CURIOSITY AT HOME
SKY SEARCH WITH STELLARIUM

With the free virtual planetarium software, Stellarium, you can explore the night sky from anywhere, anytime. Complete a series of challenges in this scavenger hunt to learn how to use this powerful tool to model the sky and practice your astronomy observations.

Follow along with our video, Using Stellarium to Explore the Sky, for tips and tricks on using Stellarium as you complete the challenges below!

MATERIALS

· Computer or mobile device with Stellarium.

  ◦ Stellarium can be downloaded for free for Mac and Windows from this link: https://stellarium.org/.

  ◦ A free web browser version is available at this link: https://stellarium-web.org/.

    ▪ Menu options may slightly differ in the browser version, but key features such as changing time and showing constellations will still be available.

· Print out of this scavenger handout or science notebook and something to write with.

PROCEDURE

Complete the following challenges to practice your Stellarium skills! Print this sheet or use a paper or science notebook to record your observations and findings.

☐ *Challenge 1: Here and Now*

Press the **Set Time to Now** button, or the 8 key on the keyboard, to set the planetarium to the current time at your viewing location. What can you observe at this current time?
Write or draw your observations in the box below.

☐ *Challenge 2: Time Travel to the Future*

Fast Forward time to the night sky. How does the planetarium's night sky view compare to the daytime sky? Name two new things you can observe in the planetarium at night that you couldn't see in the day.

Challenges continued on next page...

☐ *Challenge 3: Navigating the Night Sky*

Turn on **Constellation Artwork** and **Names** to find the constellation, Ursa Major?
What animal is Ursa Major?

☐ *Challenge 4: Changing Perspectives*

Use the **Location Window** to move to the North Pole.
What changes do you notice about where you find Ursa Major in the sky?

☐ *Challenge 5: Cultural Connections*

Many cultures have created their own constellations by connecting the stars. Use the Sky and
Viewing Options Window to find the **Starlore** or **Sky Culture Tab**.

Select different sky cultures to learn about different patterns and names given to this group of stars.
What name and shape did you find most interesting? What culture is it from?
Record your answer in the box below.

☐ *Challenge 6: Seasonal Changes*

Use the **Date and Time Window** to change the month to next season.
What changes do you observe in the sky?

Name or draw one constellation you can only fully see during a particular season. What season is it best seen in?

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☐ *Challenge 7: Changing Shapes*

Use the **Search Window** to find the Moon. Use the pattern below to determine the Moon phase you are observing.

New | Waxing Crescent | First Quarter | Waxing Gibbous | Full | Waning Gibbous | Last Quarter | Waning Crescent | New

Media Credit: NASA/JPL–Caltech

Name or draw the current Moon phase in the box below.

☐ *Challenge 8: Planet Search*

Use the **Planet Hints** button to turn on the planet labels. Can you find any planets in the sky?
Fast forward time until a planet appears. Record the planets you find in the box below.

☐ *Bonus Challenge: Exploring Beyond the Solar System*

Can you use the **Deep-Sky Objects** button to find objects outside of our solar system?
What does it look like when you zoom in on it? Write or draw what you found.

EXPLORE MORE

· Write a new challenge and share with a friend to see if they can use Stellarium to learn something new.

· Planetarium programs, like Stellarium, provide models of the sky using real data.
  Why do you think astronomers, the scientists who study space, might want to use models?

· How does the model sky shown in Stellarium compare to the real sky outdoors?
  What is similar about what you can observe? What is different?

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