

## Michelle Nichols

[www.astroeducator.com](http://www.astroeducator.com)

This program list was updated in May 2025.

All programs are appropriate for adults. If children wish to attend, it is at the discretion of their parents or guardians, though a general recommendation is that these programs would be appropriate for children ages 10 and up. Don't see a topic you are interested in? Let me know if you have a theme to help connect to other programs you are planning. I can suggest something – or I may be able to create a new program for you.

### Get Involved

#### **Light Pollution: What Can Be Done?**

*Light pollution* is the excessive or inappropriate use of outdoor artificial light. It affects public safety, human health, wildlife behavior, and our access to the night sky – and it wastes energy and money. We'll talk about the problems of light pollution as well as practical solutions you can implement at home.

### Our Solar System

#### **Revealing Venus**

Earth's nearest planetary neighbor is far from earthlike. We'll discuss what we know about Venus now, what it may have been like in the past, what Venusian mysteries we would still like to solve, and connect the search for planets around other stars to the study of Venus and Earth.

#### **Comets & Asteroids: Cosmic Storytellers**

Studying comets and asteroids tells us about how our solar system formed, and comet and asteroid impacts may have played a part in the development of life on Earth. This program will highlight what we know now and what we hope to find out about these cosmic storytellers.

#### **Artemis: Returning to the Moon**

The goal of the Artemis program is to return people to the surface of the Moon. In the next few years, NASA will take the next steps toward doing just that. We'll discuss the plans and technologies that will get us back to the Moon for the first time since 1972.

#### **12 Things that Make Life on Earth Possible**

Earth has sustained life in many different forms for more than 3 billion years. We'll highlight a list of 12 things that make our planet special.

#### **Icy Worlds**

Ice: it's not just the stuff you shovel off the sidewalk. Many different ices are all over our Solar System – and it is really...*cool*...stuff to study. We'll investigate ices on hot planets and cold comets, moons made mostly of ice, flowing and floating glaciers, and even ice volcanoes.

### **Armchair Tour of the Solar System**

Explore our Solar System without leaving your seat! We will showcase some of the latest NASA spacecraft images of our Solar System, touching on our stunning Sun, planets, and much more. *Note: This program can be presented as a one-evening program or as Part 1 of a two-evening program series with Armchair Tour of the Universe.*

### **Past, Present, and Future**

#### **The History of Rockets**

The mighty rockets of today can trace their roots to technology from over two millennia ago. We'll travel through the history of rockets via the people who were inspired to move objects farther, faster, and higher.

#### **Ten Books that Changed Astronomy**

For several thousand years, books have made a significant impact on how we view the cosmos and our place in it. We'll start with a book by a Greek philosopher that influenced thinking about the Universe for almost 2,000 years, we'll move through books of more recent centuries, and we'll end with a book that inspired an entire generation to want to explore the stars.

#### **Where Do Constellations Come From?**

There are 88 constellations that astronomers use to define the entire night sky. Where does the list originally come from and what are these constellations used for? We'll explore the history of how we got to this list and the people involved – and several of the constellations that were created and disappeared along the way.

#### **Defining Time**

What time is it? That is a surprisingly complicated question to answer! We'll venture through several thousand years of history in the human quest to measure and define time.

#### **The Space Race**

In the 1960s, the U.S. and the Soviet Union were locked in a race to send men to the Moon. How did it all begin? How did the Soviets try to beat the Americans? And, what happened to the Soviet effort after Neil Armstrong and Buzz Aldrin walked on the Moon in July 1969?

#### **Eight Women Who Changed Astronomy**

Women have played a part in astronomical discoveries for centuries – but many of their stories are overlooked or untold. We will first highlight how science was – and was not - available to women of the past. Then, we'll learn more about eight women who blazed paths in astronomy, as well as the hardships they had to overcome to be able to explore the Universe.

#### **Women in Space Exploration**

Women have been involved in getting people to space for decades. We'll start by exploring some trailblazers who helped popularize and advance air travel, and then we'll spotlight women who were pioneers in the era of rocketry and space exploration.

## **Space Food**

This presentation will highlight the development of space eats from the earliest days of space travel, show how food is eaten – and grown - on the International Space Station today, and what food might look like for future long-term space missions.

## **Astronomy Near and Far**

### **The Webb Space Telescope**

The Webb Space Telescope has begun to fundamentally alter our understanding of black holes, the early Universe, stars, planets, and more. Learn more about this groundbreaking mission as we explore the latest stunning images from the telescope. *Note: This program is updated frequently with new science results and images, as available.*

### **Searching for Other Earths and ETs**

We have found nearly 6,000 planets around other stars in the past 30 years. A few are similar, in some ways, to our own home planet – and many are just plain weird. Join us for an overview of the search for distant planets, as well as ways in which scientists are investigating the possibilities of life elsewhere in the Universe.

### **Armchair Tour of the Universe**

Go on a trip around the Universe! This presentation will take you on a whirlwind visit through our Universe's most amazing objects using images from the world's most advanced telescopes. *Note: This program can be presented as a one-evening program or as Part 2 of a two-evening program series with Armchair Tour of the Solar System.*

## **Skywatching**

### **Skywatching Using Your Eyes**

So much observation of our daytime and nighttime skies can be done without a telescope. This presentation will focus on an overview of celestial observations you can do with just your eyes, including Moon phases, eclipses, planets, stars, and much more in a session suited to an astronomy novice. *Note: This program will be updated for the time period of your specific program.*

### **Skywatching Using a Telescope**

Bring the Universe to your neighborhood! (Your library name here) (has/soon will have) (telescopes/a telescope) for you to check out and use at home. Learn how to operate this telescope and get tips for skywatching with your eyes and with mobile phones.

*Note: This program is specifically for institutions that have, or soon will have, a telescope or telescopes for patrons to check out. I will tailor my program to the model of telescope that your institution has acquired.*