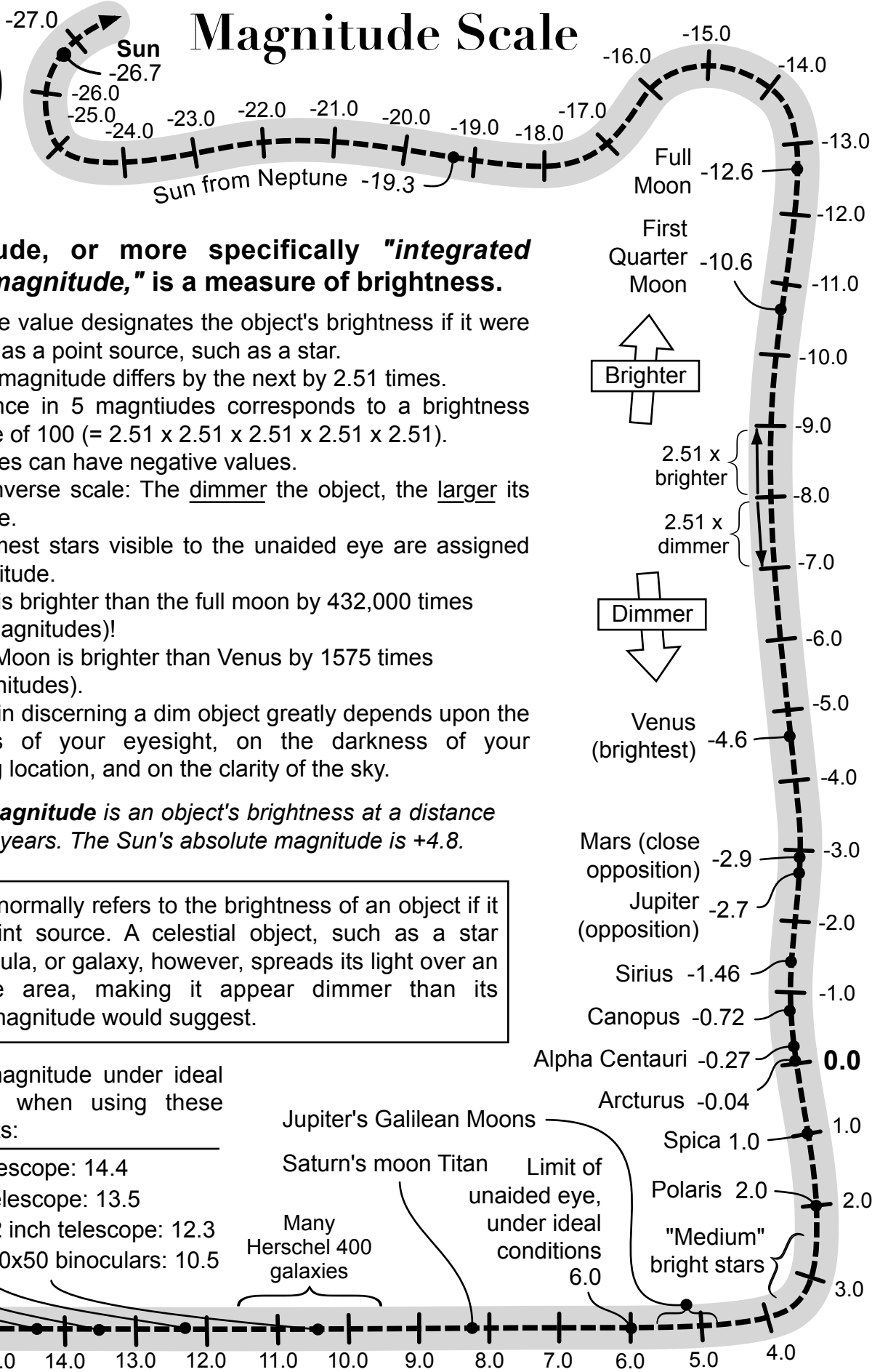
Magnitude Scale



Magnitude, or more specifically *"integrated visual magnitude,"* is a measure of brightness.

- Magnitude value designates the object's brightness if it were regarded as a point source, such as a star.
- Each full magnitude differs by the next by 2.51 times.
- A difference in 5 magntiudes corresponds to a brightness difference of 100 (= 2.51 x 2.51 x 2.51 x 2.51 x 2.51).
- Magnitudes can have negative values.
- It is an inverse scale: The dimmer the object, the larger its magnitude.
- The dimmest stars visible to the unaided eye are assigned 6th magnitude.
- The Sun is brighter than the full moon by 432,000 times (= 14.1 magnitudes)!
- The Full Moon is brighter than Venus by 1575 times (= 8 magnitudes).
- Success in discerning a dim object greatly depends upon the keenness of your eyesight, on the darkness of your observing location, and on the clarity of the sky.

***Absolute magnitude** is an object's brightness at a distance of 32.6 light-years. The Sun's absolute magnitude is +4.8.*

Magntiude normally refers to the brightness of an object if it were a point source. A celestial object, such as a star cluster, nebula, or galaxy, however, spreads its light over an appreciable area, making it appear dimmer than its published magnitude would suggest.

Limiting magnitude under ideal conditions when using these instruments:

12 inch telescope: 14.4
8 inch telescope: 13.5
4-1/2 inch telescope: 12.3
10x50 binoculars: 10.5