

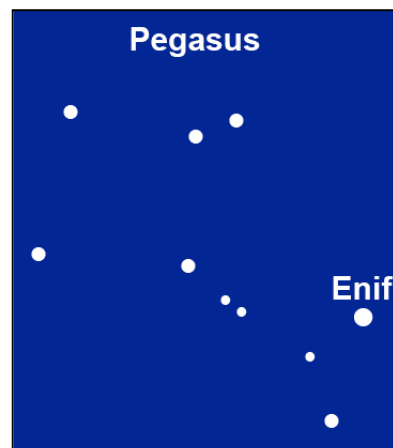
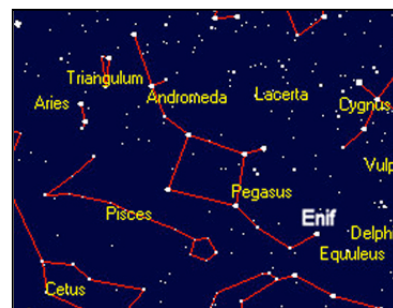
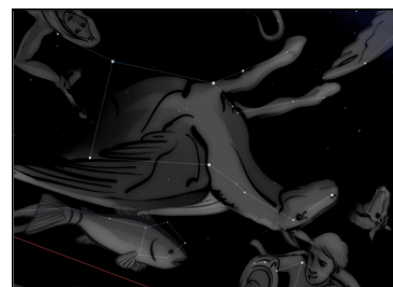
Star Tracking: Enif

In this activity, students across the country (and possibly around the world) will track the star Enif and submit their observation data to NASA Quest. Quest, in turn, will compile and post the observation data for students to analyze and then draw conclusions.

Step 1: Choose one night during November 2–16 to do your observation.

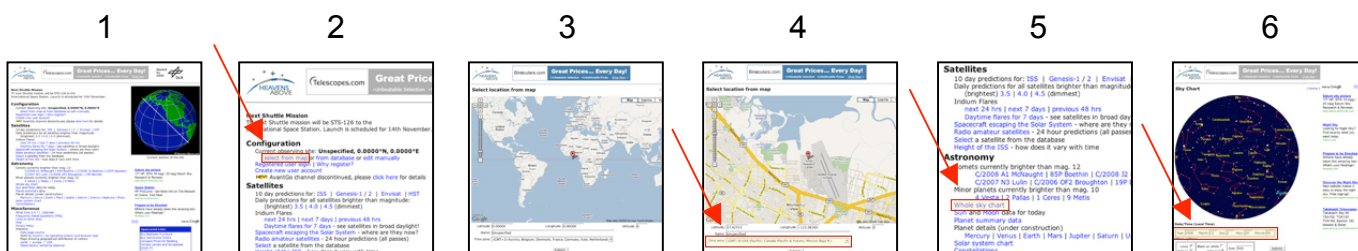
Step 2: Choose a time between 7:30–8:30 pm to go outside and locate the star **Enif**, which is the brightest star in the constellation Pegasus.

Pegasus is an easy constellation to find in the autumn sky. The constellation forms a winged horse, which is flying upside down across the sky. Begin by facing south and looking for 4 stars of about the same brightness that form an almost perfect square. This is the Great Square, which represents Pegasus' body. Next, start at the lower right corner of the Great Square and continue your gaze to the right (westward) and down along Pegasus' neck and then slightly upward to a brighter star. This bright star is Enif, which represents Pegasus' nose.



You can also use the *Heavens Above* web site to help you locate the constellation based on your location.

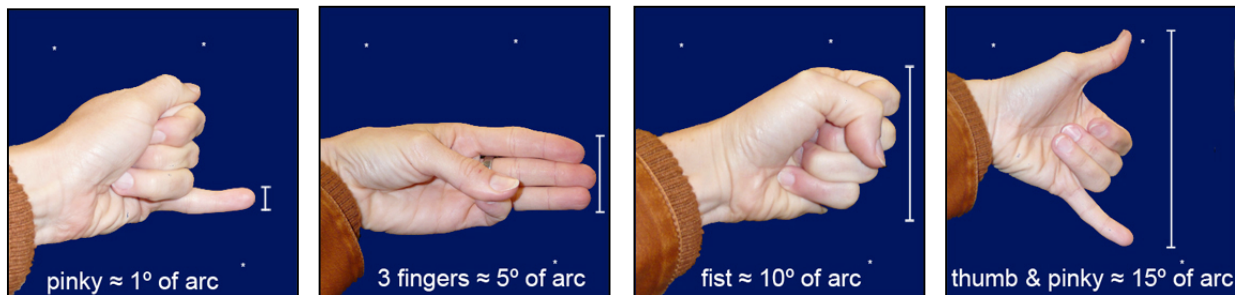
1. Go to <http://www.heavens-above.com>
2. Under **Configuration**, click on "select from map."
3. Use the map to zoom in and pinpoint your location.
4. Select your time zone and click "submit." (The "current observing site" under **Configuration** should now specify your new location.)
5. Under **Astronomy**, click "whole sky chart."
6. Enter the date and time of your planned observation and click "submit." (Note: the time is based on a 24-hour clock, so 8:00pm would be entered as Hour: 20 and Minute:00.)
7. Look for Pegasus on the sky chart.



Step 3: Use your hand to estimate Enif's position (in degrees) above the horizon.

The "horizon" is the distant line along which Earth and sky appear to meet. If you are observing from an area surrounded by hills, trees, or buildings, then you will need to estimate where the horizon is.

To measure Enif's position above the horizon, outstretch your arm directly in front of you and hold your palm so that it faces you. Next, starting with your hand positioned along the horizon, use one or more of the methods pictured below to measure degrees of arc from the horizon up to Enif. You will need to "stack" or "step" your hand upward while counting the degrees represented by your fingers or fist.



Step 4: Record your measurement (in degrees) in the table provided below along with the date, time, and location of your observation. You can use a map (or Internet resource such as *Heavens Above*) to find the latitude and longitude of your observation point.

Observation Data

City:				State:
Date:	Time:	Observer's Longitude:	Observer's Latitude:	Star Position in Degrees Above the Horizon:

Step 5: Submit your observation data to NASA Quest in an email to Linda.B.Conrad@nasa.gov no later than November 17, 2008.

Step 6: During the week of November 17–21, NASA Quest will post a table on the Challenge web site with all the data that is submitted. Analyze this data to see if you can find any pattern or relationship between an observer's latitude and Enif's height in degrees above the horizon at its culmination.