INTELLECTUAL CORE

ASTRONOMY - LEADER KEY

BADGE REQUIREMENTS CHECKLIST (BRC)
VERSION: 2026.1

SAINTS GLOBAL MEMBER

NAME: | BATTALION: | TROOP:

SKILL BADGE ADVISOR

NAME: | EMAIL: | PHONE:

LEADER KEY | WITH EVALUATION HINTS

**Gold boxes contain leader hints for evaluating each requirement*

STEP 1 | DISCOVER

INITIALS

a) Explain the likely hazards of astronomy activities (night travel, weather, wildlife, dehydration, equipment hazards) and describe how you will prevent and respond to them.

> **LEADER KEY**
> Look for realistic risk controls and a willingness to stop when unsafe.

b) Demonstrate first aid knowledge for observation-related risks (heat/cold reactions, dehydration, bites/stings, and eye injury), and explain proper clothing and precautions for night and cold-weather observing.

> **LEADER KEY**
> Ensure the Saint understands escalation points and avoids risky self-treatment.

c) Explain what light pollution is, how it affects astronomy, and describe one practical action you can take to protect or improve the night sky in your community.

> **LEADER KEY**
> Look for clear cause-and-effect and a practical improvement idea.

d) Explain how to observe the Sun safely (including eclipses) and demonstrate correct solar-safety rules and equipment boundaries.

> **LEADER KEY**
> Solar safety must be strict—no ambiguity.

STEP 2 | PLAN

INITIALS

a) Explain why binoculars and telescopes are important tools, compare at least two telescope types (including one non-optical wavelength telescope conceptually), and describe the purpose of three common telescope accessories or instruments. _____

> **LEADER KEY**
> Look for functional understanding rather than brand-specific knowledge.

b) Prepare an observation plan that lists target objects, tools to be used (naked eye/binoculars/telescope/app/chart), and the safety and setup steps for the session. _____

> **LEADER KEY**
> Plan should be realistic for location and equipment.

b.1) List at least 10 targets spanning at least three categories (constellations/stars/Moon/planets/deep-sky/satellites) _____

b.2) Identify how each target will be located (chart/app/star-hop/finder) _____

b.3) Describe site selection and light discipline _____

b.4) List setup, alignment, and shutdown steps for your equipment _____

c) List the five most visible planets and explain which can show phases like the Moon and why; describe how planets move across the sky including retrograde motion at a high level. _____

> **LEADER KEY**
> Ensure explanations are coherent and physically correct at a basic level.

STEP 3 | ACT

INITIALS

a) Under the natural night sky, identify 10 constellations (including at least four zodiac constellations) and eight conspicuous stars (including at least five of magnitude ~1 or brighter) and show them to a leader. _____

> **LEADER KEY**
> Verification should include pointing, not just naming.

b) Make two direct-observation sketches of the Big Dipper or Cassiopeia showing orientation change, including the North Star and the horizon.

> **LEADER KEY**
> Ensure sketches are based on observation, not copied diagrams.

b.1) Create two sketches from direct observation at different times

b.2) Label North Star and horizon features

b.3) Explain why the pattern appears to rotate

c) Observe one planet and describe what you saw, including color, brightness, steadiness, and any visible phase or disk (if equipment allows).

> **LEADER KEY**
> Look for honest observation language and avoidance of exaggeration.

d) Create a 12-month evening-sky visibility chart for the five visible planets using approved resources, and explain how you decided what 'observable' means for your location.

> **LEADER KEY**
> Confirm that the chart is understandable and defensible.

e) Sketch the Moon and label five maria (seas) and five craters from observation, then explain how the Moon's phases and eclipses relate to Sun–Earth–Moon positions.

> **LEADER KEY**
> Ensure sketches and explanations are based on real observations.

e.1) Produce a labeled Moon sketch based on observation

e.2) Make four separate observations of the Moon's phase and position and sketch each with horizon landmarks

e.3) Explain new/quarters/full and how lunar vs solar eclipses occur

f) Explain the Sun's composition and how it compares to other stars, define sunspots, and identify one red, one blue, and one yellow star (other than the Sun) and explain what the colors mean.

> **LEADER KEY**
> Look for correct temperature-color reasoning and careful observation.

g) Complete one outreach or extended observing option: host a star party, assist a public star party, visit an observatory/planetarium and report, complete an extended observation session beyond the basics, or produce a labeled image series of celestial motion.

> **LEADER KEY**
> This requirement measures leadership, clarity, and reliability.

g.1) Choose one option with leader approval and explain your plan beforehand

g.2) Demonstrate or present at least 10 additional objects or a labeled motion series/report

g.3) Explain what worked, what was difficult, and how you kept the activity safe

g.4) Teach at least one concept to another person during the activity

STEP 4 | REFLECT

INITIALS

a) Explain what the Milky Way is and what we are seeing when we look at it, and describe one way astronomy deepened your sense of wonder and responsibility.

> **LEADER KEY**
> Listen for specific observations tied to understanding.

b) Identify three astronomy-related career pathways or hobby pathways and describe the training, costs, and next steps for one you might pursue.

> **LEADER KEY**
> Ensure the plan is realistic and age-appropriate.

Continue to next page for certification signature

END OF REQUIREMENTS

BY SIGNING BELOW, I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT ALL REQUIREMENTS WERE MET AT OR ABOVE THE REQUIRED STANDARDS AS OUTLINED IN THE BADGE REQUIREMENTS CHECKLIST.

SKILL BADGE ADVISOR	DATE *(YYYY-MM-DD)*