April 2020 Stargazing

MAIN IDEA

Behold the wonders of the night sky from your own backyard! Use this guide to practice astronomy basics, including a special focus on constellations, while searching for the stars and planet visible in the sky above you.

SCIENCE BACKGROUND

At sunset the Earth begins its rotation away from the Sun and sunlight is fully or partially blocked by the Earth until sunrise. As the sun sets, stars and other celestial objects are easier to see with the naked eye. Observational astronomy focuses on the study of stars, planets, galaxies and other types of celestial bodies. Early astronomers studied the sky and identified patterns while also grouping stars together to form constellations. There are 88 officially recognized constellations that are named after animals, people, mythical creatures and even objects.

For April 2020, you can identify various constellations and stars in the night sky at around 8:30 p.m. The northern sky has Polaris, or the North Star, which is always in the same location for the Northern Hemisphere, no matter where you are located or the time of the year. This has made Polaris a standard for navigation. Polaris is located at the tail end of the Little Dipper (Ursa Minor) constellation, and then to the northeast you can find the Big Dipper (Ursa Major) constellation.

The western sky features the planet Venus slightly above the horizon. As you continue observing the western sky you will find the constellation of Taurus to the left of Venus. Venus will move from the bottom right of Taurus to the top right of the constellation throughout the month.

High above Taurus you will find the constellation of Gemini. Its name is Latin for “twins.” The two brightest stars in the constellation, Castor and Pollux, represent the twins’ heads, while the fainter stars represent their bodies.

To the southwest of Taurus is the constellation of Orion the Hunter. Orion is most easily recognized by Orion’s Belt, three bright stars towards the center of the constellation. Near Orion’s Belt is the brightest star in the sky, Sirius. Sirius represents the eye of the Big Dog (Canis Major) constellation. High above Sirius you will find another bright star, Procyon. This star is part of the Little Dog (Canis Minor) constellation.

The eastern sky features the constellation of Virgo just above the horizon, its brightest star is Spica. The constellation of Leo can be found above Virgo with its brightest star known as Regulus.

CELESTIAL OBJECTS TO LOOK FOR

Northern Sky: Polaris (star), Little Dipper (constellation) and Big Dipper (constellation)
Western Sky: Venus (planet), Taurus (constellation), Gemini (constellation), Orion (constellation)
Southwestern Sky: Sirius (star), Big Dog (constellation), Procyon (star), Little Dog (constellation)
Eastern Sky: Leo (constellation) and Virgo (constellation)

MATERIALS

SkyPortal App (free) on a handheld device

Check out these SkyPortal tools at the bottom of the screen:
Info – select a celestial object, then click info for more information including its distance to Earth
Compass – select to move the sky manually or deselect to move your device to find a specific object
Time – see what is visible at a specific time

Optional: Binoculars or Telescope

EDUCATIONAL STANDARDS

Grade 1
Big Idea 5: Earth in Space and Time
SC.1.E.5.1 – Observe and discuss that there are more stars in the sky than anyone can easily count and that they are not scattered evenly in the sky.

Grade 4
Big Idea 5: Movement of the Solar System
SC.4.E.5.4 – Relate that the rotation of Earth (day and night) and apparent movements of the Sun, Moon, and stars are connected.

ADDITIONAL RESOURCES

Constellations- NASA
https://spaceplace.nasa.gov/search/constellations/

Stargazing in Space
https://www.nasa.gov/image-feature/stargazing-from-the-international-space-station

This Week's Sky at a Glance – Sky & Telescope
https://skyandtelescope.org/observing/sky-at-a-glance/

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