

# Northern Stars Planetarium Program List 2019-2020

Teacher's Guides available at: [www.northern-stars.com](http://www.northern-stars.com)  
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## Astronomy & Space Science Presentations:



**Pictures in the Sky** (Preschool-K) Using our “Day/Night Wheel” and the planetarium, young children are introduced to the sky in a hands-on manner. Discover day/night, stars, constellations, clouds, the Moon, rainbows, and much more. (*PLEASE NOTE: 30 CHILDREN ABSOLUTE MAXIMUM*)

**ABC's of the Sky** (K-2<sup>nd</sup>) A is for Astronaut, B is for Big Dipper, and C is for Comet.... Exploring space and the sky with the alphabet. Each concept will be explained appropriately for young children.

**Our Family in the Sky** (K-2<sup>nd</sup>) The planets are personified as Mr. Sun guides the children through a tour of the Solar System. Includes planets, comets, asteroids, the Moon, and a constellation point out.



**Our Place in Space** (1<sup>st</sup>-2<sup>nd</sup>) Follow the adventures of “Scarlett” the macaw as she solves a crossword puzzle about *Our Place in Space*. Learn about day/night, the Sun, rotation, gravity, planets, and constellations.

**“Sandy, Pepper and the Eclipse” and “Moon Witch!”** (2<sup>nd</sup>-4<sup>th</sup>) A “Double Feature” that discusses the Moon, Earth, and the Sun. “Sandy,” a golden retriever, teaches your class about the relationship between the Earth, Moon and Sun that creates an eclipse. In “Moon Witch,” a girl named Diana helps us discover the Moon’s motions, phases and many appearances. Both story lines make this show a favorite with young audiences!

**The Great Moon Adventure** (4<sup>th</sup>-6<sup>th</sup>) Discover lunar features such as craters, maria, rilles, mountains, volcanoes, ejecta, etc. The Moon’s motions, phases, and eclipses will be examined too. We also explore the Apollo Missions and hear “Buzz Aldrin,” the second man on the Moon, describe what visiting the Moon was really like.



**The Wonderful Sky** (3<sup>rd</sup>-6<sup>th</sup>) This program takes a look at the seasonal night sky as seen with the unaided eye. Stars, constellations, visible planets, meteors, the Moon, and northern lights are all likely to be discussed.



**Exploring Our Solar System** (3<sup>rd</sup>-8<sup>th</sup>) Let’s explore the planets and “dwarf planets”, both as seen in the night sky and as visited by space probes.

**Earth—Our Place in the Cosmos** (3<sup>rd</sup>-5<sup>th</sup>) This show was created to meet the standards for grades 3-4. Learning points include: the Earth/Sun connection, the water-cycle, constellations, the Moon and its phases, rotation and revolution, and our place in the solar system of eight planets. Beyond the planets we find our galaxy of stars called the Milky Way, which in turn is one of millions of other galaxies. Students discover that our Earth is a small place in a vast constantly moving universe.

**Comet!** (3<sup>rd</sup>-7<sup>th</sup>) What is a comet? Learn the difference between meteors. Find out what a comet really is and how it works. See how space probes and even brought pieces of a comet back to Earth!



comets, asteroids, and we’ve explored comets with



**Mars Magic!** (3<sup>rd</sup>-7<sup>th</sup>) Examine the red planet and what we’ve discovered about Martian germs, rust, rocks, faces, canals, rivers, canyons, and volcanoes. Meet the space probes that have visited this planet: Spirit, Opportunity, Viking, Mars Global Surveyor, and the Curiosity Rover.

**Stars** (5<sup>th</sup>-8<sup>th</sup>) What are stars and how do they work? Exploring the Sun first, we then discuss star colors, how stars are created, and how they die yielding white dwarfs, supernovae, and the most mysterious objects of all—black holes.

**The Sky Tonight** (6<sup>th</sup>-8<sup>th</sup>) See what might be visible in the sky during the time of year we visit your class. As we travel through the constellations, we will discover various nebulae, star clusters, galaxies, and planets that one can find with a small telescope or binoculars.



**Galaxies** (5<sup>th</sup>-8<sup>th</sup>) What are galaxies? We’ll begin by examining our own Milky Way in several different ways using different types of light. Then discover how we learned that other spiral nebulae are actually galaxies separate from our own. We’ll see to the edge of the known universe to see the oldest galaxies.

**Secrets of the Rainbow** (5<sup>th</sup>-8<sup>th</sup>) Discover how the rainbow (aka the spectrum) has taught us about the composition of the stars, how they are moving, and that the spectrum continues with colors we can’t see and how we detect these invisible colors and what they teach us about space. (*Available after December 1, 2019*)

**Explorations: Create A Show** (3<sup>rd</sup>-8<sup>th</sup>) Design the show you want! NSP is now offering a modular presentation, you can pick **3 topics** to customize the presentation you want. The list of topics will grow with time, but to start with: **1.** Constellations, **2.** Moon phases, **3.** Eclipses, **4.** Apollo 11 Lands on the Moon, **5.** The Sun, **6.** Star Colors, **7.** Visible Planets, **8.** Secrets of Orion, **9.** Why Pluto isn’t a Planet, **10.** Meteors. **11.** Ursa Major and Minor (the bears). *If you want something not listed, ask, maybe we can come up with something.*

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## Story Telling Presentations:



**Star Stories** (1<sup>st</sup>-2<sup>nd</sup>) This program is a collection of stories, myths, and legends about the sky and constellations. All the stories have been chosen and adapted to suit younger children. Stories include: *How the Stars Came to Be*, *Orion and the Bull*, *Andromeda and the Whale*, and others.

**Native American Sky Legends** (3<sup>rd</sup>-6<sup>th</sup>) A live storytelling program featuring Native American sky legends. This is a perfect program to unite astronomy with Native American studies or a language arts unit.

**Heroes, Gods, & Monsters** (5<sup>th</sup>-8<sup>th</sup>) A live storytelling presentation on Greek and Roman myths about the stars, and constellations. The myths presented vary with the time of year, but may feature stories such as: *The Myth of Orion*, *The Labors of Hercules* or *Andromeda and the Whale*. This is a great introduction to classical mythology.



**A World of Sky Stories** (3<sup>rd</sup>-6<sup>th</sup>) Legends of the sky from around the world are told live under the stars. Hear stories from Australian Aborigines, Inuit (Eskimo), African Tribes, the Orient, the rainforests of South America and more.



**"Follow the Drinking Gourd"** (2<sup>nd</sup>-4<sup>th</sup>) Learn how slaves found their way north using the stars of the Big Dipper or "drinking gourd." A great mix of cultural studies, music and astronomy. Come *follow the drinking gourd* with us!

## Earth Science Presentations:



**Earth, The Ocean Planet** (4<sup>th</sup>-6<sup>th</sup>) Explore the wettest planet in the Solar System. This program concentrates on physical oceanography: tides, waves, ocean currents, mapping the oceans' floors, and human exploration in submersibles--we'll take a dive to the ocean floor!

**Volcano!** (3<sup>rd</sup>-7<sup>th</sup>) We begin by examining the different types of volcanoes using Mount St. Helens and Hawaiian volcanoes as examples. Continental drift, plates, and earthquakes are also examined. Find the locations of plates, faults and volcanoes on our new all-dome world map. The program then searches the Solar System for volcanoes on other worlds.



**Where Do Clouds Come From?** (1<sup>st</sup>-3<sup>rd</sup>) Weather and seasons presented in a format designed for primary age students. Concepts covered: seasons, rotation, revolution, evaporation, cloud formation, rain and snow, the water cycle, basic cloud types, and thunder storms

**Weather and the Seasons** (4<sup>th</sup>-8<sup>th</sup>) Why do we have seasons and how do basic weather systems work? Learn forecasting skills with our portable weather station and its instruments. (NOTE: THIS SHOW IS MOST EFFECTIVE IF YOU ARE ACTIVELY STUDYING WEATHER.)

**Discovering Geography with Columbus** (3<sup>rd</sup>-6<sup>th</sup>) This program examines the study of geography while following Christopher Columbus on his explorations. This show goes great with studies of geography and/or explorers.



## Life Science Presentations:



**Birds and Migration** (3<sup>rd</sup>-7<sup>th</sup>) Learn how birds have adapted to their environments by studying varying styles of beaks, claws, wings, and feathers. Learn why birds migrate, which birds do and which birds don't, and why various species follow very different routes. See how the stars, magnetism, wind, land features, and the Sun all play a role affecting where different species go and how they get there. These are illustrated on a full-dome world map showing important migration routes. The program closes with a demonstration of birdcalls--a favorite activity.

**Biology of the Cell** (5<sup>th</sup>-8<sup>th</sup>) This life science presentation examines the workings of the living cell. Through visuals and careful explanations, we will gain an understanding of the workings of a typical animal cell. Organelles, genes, mitosis, cell size, and the role of the cell within a living being will all be discussed. These components are illustrated by turning the dome into a giant cell over our heads!



## Evening Star Parties:

**Star Parties** (3<sup>rd</sup> and up) Explore the *real night sky* with our telescopes outside your school using our 8" cassegrain Celestron telescope, two 4" Astroscans and a small refractor. This evening activity **does not use the planetarium and is weather contingent**. It is limited to schools and venues within 60 miles of Waterville, Maine and is priced differently than planetarium shows. Please call for details.

