SAINTS GLOBAL

ACTIVITY PLAN

ASTRONOMY

INTELLECTUAL CORE

Version 2026.1

Companion to the BRC: a series of one-hour activity sessions for use on weekly activity night or at home. Each session declares which requirements it contributes to.

THE CULMINATING EVENT

The star party

An off-meeting evening at a dark observing site, leader- and parent-supervised. Each saint sets up the telescope, runs the sky from the observation plan he wrote, finds the constellations and stars he trained for, observes a planet and a red, blue, and yellow star, and teaches at least one object to a guest or a younger saint. This is where the observing requirements are earned in the field.

OUTDOOR — A DARK-SKY SITE, AFTER FULL DARK; LEADER AND PARENT SUPERVISED

4 SESSIONS IN THIS PLAN

SESSION 1 · INTELLECTUAL CORE

60 min target

Prepare for safe night observing

Good night observing starts with safety and preparation.

SESSION AIM

Run Step 1 end to end — the hazards of night observing and their first aid, cold-night clothing, light pollution and one action a saint can take against it, and the solar-safety rule. Saints leave with Step 1 marked on the BRC and the three anchor sky patterns they will use for the rest of the badge.

WALK AWAY WITH

- Can name the night-observing hazards and the first aid for each, and dress a cold-night kit
- Has chosen one concrete light-pollution action for his own community
- Can state the solar-safety refusal rule without hedging
- Can find the Big Dipper, Cassiopeia, and Orion and star-hop from them

BRING / SET UP

- A bare bulb and a shielded fixture, same wattage, for the glare demo
- The intended observing site, or the closest match, for a daylight walk
- Basic first-aid kit and a full cold-night clothing layout to show
- One certified full-aperture solar filter to show (plus obvious wrong objects: sunglasses, smoked glass)
- Anchor-pattern sky cards (one per saint)
- BRC printouts and pens

THE HOUR

BLOCK 1 · DISCUSSION **Opener — Night hazards** 5 min

Ask the group: "What goes wrong outside at night that doesn't go wrong in daylight?" Let four or five saints answer — cold, footing, getting turned around, a light that ruins everyone's night vision. Take the answers and move on. The goal is to put night observing on the table as something the group will prepare for, not assume.

SESSION 1 · PREPARE FOR SAFE NIGHT OBSERVING (PAGE 2 OF 3)

THE HOUR — CONTINUED

BLOCK 2 · SKILL PRACTICE Walk the site, name the hazards

15 min

1. Walk the actual observing site in daylight — the one the group will use, or the closest match. Each youth calls out one hazard he sees: traffic, drop-offs, water, brush, the walk back to the cars in the dark.
2. Run a fast scenario set, one line each: a youth is shivering and clumsy; another is dizzy and hasn't drunk water since noon; a third took a branch to the eye; a fourth got stung. For each, the group gives the first response and the point at which to stop the activity.
3. Lay out the cold-night kit on the ground: base layer, insulation, wind shell, hat, gloves, dry socks. Cold hands make telescope work difficult, so warm layers matter.
4. Each youth states one stop rule aloud — the condition under which the night ends early no matter how clear the sky is.
5. Leader confirms 1a and 1b: hazards named with prevention and response, first aid steps correct, clothing choices right.

REQ 1A REQ 1B

BLOCK 3 · SKILL PRACTICE Kill the glare, find the anchors

20 min

1. Hold up two lights — one bare bulb, one shielded, same wattage. Show how the bare one throws glare sideways and ruins night vision while the shielded one only lights the ground. That difference, multiplied across a town, is skyglow.
2. Each youth names one real fixture he could change or push to change — a porch light, a church floodlight, a streetlight he can report — and the change itself: shield it, aim it down, swap the bulb, turn it off after a set hour.
3. Teach dark adaptation: twenty minutes to build, one white phone screen to ruin. Red light only, dimmed, after dark. Practice covering a phone or switching to red mode now so it becomes habit.
4. On the anchor-pattern card, walk the three anchors: Big Dipper to Polaris; the pointer across to Cassiopeia; Orion's belt down to Sirius and up to Aldebaran. Each youth traces each star-hop with a finger and names the bright stars he lands on.
5. Each youth takes the card home — he will use it at every observing session and at the star party.

REQ 1C

SESSION 1 · PREPARE FOR SAFE NIGHT OBSERVING (PAGE 3 OF 3)

THE HOUR — CONTINUED

BLOCK 4 · ROLEPLAY Practice the solar-safety refusal

15 min

1. State the rule plainly: never point any optic at the Sun, or near it, without a full-aperture solar filter built for that scope. No sunglasses, no exposed film, no smoked glass, no eyepiece filter. Solar damage happens without pain and cannot be reversed.
2. Roleplay it. One youth offers another a scope — "just for a second, the filter's basically the same." The other youth refuses out loud, giving the reason. Run it three or four times with different pressure: a friend, someone older, someone impatient.
3. Cover the one safe path the group would actually use: a certified full-aperture filter, checked for pinholes before every use, or projection run by an adult who has done it before. The same rules apply during eclipses — partial phases are not safer.
4. Each youth says the refusal sentence in his own words — short, firm, and clear.

REQ 1D

BLOCK 5 · REFLECTION Close — Step 1 marked

5 min

1. Confirm on each saint's BRC: 1a, 1b, 1c, and 1d are marked. Step 1 completes in-session and does not depend on clear-sky observing.
2. Each youth finds the three anchors from memory before he leaves the building — point them out, do not read them off the card.
3. Next week the group opens the telescope and builds the observation plan. Bring the anchor-pattern card.

AT THE CLOSE · DEBRIEF

1. Which hazard on the observing site would have been hard to spot in the dark?
2. What is one light fixture you can actually change, and what will you do to it?
3. Say your solar refusal sentence aloud — is it short enough to use under pressure?

Mark 1a, 1b, 1c, and 1d after this session — Step 1 completes in-session and does not depend on observing weather. The anchor patterns taught here are rehearsal for 3a, which is marked at the star party.

SESSION 2 · INTELLECTUAL CORE

60 min target

The telescope and the observation plan

A telescope helps you see more, but you still need a plan.

SESSION AIM

Handle a real telescope and write the observation plan for the star party. Saints learn the type, optical path, and three accessories of a scope, reason out why some planets show phases, and build their ten-target plan and twelve-month visibility chart. They leave with the plan in hand and both off-meeting logs started.

WALK AWAY WITH

- Can compare two telescope types and name three accessories and what each does
- Can explain which planets show phases and why, and what retrograde really is
- Has a written ten-target observation plan and a twelve-month planet visibility chart
- Has the four-night Moon log and the Big Dipper rotation sketch started

BRING / SET UP

- A real telescope with its mount, at least one eyepiece, and a finder
- Three accessories to pass around (eyepiece, finder or red-dot, filters or diagonal)
- Star charts and a sky app set to the actual date and observing site
- Observation-plan + Moon-log worksheets (one per saint)
- Planet phases & retrograde cards (one per saint)
- BRC printouts and pens

THE HOUR

BLOCK 1 · DISCUSSION **Opener — What a telescope does** — 5 min

Put a telescope where everyone can see it, untouched. Ask: "What does this actually do — make things bigger, brighter, both? And what can it not do?" Take a few answers without correcting. The discussion sets up the work block, where the group will learn the real answers.

SESSION 2 · THE TELESCOPE AND THE OBSERVATION PLAN (PAGE 2 OF 3)

THE HOUR — CONTINUED

BLOCK 2 · SKILL PRACTICE Inside the telescope

16 min

1. With the real scope in front of the group, trace the light path: where light enters, where it bends or bounces, where the eye goes. Name the type — refractor, reflector, catadioptric — and one trade-off of each in plain terms (cost, weight, what it shows best).
2. Compare it to one telescope that gathers what the eye cannot see at all — radio, infrared, or X-ray. Give one sentence on what each reveals: dust clouds, heat sources, high-energy sources like supernova remnants.
3. Pass three accessories around and name the job of each: eyepiece (magnification and field), finder or red-dot (aiming), mount (holding still and tracking). Add filters or a diagonal if you have them.
4. Each youth sets up and breaks down the scope once, narrating the step he is on. Hands-on practice, not just watching.
5. Leader confirms 2a: tool importance, two types compared, three accessories explained.

REQ 2A

BLOCK 3 · DISCUSSION The five visible planets and their phases

14 min

1. Name the five planets visible without a telescope: Mercury, Venus, Mars, Jupiter, Saturn. The word "planet" means wanderer — they shift position against the background stars from night to night.
2. Using the phases-and-retrograde card, walk through Sun–Earth–planet geometry. Venus and Mercury sit between Earth and the Sun, so they show phases like the Moon. Mars, Jupiter, and Saturn stay nearly full — have the group reason out why from the diagram instead of memorizing it.
3. Trace retrograde on the card: when Earth overtakes a slower outer planet, that planet appears to slide backward for weeks. It is the view from a moving Earth, not the planet reversing direction.
4. Each youth explains one of the two — phases or retrograde — to the group in his own words, using the card to point at the geometry.

REQ 2C

SESSION 2 · THE TELESCOPE AND THE OBSERVATION PLAN (PAGE 3 OF 3)

THE HOUR — CONTINUED

BLOCK 4 · CREATIVE Build the observation plan

20 min

1. Hand out the observation-plan worksheet. Each youth lists at least ten targets across at least three kinds — constellations, named stars, the Moon, a planet, a deep-sky object, a satellite pass — using charts and a sky app set to the real date and observing site.
2. For each target, write how he will find it: which anchor he star-hops from, or the app, or the finder. Every target on the plan must have a way to locate it.
3. Write the first fifteen minutes — arrive, set up, align the finder, dark-adapt, easy target first — then the shutdown steps. Starting the night in order makes the rest of it easier.
4. Build the twelve-month visibility chart in the worksheet grid: for each of the five planets, mark the months it is up in the evening at this latitude. Write down the one source used and one limit of it. Each youth should be able to explain where the chart information came from.
5. Start both off-meeting logs on the worksheet now. Moon log: four observations across the coming weeks, same spot, sketch and label phase and position against a horizon landmark. Big Dipper rotation: two sketches a few hours apart on one clear evening, Polaris and horizon marked. Write tonight's date on both so the clock starts now — the logs cannot be back-filled the night before the party.

REQ 2B REQ 3D

BLOCK 5 · REFLECTION Close — Logs started

5 min

1. Confirm on each saint's BRC: 2a, 2b, 2c, and 3d marked this session.
2. Every saint leaves with the worksheet and a date written on both logs. The off-meeting logs run on their own schedule from this point — they must be kept through the week, not back-filled later.
3. Next week is the dress rehearsal: the Sun, the scope in daylight, the object each youth will teach. Bring the plan and the run-card handed out next session.

AT THE CLOSE · DEBRIEF

1. Which of your ten targets are you least sure you can actually find — and what is your path to it?
2. Explain retrograde to me as if I had never heard it.
3. What date is on your Moon log, and what would stop you from keeping it?

Mark 2a, 2b, 2c, and 3d after this session. 3b and 3e are launched as off-meeting logs on the worksheet — do not mark them now; they are collected and verified in Session 4.

SESSION 3 · INTELLECTUAL CORE

60 min target

Dress rehearsal for the star party

Practice setup in daylight before trying it at night.

SESSION AIM

This session prepares the group for the star party. Saints cover the Sun, sunspots, and what star color means, then set up and align the telescope in daylight until the steps are familiar, rehearse the object each will teach, and finalize the star-party plan. A rehearsal makes the star party much easier to run.

WALK AWAY WITH

- Can explain the Sun's makeup, sunspots, and why a star's color is its temperature
- Can set up and align the telescope without help, in the dark
- Has a rehearsed two-minute object to teach at the star party
- Has the star party locked: date, site, equipment, roles, and a weather call

BRING / SET UP

- The telescope(s) the saints will use at the party
- A distant fixed object for finder alignment (chimney, pole, tower)
- Red lights or red-film phone covers (one per saint)
- Star-party run-cards (one per saint)
- The observation plans from Session 2
- BRC printouts and pens

THE HOUR

BLOCK 1 · DISCUSSION **Opener — Log check, one week out** 5 min

Go around the room, one line each: is the Moon log going, and did the Big Dipper rotation get sketched? Keep this check-in brief and practical — note who is on track and who needs a hand before the star party. The star party is coming up, so check each youth's progress and treat tonight as the last practice before it.

SESSION 3 · DRESS REHEARSAL FOR THE STAR PARTY (PAGE 2 OF 3)

THE HOUR — CONTINUED

BLOCK 2 · SKILL PRACTICE The Sun, sunspots, and star color

14 min

1. The Sun is a star seen close up: mostly hydrogen and helium, fusing hydrogen in its core — the same kind of object as the points of light the group will name at the star party.
2. Sunspots are cooler, darker patches where the Sun's magnetic field is knotted, and they mark how active the Sun is. They are cooler than the surface around them but still far hotter than anything on Earth.
3. A star's color tells you its temperature. Blue is hottest, white and yellow are in the middle, red is coolest. Drill it on the card until each youth can look at a star and say whether it is hot or cool.
4. Name the three stars the group will hunt at the star party — a clearly red one, a blue-white one, a yellow one. Warn them now: near the horizon the atmosphere reddens everything, so judge a star's true color when it is high in the sky.
5. Leader confirms the in-session half of 3f: Sun composition, sunspots, color-temperature. The three colored stars are identified and marked at the star party.

REQ 3F

BLOCK 3 · SKILL PRACTICE Set the scope in daylight

20 min

1. Run the run-card top to bottom in daylight. Each youth, alone: assemble, balance, and align the finder on a distant fixed object — a far chimney or pole — until the finder and the eyepiece agree.
2. Time the first-fifteen-minutes routine. Practice the steps until they are familiar — daylight practice is what makes the night-time run reliable.
3. Practice red-light discipline: one full setup using only red light, no white screen. Every youth should be able to complete setup without reaching for a phone flashlight.
4. Practice the shutdown and pack: caps on, optics not wiped in the field, nothing left in the grass. All gear should be accounted for before the group leaves the site.
5. Walk the run-card's weather block: who makes the clouded-out call, by when, and the rain-out alternate — the next clear date, or the planetarium or observatory visit that still earns the outreach requirement. Decide this in the session, not by text on the night.

SESSION 3 · DRESS REHEARSAL FOR THE STAR PARTY (PAGE 3 OF 3)

THE HOUR — CONTINUED

BLOCK 4 · ROLEPLAY Rehearse the object each youth will teach

16 min

1. Each youth picks one object from his plan to present at the star party — a constellation with a story, a planet, a bright star, the Moon.
2. Two minutes, out loud, to the group, as if to a guest who knows nothing: what it is, how to find it from an anchor, one true thing about it. No notes.
3. After each presentation, the group gives one useful compliment and one suggestion to cut or tighten. Keep feedback brief and practical.
4. Finalize the star-party roster on the run-card: who sets up which scope, who greets guests, who runs the safe-Sun station if it is a dusk start, who logs that each saint hit his targets.

BLOCK 5 · REFLECTION Close — Confirm the plan

5 min

1. On the run-card, in pen: date, site, arrival time, equipment list with owners, roles, the weather-call name and deadline, the rain-out alternate. Every line on the card should be filled before saints leave.
2. Each saint confirms his Moon log and Big Dipper rotation sketch are current — the star party will not make up for a log that was skipped.
3. Confirm rides, parent supervision, and the dark-out time. Write the plan clearly so everyone knows what to do.

AT THE CLOSE · DEBRIEF

1. Which step of the scope setup gave you the most trouble in daylight?
2. Who makes the weather call for the star party, and by when?
3. What object are you teaching, and what is the one true thing you will say about it?

Mark the in-session half of 3f (Sun composition, sunspots, color-temperature) after this session. Do not mark 3a, 3c, the star-color half of 3f, or 3g now — those are earned at the star party; the leader marks them at the event itself and they are verified in Session 4. Confirm every saint's off-meeting Moon log (3e) and Big Dipper rotation (3b) are on schedule.

SESSION 4 · INTELLECTUAL CORE

60 min target

Field report and BRC sign-off

Review the star party and finish the badge requirements.

SESSION AIM

The review session after the star party. Saints present and verify what they actually observed against their plans and logs, walk through the Moon log and the Big Dipper rotation, explain what the Milky Way is, and name a path forward in astronomy. They leave with the observing requirements verified and the BRC signed off.

WALK AWAY WITH

- Has presented and verified the constellations, stars, planet, and colored stars he found
- Has explained the Moon's phases and the sky's apparent rotation from his own logs
- Can say what the Milky Way is and name a real next step in astronomy
- Has a signed BRC and one observing habit he plans to keep

BRING / SET UP

- Every saint's observation plan, Moon log, and Big Dipper sketches
- Anchor-pattern cards and star charts for pointing during presentations
- BRC printouts (final review) and pens
- Half-sheets for the keep/drop reflection in the Close block

THE HOUR

BLOCK 1 · DISCUSSION Opener — Star-party highlights

5 min

Go around the room: each saint shares one object he found for himself at the star party — a constellation, a planet, a star. Not the gear, not the cold — one thing he located and identified. Take the answers without commentary. The opener sets up the work blocks, where each youth will present and verify what he observed.

BLOCK 2 · CREATIVE Present what each youth observed

18 min

1. Each youth presents from his own log: the ten-plus constellations and eight stars he identified, pointing them out on the anchor card or a chart rather than reciting a list.
2. The planet: what he actually saw — color, steadiness, disk or phase if the scope showed it. Only record objects you can identify and point out. "I think" is allowed; inventing a detail is not.
3. The three colored stars — red, blue, yellow — named with what the color means. Then the one object he taught to a guest, and how it went.
4. Leader verifies against the plan and logs and marks 3a, 3c, 3f, and 3g per saint. If a youth cannot point out an object he claimed, send him back out for it before sign-off — no penalty, no shortcut.

REQ 3A REQ 3C REQ 3F REQ 3G

SESSION 4 · FIELD REPORT AND BRC SIGN-OFF (PAGE 2 OF 3)

THE HOUR — CONTINUED

BLOCK 3 · SKILL PRACTICE Review the Moon log and rotation sketches

16 min

1. Each youth lays out his four-night Moon log: the labeled sketch with five maria and five craters, then the four phase-and-position sketches with their horizon landmarks.
2. Explain it: why the phase changed across the week, and how a lunar and a solar eclipse each line up Sun, Earth, and Moon. Use the sketches as evidence.
3. Lay the two Big Dipper sketches side by side. Explain why the pattern rotated around Polaris between them — Earth turned, the sky did not.
4. Leader checks that the logs are based on real observation, not copied diagrams, and marks 3b and 3e. If a log is thin or back-filled, send the youth back for a real observation — the requirement is the observation itself, not just the sketch.

REQ 3B REQ 3E

BLOCK 4 · DISCUSSION The Milky Way and a path forward

16 min

1. Explain what the Milky Way is: our own galaxy seen edge-on from the inside — a band of our own stars. Each youth ties it to one thing he actually observed this month, not a fact he read.
2. One saint at a time: name one thing the night observing asked of him — sleep, a few cold hours, the patience to wait out cloud, the discipline not to claim a star he was not sure of. Keep answers short and concrete.
3. Three pathways in or near astronomy — research, instrument and optics work, teaching and planetarium work, data and software, or astronomy as a long-term hobby. Each youth picks one and names the training, the cost, and the next step he could take this year.
4. Close the block plainly: good observers are patient and careful, and they do not guess. The habit of looking carefully and reporting only what is actually seen is what the badge has been training.

REQ 4A REQ 4B

BLOCK 5 · REFLECTION Close — BRC sign-off

5 min

1. Walk the BRC with each saint, requirement by requirement. Mark what is done. Note anything outstanding with a concrete deadline before the Board of Review.
2. Each saint, one line: one habit of careful observing he plans to keep, and one habit (a shortcut, a guess) he plans to drop.
3. Leader gives one short, specific note to each saint by name: one thing he did well this month that earned the badge.

SESSION 4 · FIELD REPORT AND BRC SIGN-OFF (PAGE 3 OF 3)

AT THE CLOSE · DEBRIEF

1. What did you leave out of your log because you weren't sure you had really seen it?
2. Which part of the star party was hardest — the cold, the sleep, or the patience?
3. What is one observation you plan to make on your own in the next month?

Mark 3a, 3c, 3f (now complete), and 3g after the presentations in Block 2, and 3b and 3e after the log review in Block 3 — these were earned at the star party and the off-meeting logs and are verified here. Mark 4a and 4b after Block 4. Anything outstanding gets a dated deadline on the BRC; final sign-off completes when the remaining log or written piece is submitted.

HANDOUT 1 OF 4

FROM SESSION 1 — KILL THE GLARE, FIND THE ANCHORS

Anchor-Pattern Sky Card

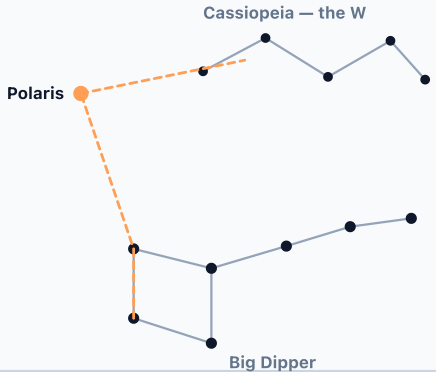
Trace the three star-hops with a finger. Print one per saint; it is carried to the star party.

ASTRONOMY · FIELD CARD

Three anchor patterns to find first.

Red light only. Let your eyes adjust twenty minutes before you judge what you can see.

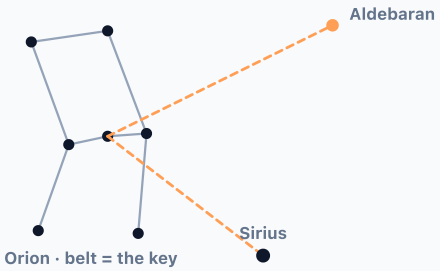
1 THE DIPPER, POLARIS, CASSIOPEIA



Big Dipper never sets. Its two bowl-end stars point straight at Polaris. Polaris is true north and the sky's pivot point.

Go the same distance past Polaris to the bright W of Cassiopeia, opposite the Dipper round the pole.

2 ORION, SIRIUS, ALDEBARAN



Three stars in a short straight line: Orion's belt.

Follow the belt down one way to Sirius — the brightest star in the sky.

Follow it up the other way to orange Aldebaran, the eye of Taurus.

3 THE EIGHT TO KNOW

five at magnitude 1 or brighter

Sirius · Canis Major
Arcturus · Boötes
Vega · Lyra
Capella · Auriga
Rigel · Orion
Betelgeuse · Orion
Aldebaran · Taurus
Polaris · Ursa Minor

BRIGHTNESS

lower number = brighter

Only record stars and patterns you can identify and point out.

Print this handout for in-person reference during session 1 — kill the glare, find the anchors.

HANDOUT 2 OF 4

FROM SESSION 2 — THE FIVE VISIBLE PLANETS AND THEIR PHASES

Planet Phases & Retrograde

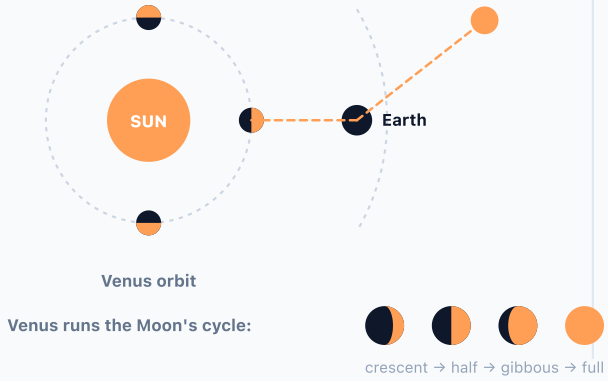
Reason the geometry from the diagram — do not memorize the answer.

ASTRONOMY · FIELD CARD

Planet phases and retrograde motion.

Why Venus has phases, and why Mars sometimes seems to walk backward.

1 WHY AN INNER PLANET SHOWS PHASES

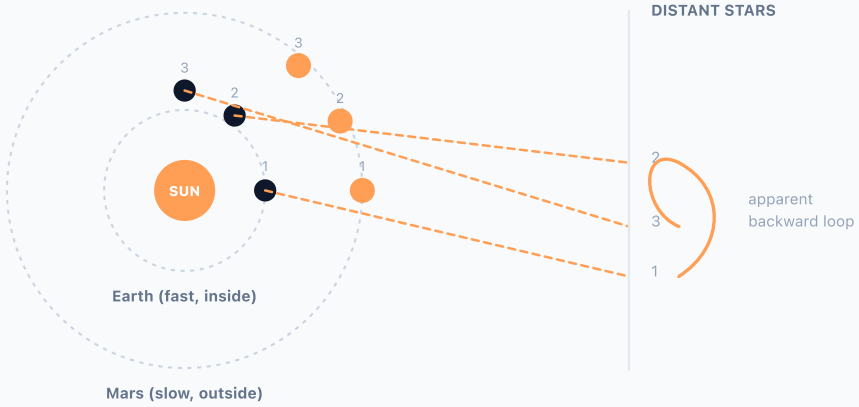


An inner planet (Venus, Mercury) orbits between us and the Sun.

We catch its lit face at an angle, so it cycles crescent to gibbous — like the Moon.

An outer planet is lit from our side almost always — stays near full.

2 WHY MARS SEEMS TO WALK BACKWARD



Earth on the inside track moves faster. As it overtakes Mars, Mars appears to slide backward against the far stars for weeks. The platform moved, not the planet.

Mars is not actually moving backward — Earth is passing it.

Print this handout for in-person reference during session 2 — the five visible planets and their phases.

HANDOUT 3 OF 4

FROM SESSION 2 — BUILD THE OBSERVATION PLAN

Observation Plan & Moon Log

Fill before the star party. The Moon log and rotation sketches must be completed on schedule once dated.

ASTRONOMY · WORKSHEET

Plan the night and run two logs.

Each target needs a method to find it. Date both logs tonight so the observation clock starts.

SAINT _____ SITE _____

1 OBSERVATION PLAN

10+ targets · 3+ kinds

TARGET	KIND	HOW I FIND IT	TIME
e.g. Jupiter — planet — finder from Taurus — 9:10			

2 FIRST FIFTEEN MINUTES

_____

arrive · set up · align finder · dark-adapt · easy target — then the shutdown steps

3 TWELVE-MONTH PLANET VISIBILITY

shade months it's up after dusk

	J	F	M	A	M	J	J	A	S	O	N	D
Mercury												
Venus												
Mars												
Jupiter												
Saturn												

Source used _____ *One limit of it* _____

4 MOON LOG

four nights · same spot

LABELED MOON

5 maria · 5 craters

N1 · date _____

N2 · date _____

N3 · date _____

phase + position vs. a horizon landmark

N4 · date _____

phase + position vs. a horizon landmark

5 BIG DIPPER ROTATION

one evening · hours apart

EARLY EVENING — mark Polaris + horizon

time _____

HOURS LATER — same Polaris + horizon

time _____

Write down only what you actually observed.

Print this handout for in-person reference during session 2 — build the observation plan.

HANDOUT 4 OF 4

FROM SESSION 3 — SET THE SCOPE IN DAYLIGHT

Star-Party Run-Card

Practice the setup in daylight until the steps are familiar. Fill the roles and weather block in pen before you leave.

ASTRONOMY · RUN-CARD

Set up the scope in daylight first.

Practice the setup, review the solar-safety rule, and lock in the trip details before the night.

1 FIRST FIFTEEN MINUTES

same order, every time

1. Assemble and balance the scope. Tighten what should be tight.
2. Align the finder on a far fixed object until finder and eyepiece agree.
3. Dark-adapt: twenty minutes, red light only, no white screens.
4. Easy target first — the Moon or a bright planet. Start with something you can find.

2 THE RULE WITH NO EXCEPTIONS

SOLAR REFUSAL

No optic at or near the Sun without a full-aperture filter built for that scope, checked for pinholes. No sunglasses, film, smoked glass. Eclipses included.

3 TEACH ONE OBJECT

two minutes, no notes

What it is .....

Find it from .....

One true thing .....

4 ROLES

Scope setup ..... Greets guests .....

Safe-Sun station ..... Target logger .....

5 LOCK THE NIGHT

IN PEN, BEFORE YOU LEAVE

Date ..... Site ..... Arrive .....

Weather call by ..... Who makes it .....

Rain-out alternate .....

Rides + parent supervision ..... ☐ Logs current

Write the plan clearly so everyone on the trip knows what to do.

Print this handout for in-person reference during session 3 — set the scope in daylight.