

Activity Guide: Introduction www.globeatnight.org

2022 Campaign Dates that use the Canis Major constellation: February 14- February 23, March 14 - March 24.

You are participating in a global campaign to observe and record the faintest stars visible as a means of measuring light pollution in a given location. By locating and observing the constellation Canis Major constellation in the night sky and comparing it to stellar charts, people from around the world will learn how the lights in their community contribute to light pollution. Your contributions to the online database will document the visible nighttime sky.

Materials Needed:

- Globe at Night Activity Packet
- Something to write on
- Something to write with
- Red light to preserve night vision
- Optional: smart mobile device, GPS unit, or a topographic map to determine your latitude and longitude

Remember Safety First!

- We encourage parents to do this activity with younger children. Please use your judgment as to whether your child should be supervised outside after dark at your location.
- Be sure you are wearing suitable clothing for the weather and for being outside at night (light colored and/or reflective clothing).
- When choosing the darkest area in your location, make sure your child is not close to traffic, the edge of a balcony, or near danger in any other way.

Multiple Observations:

You can enter more than one observation by moving to a new location at least 1 km away from your original location. Don't forget to get new latitude and longitude coordinates. This can be done on the same night or on another night any time during the dates of the campaign.

Charts in this document were prepared by-Jenik Hollan, CzechGlobe (http://amper.ped.muni.cz/jenik/astro/maps/GaNight/2022/).

Five Easy Star-Hunting Steps:

(www.globeatnight.org/5-steps.php)

- 1) Find your latitude and longitude using any of the following:
 - a. the interactive tool in the web application at

www.globeatnight.org/webapp/. With a smart cell phone or tablet, the latitude and longitude are automatically determined as you report the observation. If you are reporting it later from your computer, input the address of the observation or input your city. Zoom in/out and pan around until you find the observation location. The latitude and longitude will be displayed.

- b. a GPS unit where you take a measurement. Report as many decimal places as the unit provides.
- c. a topographic map of your area.
- 2) Find your constellation by going outside at least an hour after sunset, approximately between 8-10 pm local time. Note for latitudes >45 North or South: during the summer, twilight may last beyond 10 pm. Once it's dark, take measurements if there's no moon.
- a. Determine the darkest area by moving to where the most stars are visible in the sky toward your constellation. If you have outside lights, be sure they are all off.
- b. Wait outside for at least 10 minutes for your eyes to adapt to the darkness. This is called becoming "dark-adapted."
- c. Locate your constellation in the sky. For help use the appropriate constellation Finder Chart for your latitude. See (<u>www.globeatnight.org/finding</u>) preferably before going outside.
- **3)** Match your nighttime sky to one of our magnitude charts (pp. 2-3 or www.globeatnight.org/magcharts).
 - a. Select the chart that most closely resembles what you are seeing.
 - b. Estimate the cloud cover in the sky.
 - c. Fill out the Observation Sheet (page 4).
- **4) Report your observation online** (if not done already by smart mobile device) at: **www.globeatnight.org/webapp/.**
 - a. Your observations can be reported online anytime up to 2 weeks after the campaign dates for that month are over.
 - b. There is a campaign each month that is ten days long. To participate in more campaigns, see www.globeatnight.org.
 - c. Next time, consider taking observations from different locations.
- **5) Compare your observation** to thousands around the world at: www.globeatnight.org/maps.php.

Activity Guide: Magnitude Charts

www.globeatnight.org

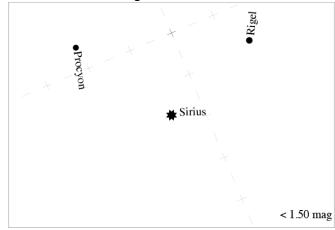
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Before heading outside to make your observations, consider visiting www.globeatnight.org/finding for information on how to find the constellation with respect to your latitude.

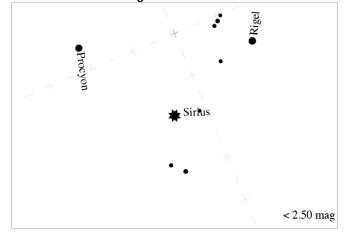
Magnitude Below 1 Chart



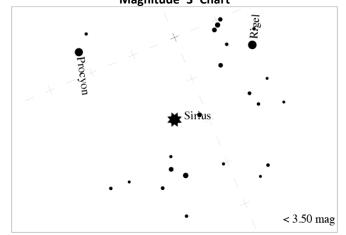
Magnitude 1 Chart



Magnitude 2 Chart



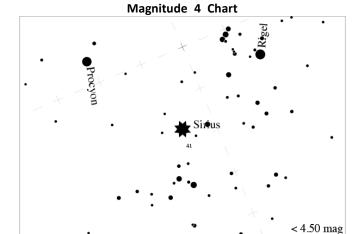
Magnitude 3 Chart

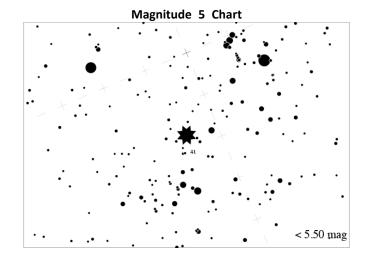


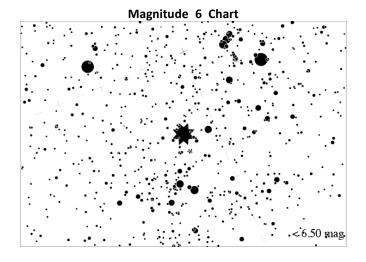
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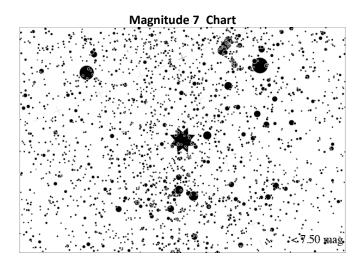
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"IVIONTN:	*Day:	*Year:		
*Observation Time:	: PM local time (HH:M	PM local time(HH:MM) *Country:		
*Latitude (in deg/min/se	c degmin	sec (North / South	Circle direction.	
or decimal degrees):	decimal deg	grees		
*Longitude (in deg/min/s	sec degmin	sec (East / West) ^c	Circle direction.	
or decimal degrees):	decimal deg	grees		
Comments on location: (e.g. 1	There is one street light within 50) m that is shielded from my view	.)	
*Match your nighttime sky	to one of our magnitude cha	rts:		
• Rigel	N Riger	Rigida A	River 1	
	Procyon	Procyon	Procyon	
₩ Sirius	₩ Sirius	* Sirks	* Sirius	
Sirius. < 0.50 mag	★ Stirius < 1.50 mag	★ Sirtus • • < 2.50 mag	★ Sirbus < 3.50 mag	
• Sirius. <0.50 mag ONo stars visible	OMagnitude 1 Chart	**Sirus · . <2.50 mag CMagnitude 2 Chart	*Sinus <3.50 mag OMagnitude 3 Chart	
ONo stars visible	OMagnitude 1 Chart	OMagnitude 2 Chart	OMagnitude 3 Chart	
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ONo stars visible	OMagnitude 1 Chart	<2.50 mag OMagnitude 2 Chart	<3.50 mg OMagnitude 3 Chart	
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*Simus <4.50 mag OMagnitude 4 Chart	OMagnitude 5 Chart	OMagnitude 6 Chart	~7.50 aus	
OMagnitude 4 Chart Reading from the Unihedro	< 5.50 mag	OMagnitude 6 Chart	~7.50 aus	
OMagnitude 4 Chart Reading from the Unihedro	OMagnitude 5 Chart on Sky Quality Meter (if applica	OMagnitude 6 Chart	~7.50 aus	