

Cub Scout Academics: Astronomy



REQUIREMENTS

Tiger Cubs, Cub Scouts, and Webelos Scouts may complete requirements in a family, den, pack, school, or community environment. Tiger Cubs must work with their parents or adult partners. Parents and partners do not earn loops or pins.

Belt Loop

Complete these three requirements:

- _____ 1. Demonstrate how to focus a simple telescope or binoculars. (A local astronomy club may be a resource for this activity.)
- _____ 2. Draw a diagram of our solar system—identify the planets and other objects.
- _____ 3. Explain the following terms: planet, star, solar system, galaxy, the Milky Way, black hole, red giant, white dwarf, comet, meteor, moon, asteroid, star map and universe.

Academics Pin

Earn the Astronomy belt loop and complete five of the following requirements:

- _____ 1. Draw a diagram of a telescope and explain how it works.
- _____ 2. Explain how to use a star map.
- _____ 3. Draw and label five constellations. See if you can locate any of them in the sky using a star map.
- _____ 4. Find the North Star. Explain its importance.

- _____ 5. With your parent's or adult partner's permission, interview an astronomer. This person may be a professional or an amateur astronomer from a local astronomy club. Explain what you learned to your den or family.
- _____ 6. Learn about careers that relate to astronomy. Make a list of those careers. Tell your den or an adult family member what school subjects will help you get a position in those careers.
- _____ 7. Visit a planetarium or a local astronomy club. Give a report on what you learned to your den.
- _____ 8. Make a poster illustrating the different kinds of stars. Include a diagram showing the life cycle of a star.
- _____ 9. Learn about some of the early space missions. Tell your den or family about one of them.
- _____ 10. Find a news story about a recent happening related to space. Tell your den or family about this event.
- _____ 11. Write a report on two famous astronomers.
- _____ 12. Locate three major observatories on a map. Explain why these locations are good for astronomy.

Resources

Check the children's section at your local library for information on astronomy. If you have access to the Internet, try using various search engines to look for the information you need. (Be sure you have your parent's or adult partner's permission first.)

A field trip to an observatory, planetarium, museum, or local astronomy club may provide an excellent experience in astronomy.

Be sure to check out the Space Place; it has lots of fun, astronomy-related activities:

<http://spaceplace.jpl.nasa.gov>

And don't miss these good astronomy sites, either!

<http://astroleague.org>

<http://skyandtelescope.com>

<http://stardate.org>

Constellations

Aries—The Ram

Cancer—The Crab

Crux—Southern Cross

Draco—The Dragon

Gemini—The Twins

Libra—The Scales

Orion—The Hunter

Pegasus—The Winged Horse

Pisces—The Fish

Sagittarius—The Archer

Scorpius—The Scorpion

Taurus—The Bull

Ursa Major—The Great Bear

Ursa Minor—The Lesser Bear

Famous Spacecraft

Sputnik

Telstar

Apollo 11

Apollo 13

International Space Station

Friendship 7

Lunar Lander

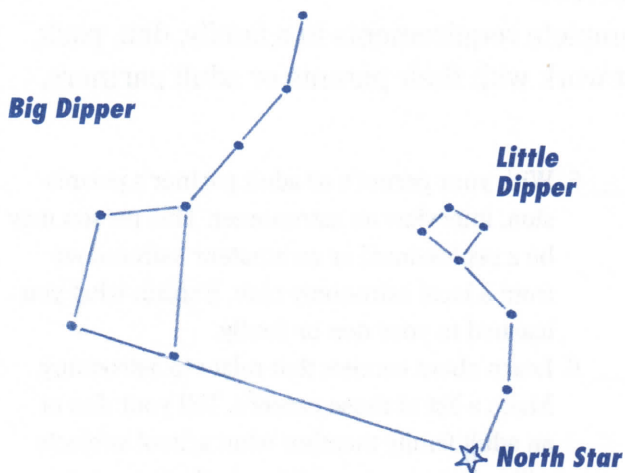
Challenger

Space Shuttle

Locate the North Star (Polaris) in the night sky. The North Star is the last star in the handle of the Little Dipper constellation. If you have trouble finding it, look for the Big Dipper. The two lowest stars in the Big Dipper (the outermost stars of the cup of the dipper) form a straight line that "points" to the North Star (if you imagine the distance between the two lowest stars as being x , the north star will be a distance of $4x$ away in the direction that the two lowest stars point). You may also find the constellation Cassiopeia, which is always opposite the Big Dipper. The North Star is located about midway between the central star of Cassiopeia and the Big Dipper (see figure).

Draw an imaginary line straight down from the North Star to the ground. This direction is true north, and if you can find a landmark in the distance at this point, you can use it to guide yourself.

Finding the North Star



Finding the North Star is relatively easy once you find the Big Dipper—one of the easiest constellations to locate. Once you find the North Star you can find the Little Dipper. They won't always be at the same angle, though—in the course of a year, they will both rotate completely around the North Star.

Famous Astronauts

Sally Ride

John Glenn

Yuri Gagarin

Buzz Aldrin

Ellison Onizuka

Neil Armstrong

Alan Shepherd

