How do you find celestial objects?

Finding celestial targets the modern way ★

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 guide star
6. Center on second guide star
7. Enter the target's designation
8. The scope automatically slews to it

Finding celestial treasures the old fashioned way ★

1. Learn the stars and constellations
   - There is no substitute 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.

2. 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
   Simply...
   - Point the finder at a suitable guide star, or
   - Triangulate to the object by using nearby recognizable stars.

3. 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.