the photo, you're just trying to capture the "look" of an object. When you're ready to sketch at the telescope, study the Deep Sky object for a few minutes before starting. Examine the objects brightness, length, and width. Get a feel for the object! Try different eyepieces and see which field-of-view and magnification best displays the object.



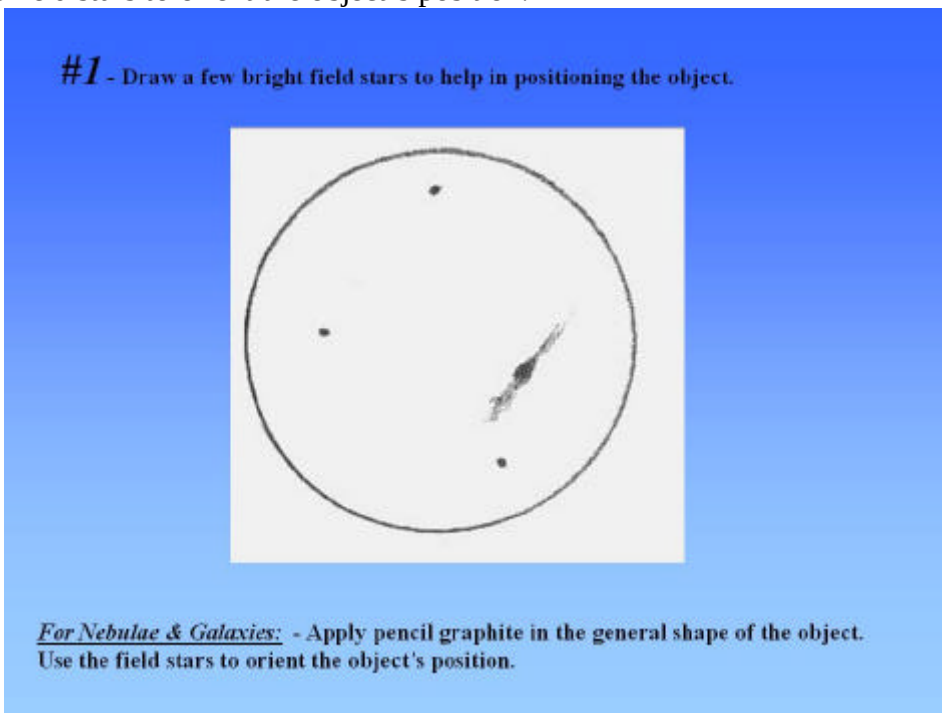
The following is a three (3) step format on how to draw most Deep Sky objects.
These steps are general, so use them as a guide. It all depends on the object, your equipment, and the sky conditions. Go with whatever works for you...

Step #1 - Draw a few bright field stars to help in positioning the object. *(this 'anchors' your sketch)*

For Star Clusters: - Carefully Sketch a few of the brighter cluster stars that form a pattern: triangle, square, line.

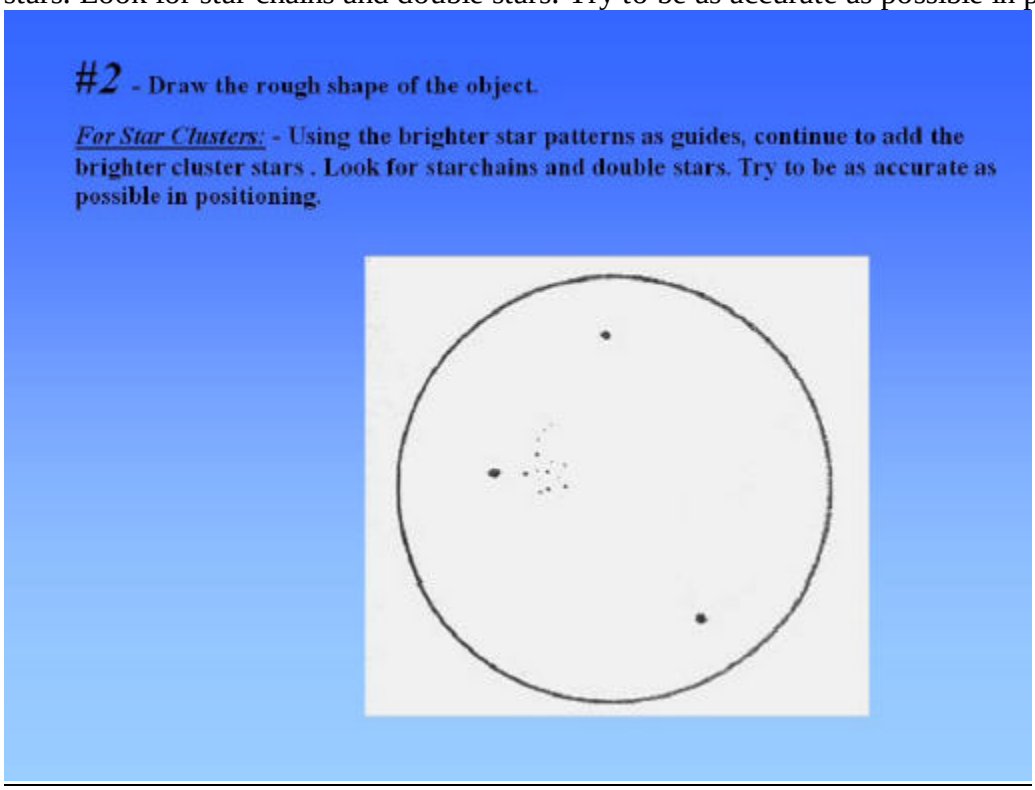


For Nebulae & Galaxies: - Apply pencil graphite in the general shape of the object.
Use the field stars to orient the object's position.

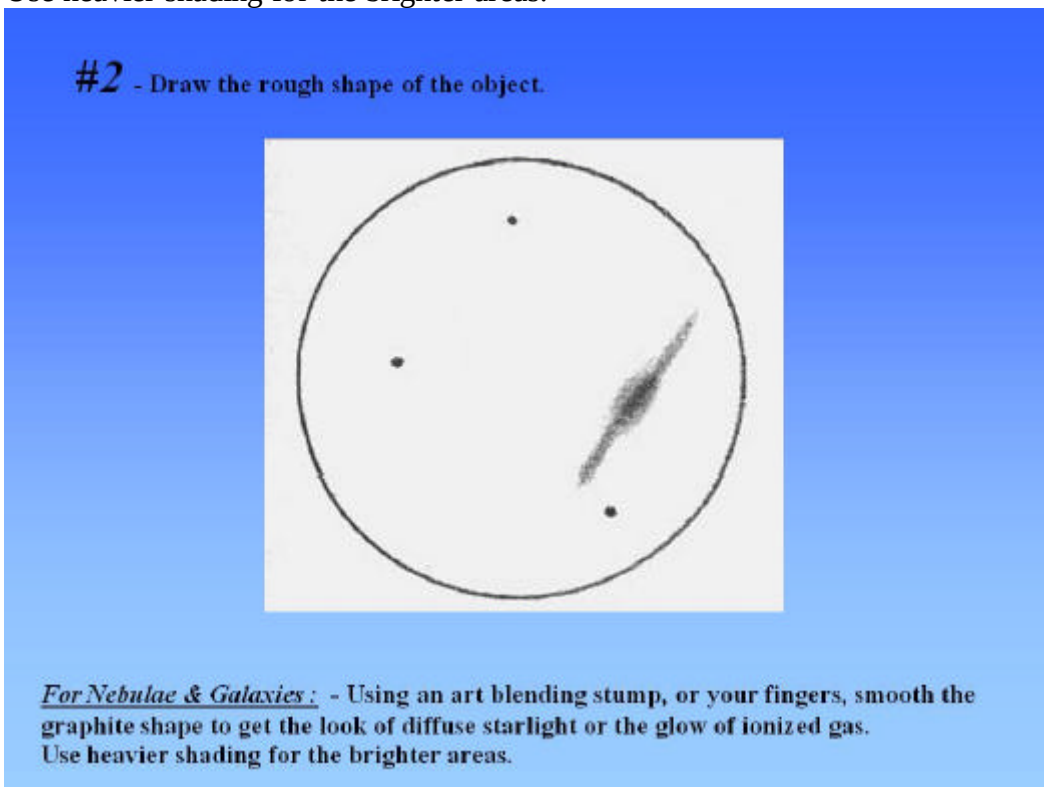


Step #2 - Draw the rough shape of the object.

For Star Clusters: - Using the brighter star patterns as guides, continue to add the brighter cluster stars. Look for star chains and double stars. Try to be as accurate as possible in positioning.

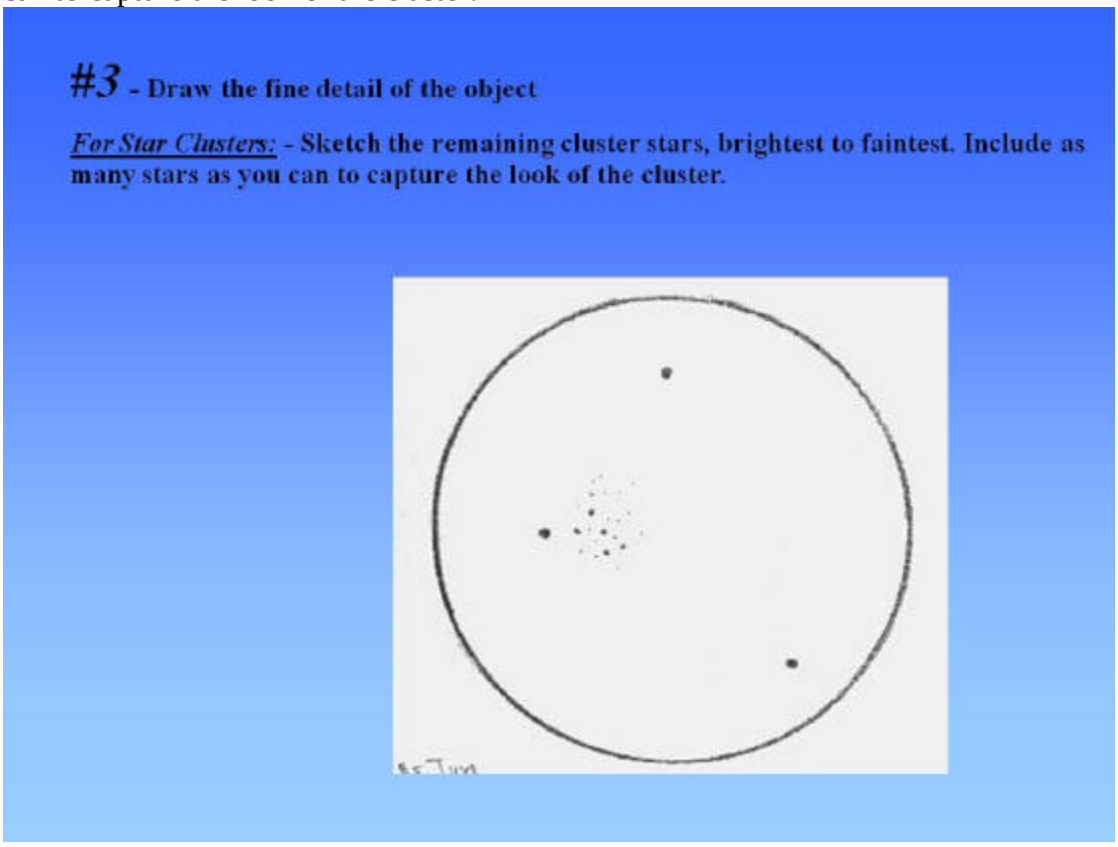


For Nebulae & Galaxies : - Using an art blending stump, or your fingers, smooth the graphite shape to get the look of diffuse starlight or the glow of ionized gas.
Use heavier shading for the brighter areas.

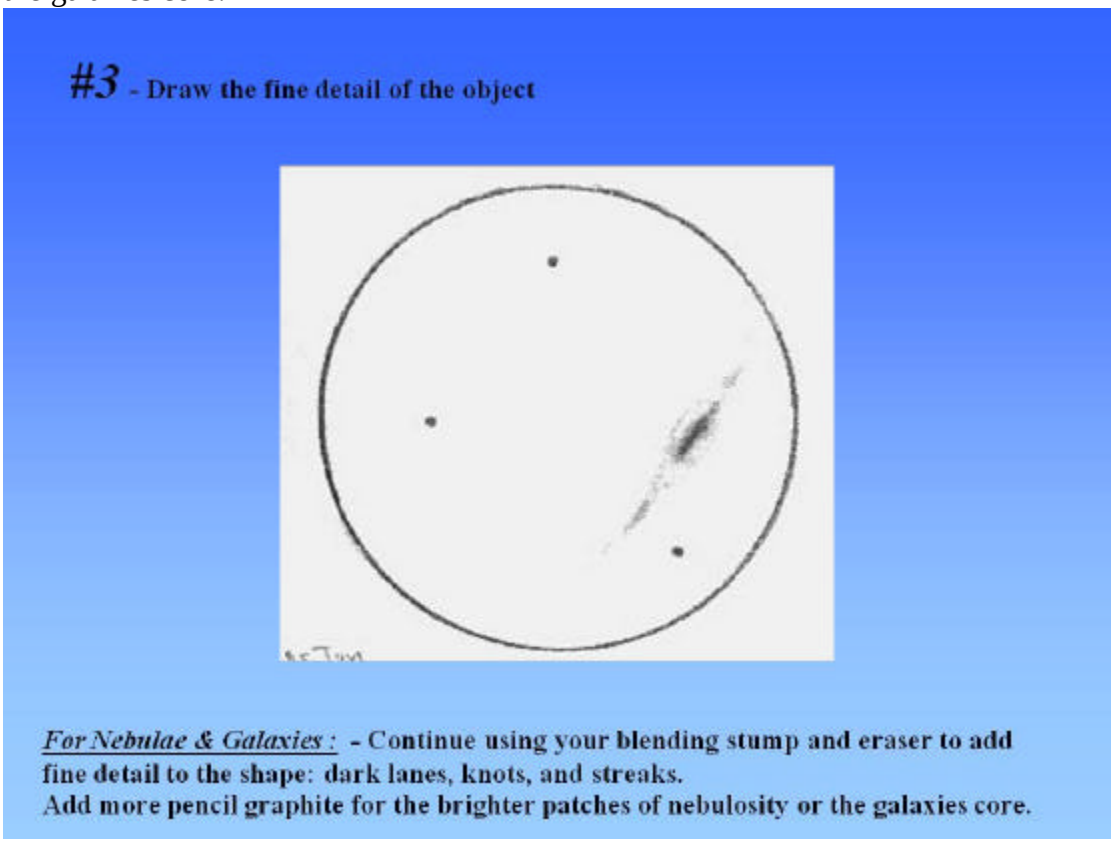


***Step #3 - Draw the fine detail* of the object**

For Star Clusters: - Sketch the remaining cluster stars, brightest to faintest. Include as many stars as you can to capture the look of the cluster.

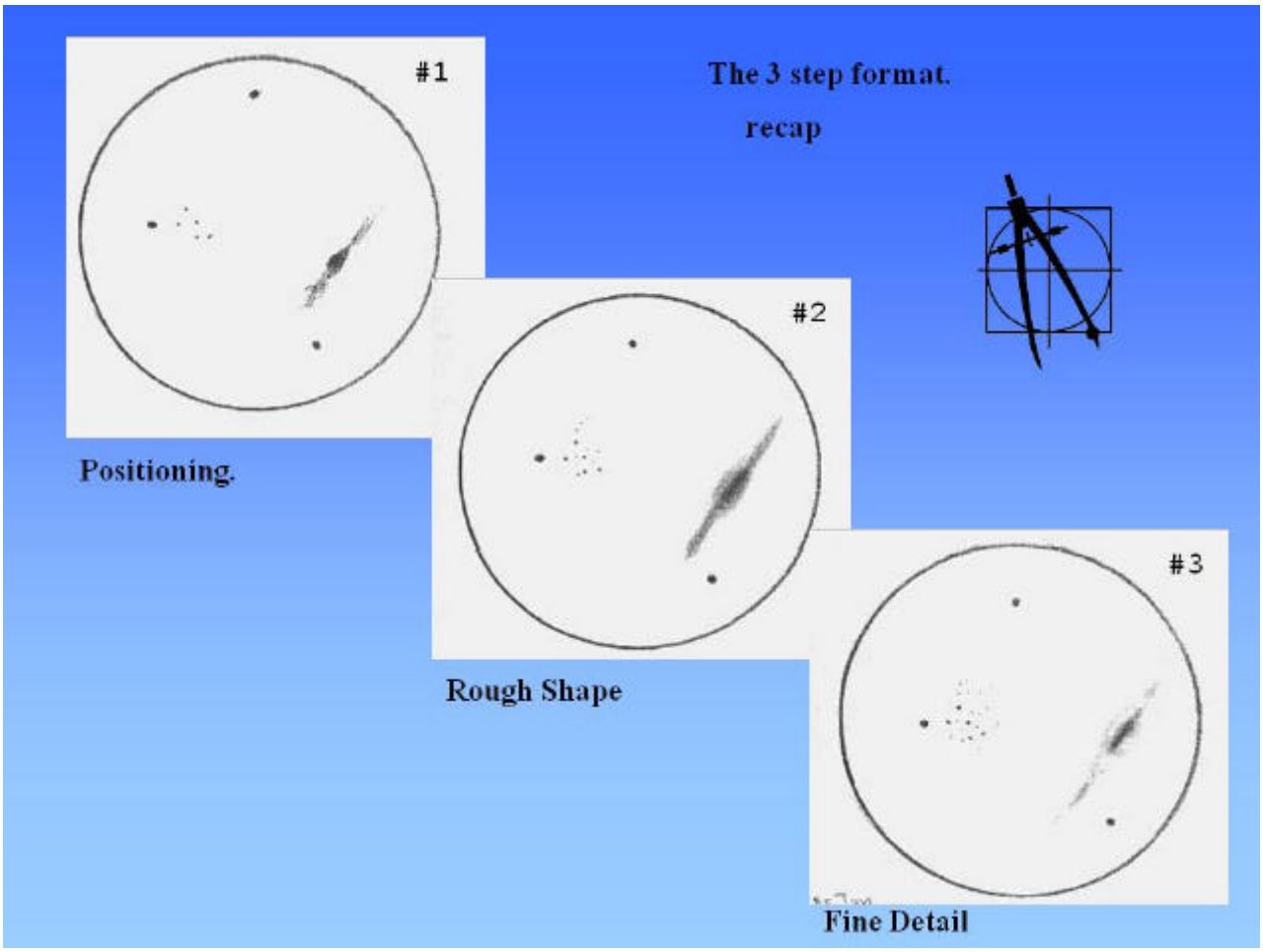


For Nebulae & Galaxies : - Continue using your blending stump and eraser to add fine detail to the shape: dark lanes, knots, and streaks. Add more pencil graphite for the brighter patches of nebulosity or the galaxies core.



Add remaining field stars. Indicate field direction, stars drift to the west. Add notes and comments.

The three (3) step format: Recap
Positioning.
Rough Shape.
Fine Detail



The key to good Deep Sky eyepiece sketches is experience. The more effort you put into sketching, the better you will become, and your sketches will look more realistic.

"Record what you actually see – not what you want to see"

Always keep your 1st attempts. They will show how far you've progressed in your skills.

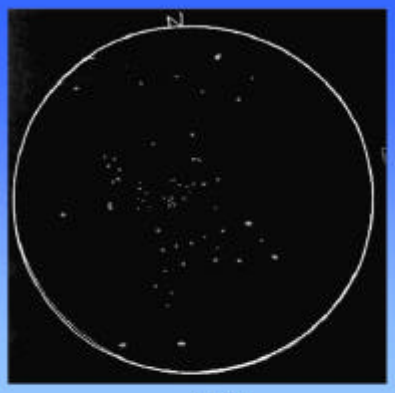
Finally, a question that I get asked a lot is which is better?
Pencil Graphite on White Paper or White Chalk on Black Paper.

Using Graphite: - Easy to correct mistakes
Using White Caulk: - Sketches will look more realistic.

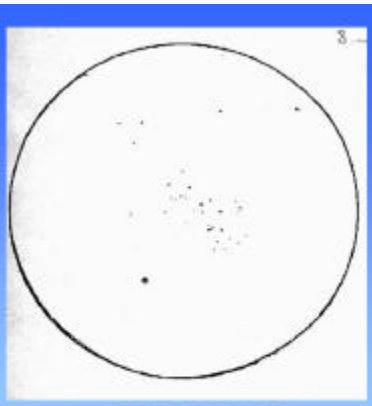
Solution: sketch on white paper with graphite pencil.
Then use a computer to scan the sketch, convert to a negative.

Sketching Examples: Now let's review some examples to show what you can do!

Open Clusters: (hardest objects to sketch)



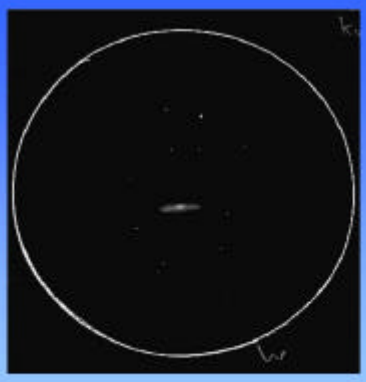
M7



NGC 6633

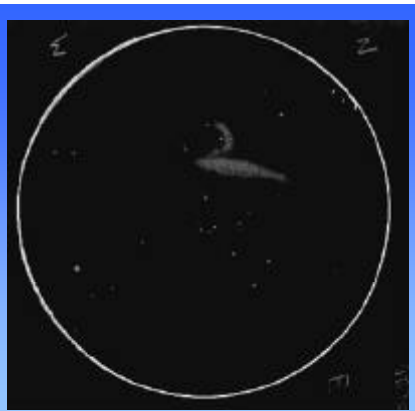
Galaxies: (easiest to sketch)

M66



NGC 7331

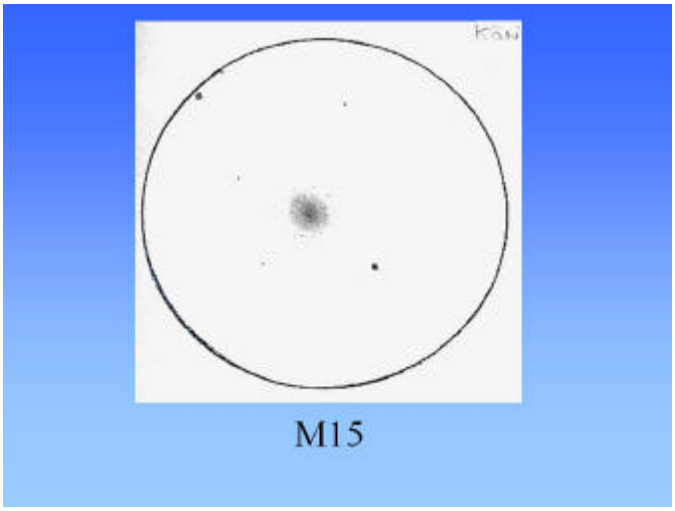
Nebulae:

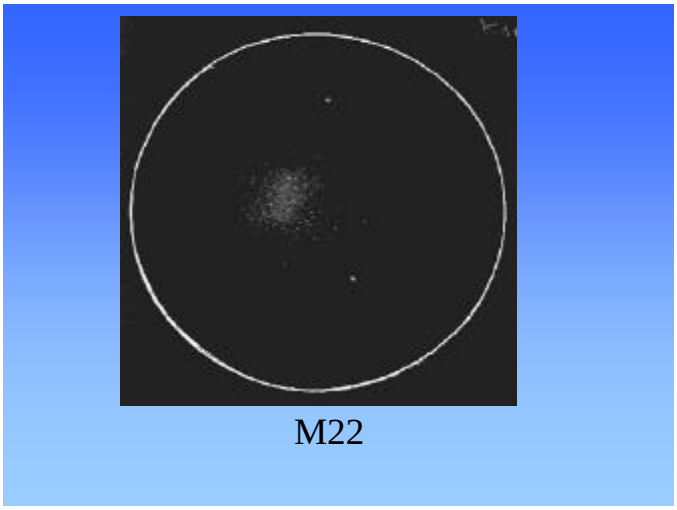


M 17

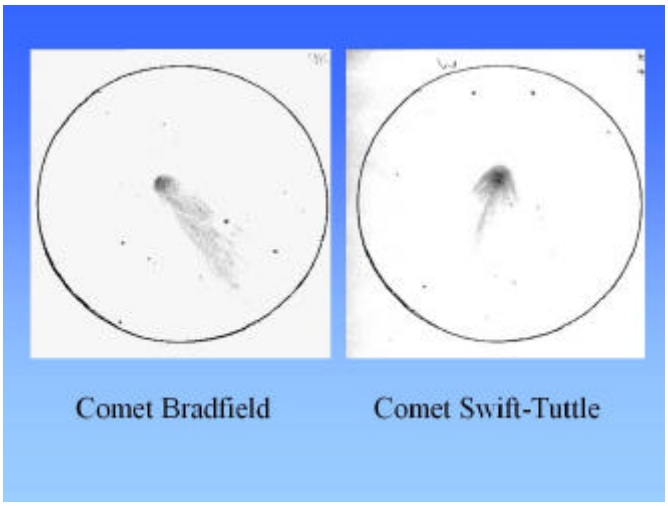
NGC 6992

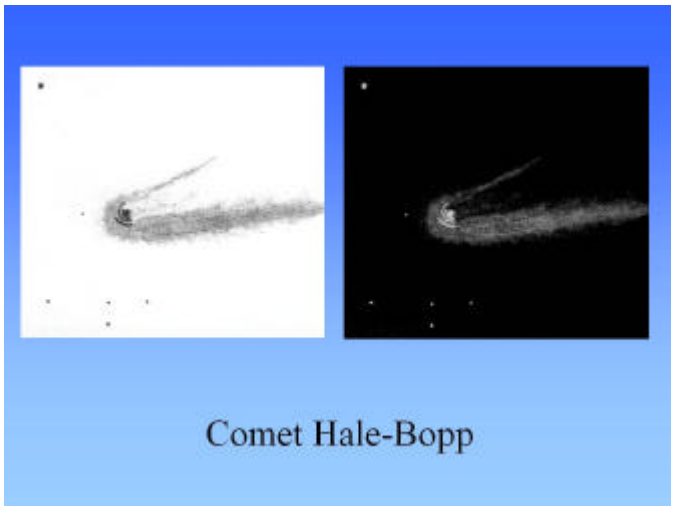
Globular Clusters:



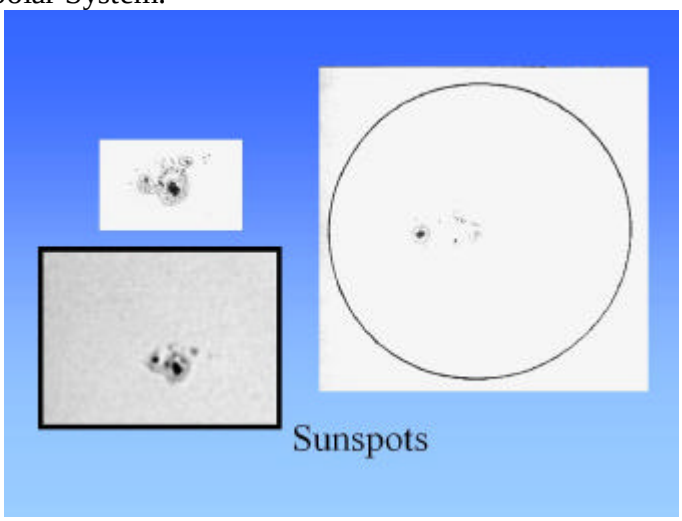


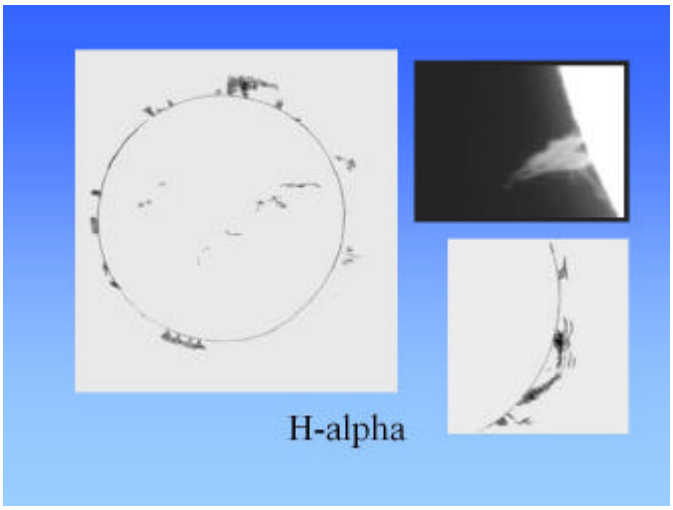
Comets:

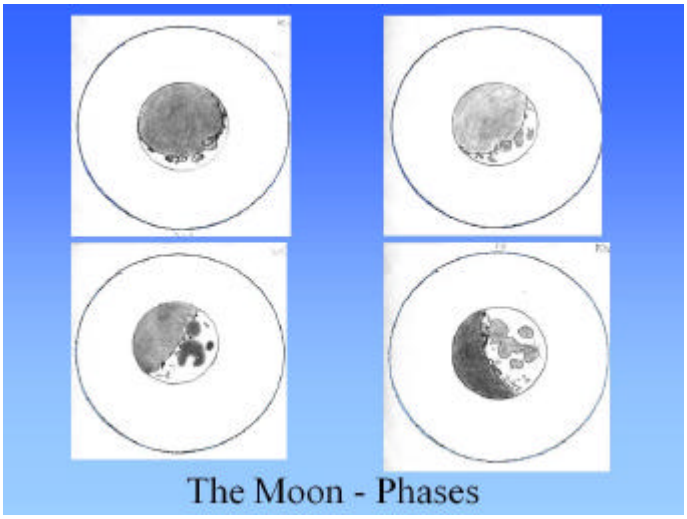




Solar System:







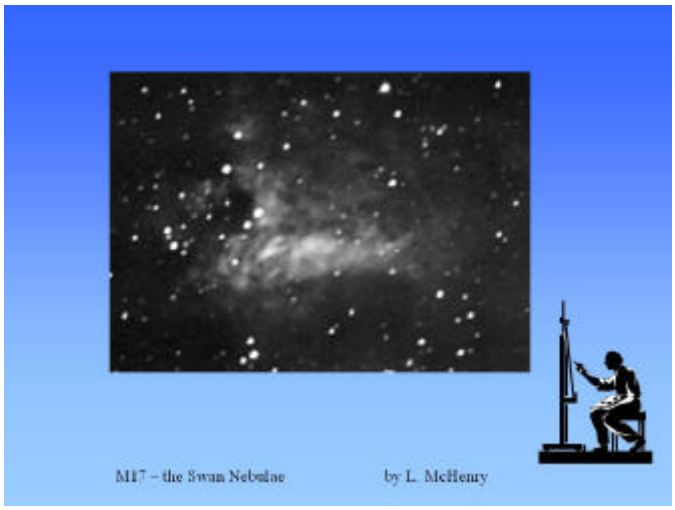
Some of the telescopes I've used over the years, along with my home observatory
Telescopes (8", 13" and 10" dobs)

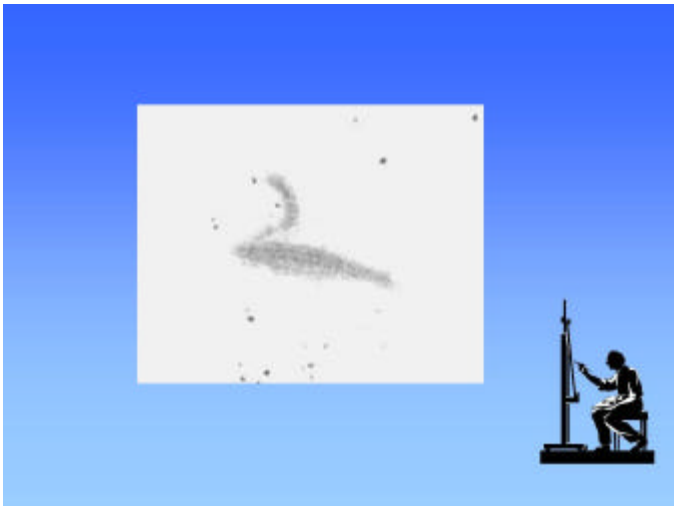
This concludes my introduction to Deep Sky Sketching. I've demonstrated today that great results can be had with basic 'imaging' equipment of "pencil and paper" and any type of telescope.

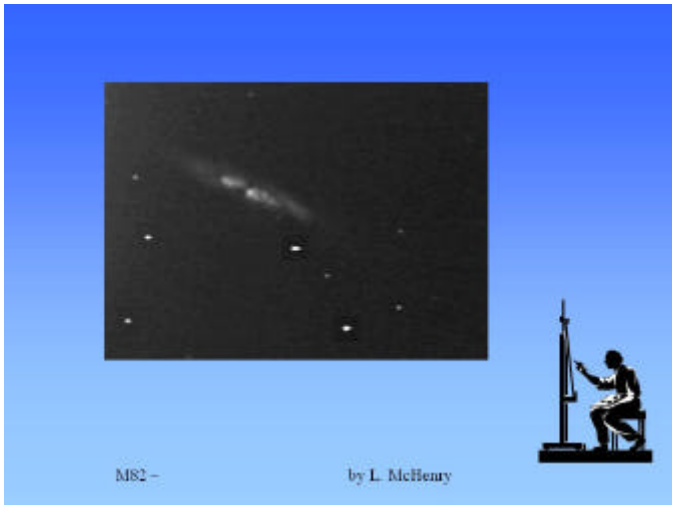
Recommended Readings:

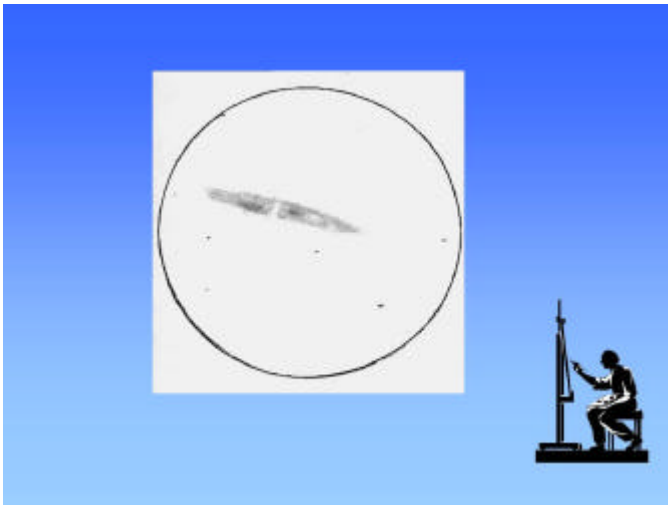
"*The Night Sky Observers Guide*" by George Kepple & Glen Sanner
"*Visual Astronomy of the Deep Sky*" by Roger Clark
"*Messier's Nebulae & Star Clusters*" by Kenneth Glyn Jones
"*Deep Sky Observers Handbooks*" by Webb Society

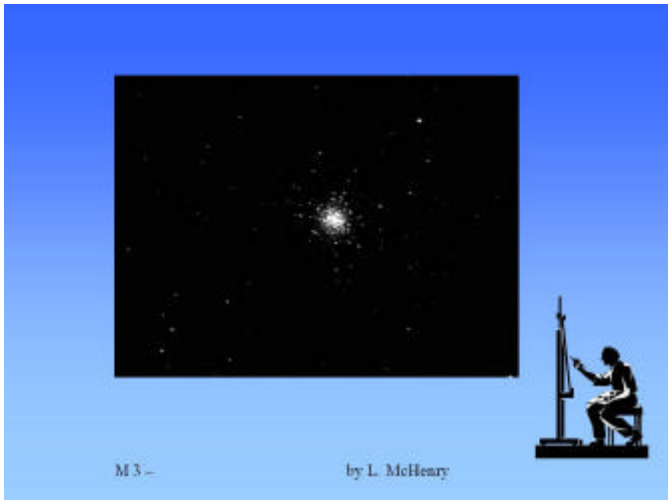
Sketching Activity: Try sketching from a photo.

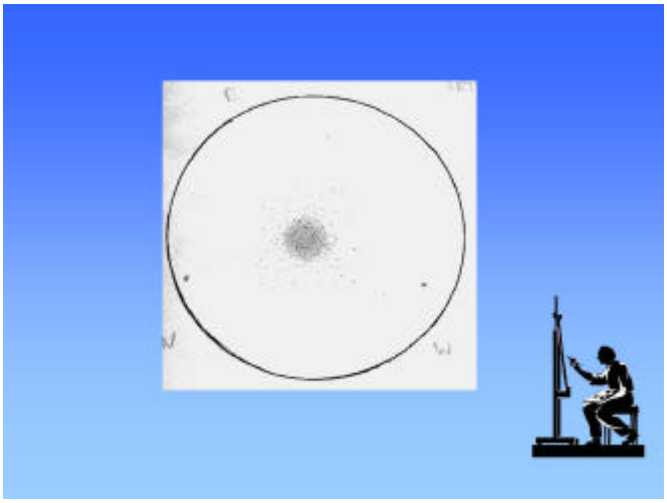












DEEP SKY OBSERVATION FORM

OBJECT: _____ U.T. DATE: _____
(NGC, IC, M, OTHER..)

OBSERVER: _____ SITE: _____

_____ LONG: _____ LAT: _____

_____ ALT: _____

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EQUIPMENT USED - TYPE: _____ APERATURE: _____ F/: _____

SKY CONDITIONS (1 - 5): _____ TRANSPARENCY (1 - 6): _____

COMMENTS (CLOUDS,HAZE,MOONLIGHT,TWILIGHT,LIGHTS,ETC): _____

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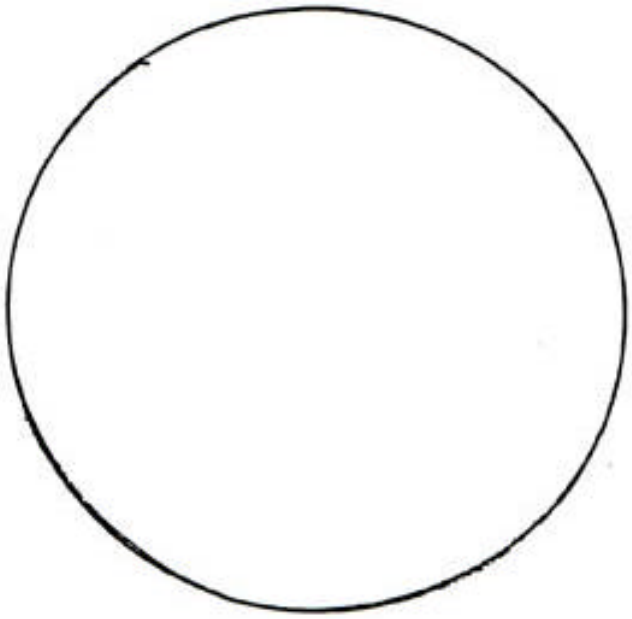
U.T. TIME: _____ EYEPIECE: _____ MAGNIFICATION USED: _____



ADDITIONAL COMMENTS: _____

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