

Orion at Your Fingertips

www.globe.gov/globeatnight

Overview:

This activity introduces the novice constellation hunter to a method for spotting the main stars in the constellation, Orion, the Great Hunter. Simple materials are used to make an outline of the constellation which, when put under a strong light (or a long wavelength ultraviolet light) for at least 10 minutes, will glow in the dark for 5 minutes, just long enough to locate the stars in Orion and imagine his appearance.

You will be amazed how imaginative and engaged children and first-time night sky viewers will be after spotting Orion, and hearing his story. It is an excellent way to tie together history, Greek mythology, literature, and astronomy. It is also one of the most inexpensive and creative ways to encourage children and first-time viewers to learn the constellations.

What You Will Learn:

- The fascinating mythology of Orion, the Great Hunter, dating back to ancient Greece.
Visit www.globe.gov/globeatnight/learn_orionmyth.html
- How to spot the stars and pattern that make up the constellation of Orion.

What You Need:

- 2 different colored tubes of GLOW Tulip brand fabric paint (or another brand that glows in the dark)
- 1 transparency (the thicker the better, but make sure you can still see through them)
- The Orion-at-Your-Fingertips tracing pattern
- 1 flashlight
- A couple of Q-tips

Getting Ready:

- 1) First, place the Orion-at-Your-Fingertips tracing pattern with the transparency on top, so the transparency covers the constellation in its entirety.
- 2) After placing these on the flat surface, trace the inner constellation pattern with the first color tube of glow-in-the-dark fabric paint, and follow the pattern by creating lines and circles on the transparency where indicated. The inner pattern is the constellation of stars connected by straight lines and circles.
- 3) When you're finished with the inner constellation, it is time to trace the outer more imaginative outline of the constellation with the second, different-colored tube of glow-in-the-dark fabric paint.
- 4) If you blur some lines or make a minor mess while tracing, try using Q-tips to fix them.
- 5) When you are finished - DO NOT SKIP THIS - allow the transparency to dry for AT LEAST 45 minutes in a brightly lit area before attempting to do the activity.

Orion at Your Fingertips

www.globe.gov/globeatnight

Doing the Activity:

- 1) After the glow-in-the-dark fabric paint on the transparency has completely dried for at least 45 minutes and been under strong light for at least 10 minutes, you are ready to take the transparency outside to find Orion.
- 2) During March 16 - 28, 2009, between 8:00 pm and 10:00 pm (local time), the easiest way to find Orion in the night sky is to go outside and look in the southwest sky, if you are in the northern hemisphere, or the northwestern sky, if you are in the southern hemisphere. If you live on or near the equator, Orion will be visible in the western sky. You are looking for three bright stars close together in an almost-straight line. These three stars represent Orion's belt. The two bright stars to the north are his shoulders and the two to the south are his knees or feet.
- 3) The Orion Finder Charts from the GLOBE at Night Web site will also help locate the general area in which to find Orion. (http://www.globe.gov/GaN/observe_finder.html)
- 4) When you have found the general area, hold up the transparency with the constellation pattern on it at arm's length. Match the pattern you have drawn with the stars in the constellation Orion. You may have to tilt or turn the transparency to align the pattern correctly with the stars.
- 5) The constellation pattern has been drawn so the stars in the constellation will be visible within the circles drawn on the transparency itself, allowing the constellation pattern to be recognizable to even the most novice night-sky observers.
- 6) The transparency with the glow-in-the-dark constellation pattern should glow for approximately 5 minutes. Be sure to take a flashlight with you so that you can "recharge" the transparency for continuous use. However, be careful not to lose your eyes' adaptation to the dark sky.

Credits:

This activity was created by Natasha Kopsie and Connie Walker at the National Optical Astronomy Observatory (NOAO) for the GLOBE at Night program. NOAO is operated by the Association of Universities for Research in Astronomy Inc. (AURA), under a cooperative agreement with the National Science Foundation.

GLOBE at Night is a collaboration between The GLOBE Program; the National Optical Astronomy Observatory (NOAO); the International Dark-Sky Association (IDA), Centro de Apoyo a la Didactica de la Astronomia (CADIAS), and Environmental Systems Research Institute, Inc. (ESRI).