

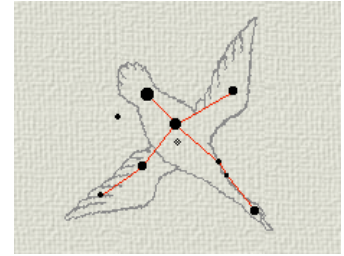


## Dark Skies Rangers Constellation at Your Fingertips



(Adapted from Orion at Your Fingertips at [www.globe.gov/globeatnight](http://www.globe.gov/globeatnight)  
by Carol Jones)

**Cygnus** is a great constellation to observe with young children. The simplicity of 6 major stars, and the mythology are intriguing. The star at the nose of the swan is fabulous in a telescope or binoculars. It is actually a double star with a yellow and a blue star in close proximity. Why 2 colors in stars? Compare to the colors in a candle or fire.



**Constellation at Your Fingertips** introduces the novice constellation hunter to a method for spotting the main stars in the constellation, Cygnus, the swan. Students will make an outline of the constellation used to locate the stars in Cygnus. This activity will engage children and first-time night sky viewers in observations of the night sky. The lesson links history, Greek mythology, literature, and astronomy. Once the constellation is identified, it may be easy to find the summer triangle. Again, the simplicity is exciting for young learners. The purpose of the activity is to record the number of visible stars and record that data in order to compare data as in Globe at Night across the world. In many cases, multiple night observations will build knowledge of how star magnitude changes overtime. Why is this important to astronomers? What causes the variation night to night? The focus is on light pollution and the options we have as consumers when purchasing outdoor lighting.

### Standards/benchmarks

*ADE Grade 1 Earth and Space*

PO 2. Compare celestial objects (e.g., Sun, Moon, stars) and transient objects in the sky (e.g., clouds, birds, airplanes, contrails).

PO 3. Describe observable changes that occur in the sky, (e.g., clouds forming and moving, the position of the Moon).

*ADE Grade 5 Life Science*

PO 3. Describe various objects in the sky (e.g., asteroids, comets, stars, meteors/shooting stars).

**Learning Goal:** Students will observe/locate the major stars of Cygnus and understand how a star's magnitude is affected by light pollution. (alternate learning goal related to language arts content)...Students will retell the mythology of Cygnus.

**Time** - estimated

Teacher set up (gather materials) 30 minutes

Lesson/Activity (one hour for the craft and mythology, one hour for the observations)

**Materials** - fabric paint, patterns, transparencies, flashlights, q-tips, book and/or print out from the web of the mythology,

**Background Information** -- teacher/students (online/offline)

Contact your local International Dark-Sky Association for support/class visits on the impact of lighting on astronomical observations: <http://www.darksky.org>

Check out from your school library [Constellations](#) by Gregory L. Vogt. Describes several of the major constellations and mythology for the Big Dipper, Orion, Cygnus, and the Zodiac.

<http://www.coldwater.k12.mi.us/lms/planetarium/myth/Cygnus.html>

<http://en.wikipedia.org/wiki/Cygnus>

### Lesson Sequence

Activator: read the mythology of Cygnus, the swan

Formative Assessment: Brainstorm/respond to "Why do we see more stars on some nights?"

- craft activity
- mythology
- observation (submit to Constellation at Your Fingertips or collect multiple nights)

Summative Assessment: Students locate Cygnus in the night sky and draw the bright stars