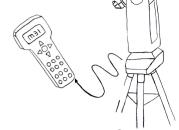
How do you find celestial objects?

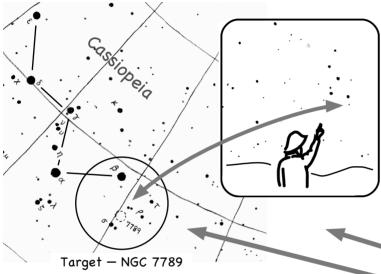
 \Leftrightarrow Finding celestial targets the modern way \Leftrightarrow

Computerized "GoTo" telescopes ... the quick and easy method:

- 1 Level the telescope mount
- 2 Point the tube towards north
- 3 Indicate the date and time
- 4 Indicate observing location
- 5 Center on first quide star
- 6 Center on second quide star
- 7 Enter the target's designation
- 8 The scope automatically slews to it



🟠 Finding celestial treasures the old fashioned way 🏠



Learn the stars and constellations

- * There is no subsitute for sitting under the stars with a map and red flashlight.
- ★ Use a star map that plots all stars visible to the unaided eye.
- * Start by finding well-known star patterns such as the Big Dipper, or the constellation of Orion or Cassiopeia.
- * Continue by identifying neighboring star patterns.

Finderscope: little scope, big view

Why a finderscope?

- ★ Gives a wide field of view, about 5º,
- Must be aligned with the main telescope,
- Only the bright planets, brighter nebulae and star clusters are visible

- roint the finder at a suitable guide star, or
- Triangulate to the object by using nearby recognizable stars.

Finderscope view, note the inverted image

The Big Dipper

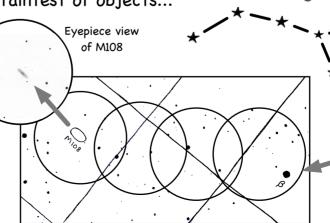
Star Hopping: finding the faintest of objects...

Before hopping begins:

- Must have a detailed star map.
- * Must know the field of view of the eyepiece.

As an example, find galaxy M108:

- * Begin hopping at a reference star, in this case Beta (β) Ursa Majoris in the Big Dipper.
- * Match the stars on the map with those in the eyepiece.
- * Hope among the stars in each subsequent field of view until the correct field is reached.
- ★ Look closely to see the dim galaxy M108.



Star hopping to M108 from Beta Ursa Majoris

The Astronomical League www.astroleague.org/outreach

M108