

## A Step-Program for the Star/Constellation/Planet Award

### Guidelines for Award

This basic program of reading and observation, which is based in part on the Boy Scout merit badge in astronomy, will give you a working knowledge of the sky. No equipment purchase is necessary for any requirement. One notebook will be ample for all observational notes, sketches, and descriptions. An inexpensive book such as *A Field Guide to the Stars and Planets* or *Norton's Star Atlas and Reference Handbook* (or both) will be enormously helpful, as will *Sky & Telescope* magazine. Any MAS member will be happy to help you in any way. You do not need to complete the requirements in the order listed—the sky will dictate your opportunities to observe.

#### 1. Identify these “major” constellations:

Andromeda	Canes Venatici	Coma Berenices	Leo	Pisces
Aquarius	Canis Major	Corona Borealis	Libra	Sagittarius
Aquila	Canis Minor	Cygnus	Lyra	Scorpius
Aries	Capricornus	Draco	Ophiuchus	Taurus
Auriga	Cassiopeia	Eridanus	Orion	Ursa Major
Bootes	Cepheus	Gemini	Pegasus	Ursa Minor
Cancer	Cetus	Hercules	Perseus	Virgo

Several will require observing sessions away from city lights, as they are invisible most or all nights in Memphis. An experienced observer will check you and initial your list as you point them out.

#### 2. Identify these bright stars (this can be done easily at the same time you identify the constellations):

Sirius	Procyon	Antares	Castor	Denebola
Arcturus	Altair	Pollux	Bellatrix	Dubhe
Vega	Betelgeuse	Fomalhaut	Polaris	Merak
Capella	Aldebaran	Deneb	Mizar	

# MAS AWARDS PROGRAM

Rigel

Spica

Regulus

Algol

Except for Dubhe (a UMa), Merak (b UMa), and Algol (a variable star), they are listed in order of brightness.

3. Identify the 5 bright planets (Mercury, Venus, Mars, Jupiter, and Saturn). In sketches, show the position in the sky of Mars or Jupiter relative to bright stars at approximately weekly intervals at the same hour for at least 4 weeks.
4. With the aid of diagrams, explain the relative positions of sun, earth, and moon at the times of lunar and solar eclipses and at the times of new, first quarter, full, and last quarter phases of the moon. Observe and explain earthshine.
5. Sketch the position on the horizon of the sun at sunrise or sunset at approximately weekly intervals for at least 4 weeks around the beginning of spring or fall and for 8 weeks near the beginning of summer or winter. Explain in a diagram the changes you observe.
6. Describe the Milky Way as it appears in summer and in winter. Tell why it looks the way it does at these times of the year.
7. Observe through a telescope and sketch one of each of these objects: open (galactic) cluster, globular cluster, planetary nebula, diffuse nebula, and galaxy (other than our own). You do not need to buy a telescope; MAS members will be more than happy to show you these things through their telescopes.

When you have completed all the requirements, submit your notebook to the Awards Committee for review. You may do this by giving it to any member of the Board of Directors. It will, of course, be returned to you. If you have completed the requirements satisfactorily you will be awarded a handsome Certificate of Achievement.