Noble Planetarium Classroom Companion

Texas Sky Tonight

SHOW OVERVIEW

Join one of our planetarium presenters for a night of stargazing as we learn about the constellations and the stories behind them.

Length: 25 minutes

Grade level: 1-12

EXTENSION IDEAS FOR TEACHERS:

Constellation Creation – Students design their own constellation and create a short story explaining what the pattern represents. They should explain how people use patterns in stars to share stories or remember seasonal changes.

Star Wheel Model – Students build a simple rotating star wheel showing which constellations are visible during different seasons. They should describe why certain constellations are only visible at certain times of the year.

Moon Phase Modeling – Students use a light source and a sphere to model the phases of the Moon. They should explain why the Moon appears to change shape throughout the month.

Planet Research Card – Students create an information card for a planet visible in the night sky. They should describe key features such as size, temperature, number of moons, and visibility from Earth.

Light Pollution Investigation – Students compare images of night skies from rural and urban areas. They should explain how artificial light affects our ability to observe stars and planets.

Navigation by Stars Activity – Students explore how constellations can help people find direction. They should explain how humans have used the night sky for navigation throughout history.

Critical Thinking Questions: Ask students, *"How do the patterns of stars we see in Texas change during different seasons?"*

Ask students, "How can the Big Dipper and Polaris help people find north in Texas?"

Ask students, "Why can we see Orion in the winter Texas sky but Scorpius in the summer Texas sky?"

Ask students, "How have people in Texas used the night sky for navigation, storytelling, or understanding seasons?"

PROGRAM TEKS

K.8(B) identify events that have repeating patterns, including seasons of the year and day and night

K.8(C) observe, describe, and illustrate objects in the sky such as the clouds, Moon, and stars, including the Sun

2.8(C) observe, describe, and record patterns of objects in the sky, including the appearance of the Moon.

3.8(B) describe and illustrate the Sun as a star composed of gasses that provides light and thermal Energy

3.8(C) construct models that demonstrate the relationship of the Sun, Earth, and Moon, including orbits and positions

3.8(D)* identify the planets in Earth's solar system and their position in relation to the Sun

4.8(C) collect and analyze data to identify sequences and predict patterns of change in shadows, seasons, and the observable appearance of the Moon over time

5.8(C) demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky

5.8(D) identify and compare the physical characteristics of the Sun, Earth, and Moon

6.11(A) describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, and comets

6.11(B) understand that gravity is the force that governs the motion of our solar system

7.9(A) analyze the characteristics of objects in our solar system that allow life to exist such as the proximity of the Sun, presence of water, and composition of the atmosphere

8.7(A) model and illustrate how the tilted Earth rotates on its axis, causing day and night, and revolves around the Sun causing changes in seasons

8.7(B) demonstrate and predict the sequence of events in the lunar cycle

8.8(A) describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Hertzsprung-Russell diagram for classification

8.8(B) recognize that the Sun is a medium-sized star located in a spiral arm of the Milky Way galaxy and that the Sun is many thousands of times closer to Earth than any other star