

The Winter Night Sky

Few things are more beautiful than a starry winter night. So bundle up and discover an entire universe right outside your door!

Twinkle, Twinkle, Little Star

Stars are not cool. In fact, they're really hot. Stars are glowing, rotating balls of gas, which, combined with very high temperatures and lots of pressure, cause a star's energy to continuously move from deep inside to its surface—thus producing the light we see.

More stars than you can count (or imagine). What we see is only a fraction of the stars in the universe. Astronomers estimate that there are more than 200 billion billion stars.

Ready,
Set,
Go Outside!

Moonlight isn't really moonlight. Stars shine on their own, but non-stars, such as planets and moons, only reflect the light around them. So moonlight is actually sunlight—the sun is the closest star to Earth—reflecting off the moon's surface.

Star light, star bright. The reason stars look different is that they vary in size, color, composition, temperature, and distance from Earth. All these

factors determine how bright a star appears to be. Stars are different colors because of their temperatures. The hottest ones are white or bluish. The coolest ones are reddish orange.

Parent/Teacher Note

Skills Learned:

Observation and comparison: light, color, shapes, patterns, arrangements

Experimentation: measurement, physical properties of atmosphere and space

Creative expression: vocabulary, imagery, imagination, creative writing

Information Science: researching myths and stories

Exploring the Night Sky

Here are some tips for successful stargazing:

- ★ Pick a night that is moonless, without clouds or fog.
- ★ Go to a place with the least light. If you go in your backyard, turn off the house lights.
- ★ Dress warmly. Bring a hot drink if you want.
- ★ Let your eyes get used to the dark.
- ★ Bring a chair or blanket so you can sit comfortably.
- ★ Bring binoculars if you have them.

Night Sky Scavenger Hunt

Look for these things:

- ★ The first star you see (make a wish)
- ★ A familiar constellation
- ★ A "star" that appears to be moving (it could be an airplane or a satellite)
- ★ A twinkling star (there may be clouds or atmospheric gases moving in front of it)
- ★ The brightest star you see (it may be a planet)
- ★ Clouds
- ★ Different colors in the night sky

Catching a Glimpse of the Constellations

There are 88 official constellations. Pictured on this page are some of those commonly seen on clear winter nights. Can you find any of them?

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- ▶ Nature's GPS
- ▶ Moon Watch
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