



Attention Young Astronomers!



Tips for Observing the Night Sky

***For starter ideas
please check out the next pages!***

**Kingston's Astronomy Club
The Royal Astronomical Society
of Canada – Kingston Centre**



Email: kingston@rasc.ca

Web: kingston.rasc.ca

 @rasckingston

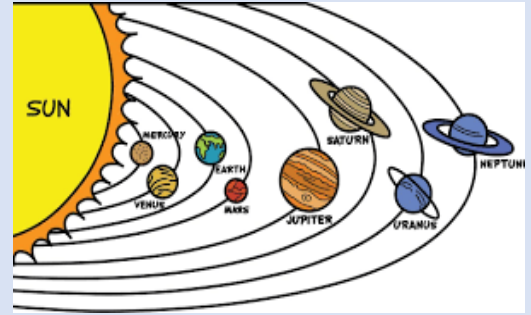
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SOME SUGGESTIONS TO GET YOU STARTED!

1) Try observing by naked eye at night:

The Solar system:

- Check out the sun, moon and planets rising and setting times in your area. Saturn, Jupiter, Mars, and Venus will be visible by naked eye in the predawn sky. Try this link:



<https://www.timeanddate.com/astronomy/night/canada/kingston>

- Note that some of the planets appear to come very closely together - called a conjunction. For example: Jupiter, Saturn, Mars, and Venus. Check out the Internet to see what's visible each night: <https://earthsky.org/tonight>.

2) Constellations and Bright stars:

- Learn to use a sky chart to help you look for constellations. Well-known examples are Ursa Major and Minor (Big and Little Dipper), Cassiopeia, Cygnus, Orion, Gemini and more! Here is a link to one that you can print, cut out, and glue onto thin cardboard:

<https://www.uaf.edu/museum/education/educators/heliophysics-aurora-outre/activities/pdfs/Create-A-Star-Wheel-Activity.pdf>

Views of the **Southern and Northern horizons in the Kingston area in mid evening in mid May 2022 are shown in section 7 below:**

- Find out what **double stars** are, and whether any of your constellations have them: https://www.astropix.com/html/observing/20_fun_naked_eye_doubles.html
What colours are they? – Why are they different colours? – Why are they different sizes? – How do they differ using binoculars (see below)?

3) Try observing some sky objects using binoculars:

Any simple pair of binoculars (e.g. 7x or larger) would be fine for viewing some very interesting sky objects on a dark clear Moon-less night. Some favourites are the famous "Nebula" in Orion's dagger, Andromeda (closest galaxy to us), the Pleiades (Seven Sisters) or the Hyades (in the constellation Taurus). Can you research further what they are, and how they were formed?

Check out the **Explore the Universe** link for these and more in the Appendix below.

4) Explore the moons of Jupiter with a small telescope:

There are four moons visible on Jupiter, using a small telescope. Each day they change their position and sometimes go behind or in front of the planet. Try observing each night over several days/weeks and record their movement. Check the internet to confirm what you see:

https://skyandtelescope.org/wp-content/plugins/observing-tools/jupiter_moons/jupiter.html

4) Track the International Space Station (ISS)!

Here is a link how to find when and from where the ISS can be seen:

<https://spotthestation.nasa.gov/sightings/index.cfm>



Can you name any Canadian astronauts who have served on the ISS? What are some of the experiments that have been done and what have they discovered? How many times does the ISS orbit the earth per day, and how high is it? Draw a star map of where you saw it and what planets or constellations it "passed".

5) Special Bonus Event! Total Lunar eclipse on May 15-16, 2022:

You can safely view the eclipse by naked eye, from anywhere in the greater Kingston area.

The following schedule will guide you through it:

10:30pm - Partial eclipse begins

11:30pm - Full eclipse begins

12:11am - Maximum

12:53am - End of eclipse

Here is a link for more information about the

Eclipse: <https://www.timeanddate.com/eclipse/lunar/2022-may-16>



6) Additional Resources:

- **Observer's Work sheets:** https://www.rasc.ca/sites/default/files/LogBookPageRight_3.pdf
- **Explore the Universe program:**
<https://rasc.ca/sites/default/files/ExploreTheUniverse6a.pdf>
- **Stellarium:** A software planetarium that generates an interactive display of the night sky:
<https://stellarium-web.org/>

7) Southern and Northern horizons in the Kingston area in mid evening on May15 2022:



(Sky maps generated using Stellarium software)