

# Groovy Glossary!

**ASTRONOMICAL**—having to do with “astronomy,” the scientific study of celestial bodies.

**BINARY STAR**—two (or more) stars which are close enough to orbit one another. They appear from Earth to be one star.

**CONSTELLATION**—a grouping of stars which seem to form a shape or pattern to the human eye; often animals or people.

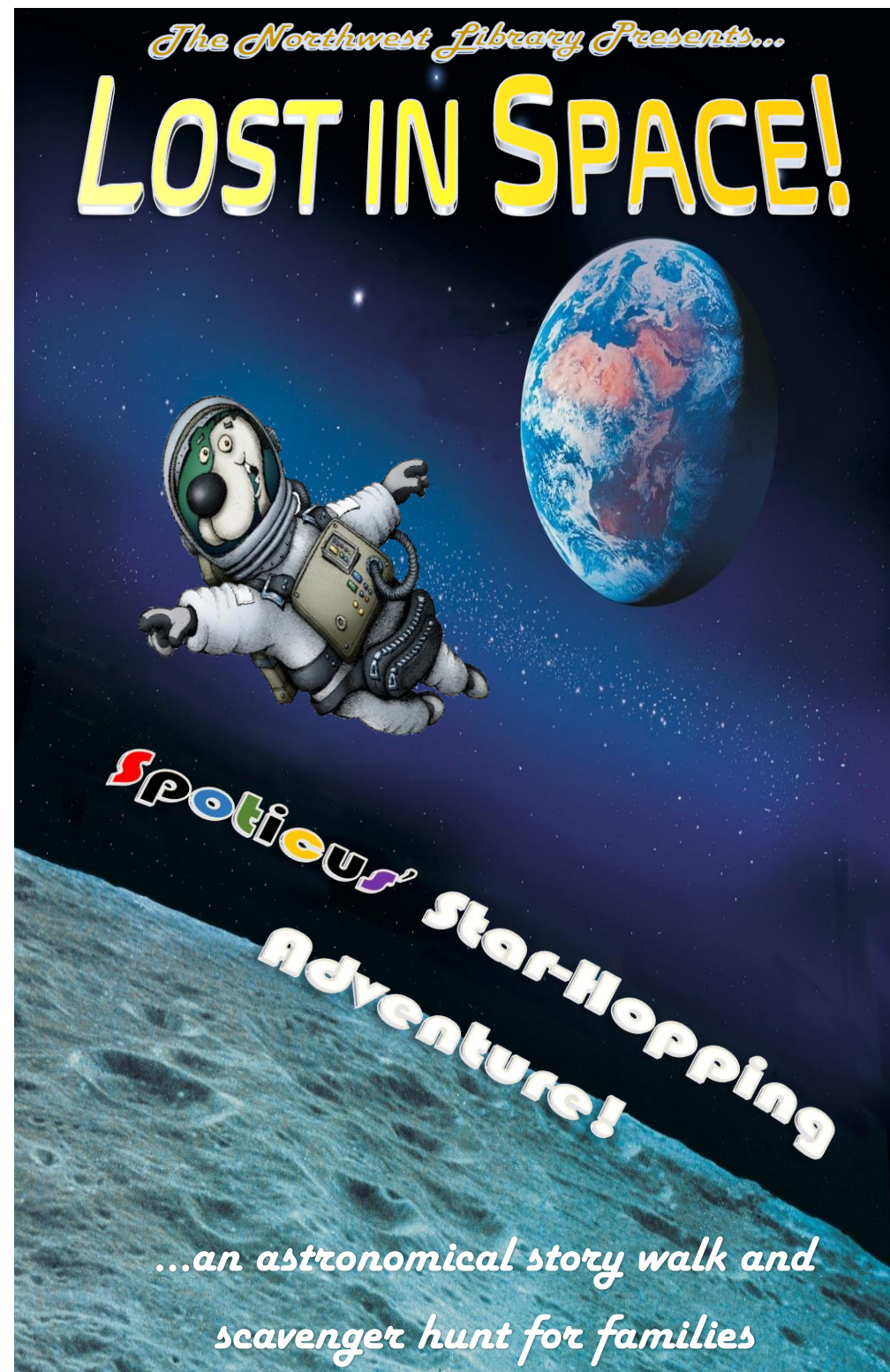
**COSMIC**—having to do with the “cosmos,” or the vast universe beyond the Earth and our solar system.

**EXPERIMENTAL**—still being tested out and not ready for actual use yet.

**METEOR SHOWER**—the remains of rocky celestial objects (like meteors, asteroids, comets) which orbit the sun and enter the Earth’s atmosphere, creating streaks of light through the sky.

**PHASE**—a period of development or change over time.

**SOLAR SYSTEM**—a star and the planets, moons, and other celestial bodies that orbit it.



**Star date:** April 2021

**Place:** Earth

**Mission:** *Find Spoticus and get him back to Earth!*

**Greetings fellow Earthlings!** The Northwest Library is excited to have you join us on a go-at-your-own-pace astronomical scavenger hunt! As you go through the hunt, you'll learn about all kinds of things in outer space as well as mythology, geography, math, and more!

You see, we need your help in finding Spoticus who has been having a bit of an adventure. He was visiting a friend at the Houston Public Library when they decided to visit Johnson Space Center. Johnson Space Center is a place that's kind of like a giant library, science lab, and an airport for things going to or coming back from space. Well, anyhow, while getting a special close-up tour of the launch area, Spoticus wound up on an **experimental** rocket called the "Quasmic Rocket." It's designed to jump to deep space and back in the blink of an eye and it wasn't *supposed* to be ready or to take off for many years, but we guess it did! And it just keeps taking off! As soon as Spoticus gets to one place, it leaps to another! At least Spoticus has been able to leave **cosmic** clues behind—we're thinking of them sort of like deep space barks. If you follow them all, maybe you'll catch up and be able to bring him home! You can fill in the answer of every hunt item, and if you like, fill in the paw print, too! Remember, if you go out at a time the night sky isn't very easy to see, you can find it on your planisphere (the neat star-finder wheel). Ready? Be safe on your hunt: being away from outdoor light is good for seeing stars but not so great for seeing the path around you...don't trip! Here we go!

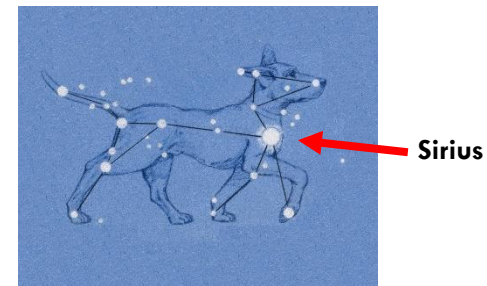
Good luck!

--Mission Control (aka: the Northwest Staff)

PS: words in **bold italic** are in the "Groovy Glossary."



**Clue #8:** It took a while to find the next bark, as there seemed to be two barks happening at once. It turns out Spoticus was flying past "Sirius," known as "The Dog Star," Sirius is the brightest star in the night sky and is found at the collarbone of the dog of the constellation "Canis Major." Canis Major is Latin for "Big Dog." Maybe that big dog didn't like our Spoticus running around without a leash?



*Super Scavenger Bonus Question:*

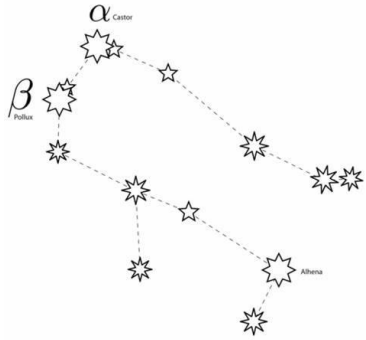
Spoticus heard a smaller bark from the constellation "Canis Minor." What do you think *Canis Minor* means?

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*Answer: if you said "Small Dog" you're right!*

Hmm, maybe we should throw a ball to these pups? Wow, it worked! They were playing with what they *thought* was a giant ball in the sky, but it turned out to be a meteor from the Lyrids **meteor shower**. Somehow the Quasmic Rocket caught a ride on the tail of one of the meteors and flew back to earth! If you look up on April 22<sup>nd</sup> or 23<sup>rd</sup>, you might see the shower!

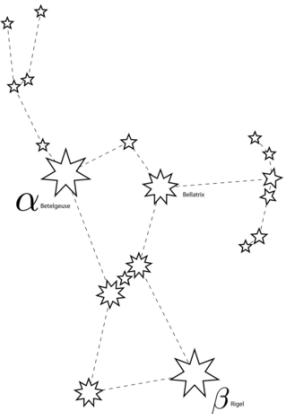
**Congratulations!** You did it! You found all the clues and helped Spoticus come home!



**Clue #6:** From here, we next heard Spoticus' bark when he was close to the constellation "Gemini." Gemini means "twins" and you can see on your planisphere that it definitely looks like two people holding hands. The heads of these two people are well known stars and it sounded like Spoticus' bark came from Pollux!

*Super Scavenger Bonus Question:*  
What is the name of the *other* twin?

Answer: if you said "Castor" you're right!



**Clue #7:** Oh my, it sounds like Spoticus' next bark was a big one—I hope he's not afraid! He was closest to the red supergiant star, "Betelgeuse" (BEY tuhl joos), which is the second brightest star in the constellation "Orion," or, "Orion, the Hunter." I hope Orion's not hunting Spoticus up there! Run, Spoticus, run!



**Clue #1:** Well, Spoticus didn't exactly stop here, but based on where he was headed, he got a good look at our moon on his way out of our *solar system*. Here are the phases of the moon:



from almanac.com

What **phase** is the moon in tonight?

*Super Scavenger Bonus Question:*  
What is making the shadows on the surface of the moon?

Answer: if you said "the Earth" you're right!



**Clue #2:** If you've ever seen Spoticus in person, you know he's not a tiny dog. But in space, his weight changes, just like yours would depending on where you were. Since Spoticus is zooming past the moon, let's find out how much you would weigh if you were on the moon. Get out a handy dandy calculator for this one.

- 1) How much do you weigh now? \_\_\_\_\_
- 2) Take that number and *divide* it by 9.81 \_\_\_\_\_
- 3) Now take the new number and *multiply* it by 1.622  
This is how much you weigh on the moon \_\_\_\_\_



**Clue #3:** The first cosmic clue, or "bark," seems to have come as he thought he was chasing a little bear in the sky. The brightest star in the **constellation** "Ursa Minor" (or, "Little Bear") is also called "The North Star" as it seems close to being right above Earth's North Pole, especially if you're *at* the North Pole. But the "North Star" itself has another name, "Polaris."

*Super Scavenger Bonus Question:*

What's another name for the constellation "Ursa Minor"?

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*Answer: if you said "the Little Dipper" you're right!*



**Clue #4:** The next place we identified Spoticus' "bark" came from a place you'll be able to see clearly (at least before midnight) this time of year: the planet Mars. Look to the west-northwest and you should see this reddish planet, named for the Roman god of war. Wave "Hi" to Perseverance and Ingenuity!

An up-close view of Mars:



*Fun Facts:* Mars' Greek counterpart is named "Ares."  
The **astronomical** symbol for Mars represents his shield and his arrow.



**Clue #5:** Spoticus' next "bark" came as he was passing a blue-white star called "Spica" (pronounced: SPY-kuh). Spica is in the constellation Virgo, visible in the southeast part of the night sky at this time of year. It's one of the 15 brightest objects in the night sky, possibly because it's actually a **binary star**.