



Space Pathfinder Lesson Overviews FY-2027



Astronaut Training Simulators (MAT & 5DF Chair)

Astronauts who trained for each American human spaceflight program were tested and prepared for their flight through the use of simulators, machines that recreate the feeling of being in space. In order for trainees to get a feel for what it's like to train to be an astronaut, they may experience the Multi-Axis Trainer (MAT) or 5DF Chair. The MAT simulates the disorientation one would feel in the case of a tumble spin during reentry into the Earth's atmosphere. The 5DF Chair is similar to the simulator Gemini and Apollo astronauts used to train for a spacewalk.

Catapult Launchers

In this engineering design challenge, trainees will discuss and then work together to build a non-traditional satellite launcher.

Core Museum Tour

Covering the current space program, trainees will hear about the Artemis program that is taking us back to the moon. We will also discuss the commercial and international partners that are helping us get there, all while seeing the artifacts that tell the story of present and future space. Trainees will also hear about Martian exploration, the space industry ties to modern weather prediction, and receive an introduction to the Payload Operations Integration Center, or POIC, and the International Space Station.

Davidson Tour

This tour explains the progression of rocket design from fireworks to weapons of war and then for use in space travel. In the briefing, we will discuss the great minds involved in rocket building and design and beginning ideas about space travel. This briefing will bring space history to the beginnings of the Space Race. Then covering the Apollo Program from its origins to its completion, this briefing shows the progression that took America to the moon. Both the United States and Soviet Union were reaching for the moon. While the Soviet Union focused on continuing their many achievements, the United States worked on perfecting methods. This perfecting applied to not only astronaut training and modifying current technology but developing new technology for the sole purpose of landing on the moon. The Apollo Program is the perfect example of modern America's determination to set a goal and achieve it.

Expedition Living

"Expedition Living for the Future" will take trainees through a day in the life of an astronaut and compare it to their day at Space Camp. Trainees will see how our years on the ISS are not only making life here on Earth better, but this experience and research are preparing us for the challenges of going beyond Low Earth Orbit. This is the first step in NASA's plan for going to Mars: Earth Reliant (ISS), then Proving Ground and Earth Independent.

Fly Me to The Moon!

This presentation will inform trainees about how humans got to the Moon and how we'll soon return. It will also give the trainees an overview of NASA's Artemis program.

Model Rocketry

Trainees will be introduced to the parts of rockets, Newton's Laws, and rocketry safety. After constructing a model rocket, they will attempt to launch their rocket successfully.

Space Shuttle History

With 135 flights over 30 years, the Space Transportation System (STS), or space shuttle, was the longest running American space program. This history briefing will highlight the achievements, contributions, tragedies, and lessons learned during this era of U.S. spaceflight history.

*Note: all lessons/activities are subject to change.