



STATEWIDE STAR PARTY

TIPS FOR HOSTING A SUCCESSFUL SKYWATCHING SESSION

Helping your visitors find their way in the sky

<http://www.ncsciencefestival.org/starparty/>

SUGGESTED MATERIALS

- Telescopes
- Binoculars
- Table
- Star charts
- Trimmed red balloons (to cover white flashlights)
- Activity materials
- Red lights
- Orange traffic cones
- First-aid kit
- Stepstool (as an aid while viewing)
- Green laser

ACTIVITY IDEAS

- Preview what you expect to see in the sky and teach how to use star charts.
- Viewing through telescopes and binoculars
- Star party kit activities (the “Ready to Observe” cards for field of view, color and averted vision; A “Handy” Way to Measure the Sky; Star Clocks; Draw What You See)
- Storytelling
- Constellation tour (see “5 ideas” below)

SETTING UP YOUR SITE

- Choose a viewing area away from unshielded lights. Turn off outdoor lights where possible.
- Shield the viewing area from headlights. Traffic cones can help you block off areas from parking.
- Consider marking telescopes and tripods with glow-in-the dark tape, red lights, or red glow sticks.
- Mark the path to the viewing area with red light, glow sticks, or solar lights. Or escort visitors with a red flashlight.
- Have a small “orientation” table marked with red light that has star charts, trimmed red balloons, and activity materials.
- Offer a constellation tour (see “5 ideas” below) and other activities away from the telescopes to help spread out crowds.

GETTING THE MOST OF THE VIEWING EXPERIENCE

If possible, gather groups as they arrive for a briefing so they will feel comfortable and safe, know what to expect, and help protect equipment.

- Ask for no white light in the telescope viewing area from flashlights, cellphones, or flash photos. Pass out trimmed red balloons to cover white flashlights and cellphone lights.
- Explain other rules, e.g., no smoking, alcohol, running, or pets.
- Let people know where to find the telescopes, how many there are, and what kinds of objects they’ll see. You may want to introduce the telescope operators.
- Ask visitors to touch the telescope only with permission. If telescope operators have a chair or stepstool, they can use a red light to direct visitors to “put your hands on the stool to steady yourself” and then (aiming the light at the eyepiece) “look here.”
- Parents with young children should look through the telescope *before* their children do. Then they’ll be in a better position to help their child.
- Visitors who wear glasses should try looking first with glasses on.
- Encourage visitors to ask questions and to speak up if they don’t see anything. Telescope operators should give visitors meaningful information (say “This is the Orion Nebula, a place where stars are forming” rather than just “This is M42”).

USING A GREEN LASER?

Green lasers can damage eyesight and cause problems for aircraft. Be mindful of safety:

- Use only lasers <5 milliwatts.
- Choose a laser that requires you to continuously depress the button to operate it. Use the laser sparingly.
- Keep the laser on a lanyard around your neck or otherwise attached to yourself. Don’t let anyone else touch the laser.
- Never point a green laser near a person, vehicle, wildlife, reflective material (such as a road sign) or aircraft—even if it seems to be at a great distance.
- Avoid aiming the laser close to the horizon.
- Circle any object in the sky that you are not absolutely positive is a star, rather than holding the laser on it—in case the “star” is actually an airplane.

5 IDEAS FOR HELPING YOUR VISITORS FIND THEIR WAY IN THE SKY

Practice in advance with your Night Sky Guide, Star Chart, or Star Wheel so you can lead a constellation tour for your visitors.

1) Find the Big Dipper.

In the April evening sky, you'll find the 7 bright stars of the Big Dipper high in the north. Three stars form the handle, and four stars form the bowl. Once you know the Big Dipper, you can star hop around the spring sky.

For an additional challenge, have your participants use their Star Clocks to tell time with the Big Dipper (refer to the activity *Make a Star Clock*).

2) Use the Big Dipper's "pointer stars" to find the North Star.

The two stars at the far side of the Big Dipper's bowl can serve as pointers to Polaris, the North Star. Starting from the bottom star of the bowl, go through the top star and keep going, drawing an imaginary line that's roughly 4 to 5 times the distance between the pointer stars. The first reasonably bright star you'll run into is Polaris, the North Star. Notice that the North Star is *not* the brightest star in the sky. It's not famous for being bright—it's famous for being in the north!

For an additional challenge, have your participants determine their latitude by measuring the angular distance from the North Star to the horizon (refer to the activity *A 'Handy' Way to Measure the Sky*).

3) Use the North Star to find the Little Dipper.

The North Star is the tip of the handle of the Little Dipper. In light polluted skies, you might see only the North Star and two of the stars in the Little Dipper's bowl. Notice that compared with the Big Dipper, the handle of the Little Dipper is oriented differently relative to its bowl. The Big and Little Dippers always look like they're pouring into each other.

4) Use the Big Dipper to continue star hopping around the sky.

Star hop using various parts of the Big Dipper:

Side of bowl → *North Star*. Remember that the pointer stars lead you to the North Star and the Little Dipper.

Bottom of bowl → *Leo*. Imagine water dripping from the bottom of the bowl until it hits a creature that doesn't like being immersed in water—a cat. A really big cat, Leo the Lion. Look for the stars that form a backward question mark (the mane) and a triangle (the tail).

Handle → *Arcturus and beyond*. By extending the curve of the handle of the Big Dipper, you can "arc to Arcturus," a bright orange-ish star. From there, imagine driving a spike to Spica, another bright star. Feeling ambitious? Then curve on to Corvus the Crow.

5) Find a planet.

During most April 2016 Star Party events, there will be one easy planet to find: Jupiter. This very bright planet will appear to lie near the backward question mark representing the mane of Leo the Lion, high in the southern evening sky.

How do you tell a planet from a star?

Brightness. The five planets you can see with just the unaided eye are generally quite bright, especially Venus and Jupiter.

Location. Because the planets all orbit the Sun in roughly the same plane, you'll find planets only in a certain band in the sky—the zodiac. If you become familiar with the constellations of the zodiac (Leo, Virgo, Libra, etc.) and you see a bright object that looks as if it doesn't belong, then you know you're probably looking at a planet.

Twinkle, twinkle, little star. Stars twinkle, but planets usually shine more steadily.



The Statewide Star Party is made possible by the generous grant support of the North Carolina Space Grant.