



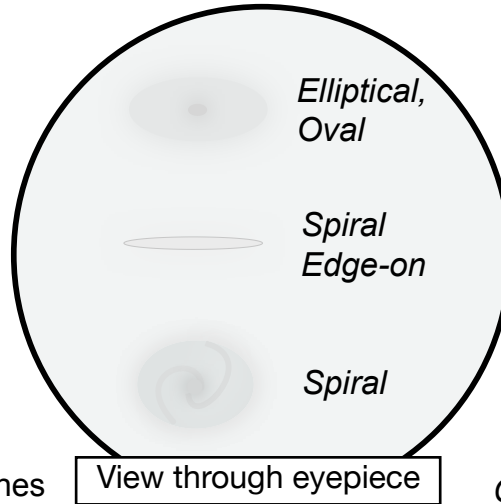
# Observing Galaxies

Because galaxies are so very far away, they are typically faint. Therefore, your goals are to increase light collection and to maximize visual contrast whenever possible.

- Clear, dark skies are best.
- The larger the aperture of the telescope, the better. A four inch telescope barely reveals less than a dozen dim, indistinct glows, while an 8 inch scope picks out several dozen under the best conditions. Larger scopes begin to show internal structures such as dark dust lanes and spiral arms.

## Consider these factors when observing:

- Note the general shape and apparent size of the galaxy. Is it more round than oval? Is it thin?
- If it is oval, in what direction does its major (long) axis point?
- What does the core look like? Is it star-like, or a round glow? Is it indistinct?
- Are spiral arms visible?
- For edge-on galaxies, are dust lanes visible?
- How quickly do the boundaries fade into blackness?
- Are smaller and dimmer galaxies also visible in the field?

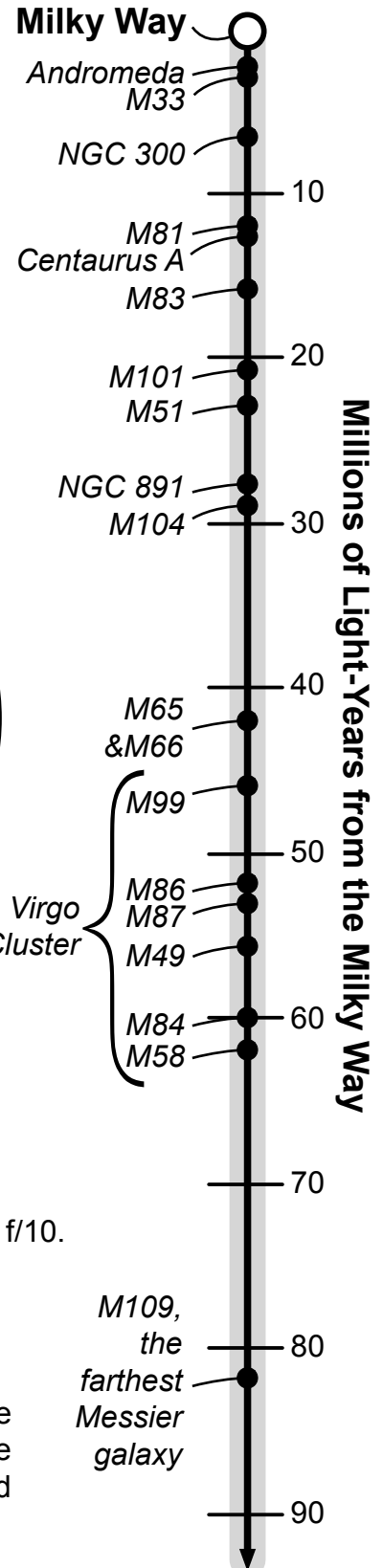


## Enhance your view:

- Use averted vision.
- For better perception of small details, increase the magnification.
- To increase contrast, use a smaller focal ratio scope—f/5 is better than f/10.
- Tap the telescope tube to help bring out detail.
- Increase apparent field contrast by covering your head with a hood.

## The importance of surface brightness:

The published magnitude of a galaxy refers to its brightness as if it were a point source. A galaxy, however, spreads its light over an appreciable area, making it appear dimmer than its published magnitude would suggest. As a result, it may be surprisingly difficult to discern.



**Deepen your experience:** Appreciate the distance of your target galaxy, and how long its light took to reach your eyes!

Record your observations! Use a logbook, tablet, laptop, or voice recorder. Your notes are too precious to lose! You will refer to them years later.

