

EDUCATOR'S GUIDE

Who Goes to Space?

Preparation

Overview and Objectives

This lesson is geared toward a family audience interested in discussing space travel.

Space travel is something that has intrigued humankind for generations, but the opportunity for both astronauts and private citizens to travel to space is fairly recent. This program discusses who has been able to go into space and asks participants to reflect on what an experience as a space traveler may be like.

This lesson includes a [slideshow](#) in which an instructor can lead participants through an exploration of who has been able to go to space so far and what training was needed from these people before they went. The lesson culminates with participants sharing what they would bring to space if they were to visit the International Space Station.

Instructional Modalities

This activity was designed for both synchronous or asynchronous instruction.

For **synchronous instruction**, we recommend a platform that allows both for whole class discussion and for students to interact in small groups.

For **asynchronous adaptations**, we provide suggestions for teachers to provide additional support for the activities and for students to share their work with each other.

Materials

- [Who Goes to Space? Slideshow](#)
- **Who Goes to Space? Worksheets** (p. 6 & 7)
- **Pen or Pencil**

Discussion

Questions

Would you ever want to travel to space?

What would you want to know how to do before you went?

What are some items we would need if we went on a long trip?

What would you miss the most if you were far away from home?

Lesson

1. Introductory Activity

- Ask Participants:
 - **Who can travel to space?**
 - **How does someone prepare for space travel?**
- Discuss the responses with the group.

2. Core Activity

- Explain to participants that more than 550 people have been to space, predominantly astronauts sent up by space agencies all around the world.
- Basic requirements to become a NASA astronaut are a bachelor's degree in a STEM field and three years of related professional experience (or 1,000 hours of pilot-in-command time in jet aircraft). Candidates also must pass NASA's astronaut physical examination.
- Between 2001 and 2009, seven private citizens, or space tourists were able to travel to space. A space tourist has not gone up to space since, but several opportunities are opening up for the next generation of space tourists. Ask the following:
 - **Would you ever be interested in traveling to space?**
 - **What would you want to know how to do before you traveled to space?**
- Share [video](#) (17:10- 21:27) of former astronaut Mae Jemison sharing her application process and her job as an astronaut. Also share information about Anousheh Ansari, the first female space tourist, the first person of Iranian descent, and the first Muslim woman to go into space. Before she went to space, she went through six months of training before her space flight.
- This training was similar to astronaut training, which included classroom training, simulator training, zero-g and survival techniques. Astronauts often have two more additional years of training before they are cleared for a space flight.
 - **Has anyone gone on vacation here before? Where did you go?**
 - **How might traveling to space be different from going on vacation on Earth?**

- Have participants virtually explore the [International Space Station](#) and use Activity 1 from the [worksheets](#) to share their observations.
 - **What would be their favorite part of the International Space Station? Why?**
- Have participants watch the two minute [video](#) on what *Intrepid* employees would bring with them if they were to journey to space.
- Have participants think about what they would bring with them if they were to travel to space. Using Activity 2 from the [worksheets](#), they can either draw or share their object if they have access to it.
- Have participants share their responses.

Asynchronous Adaptation

Have participants go through the [slideshow](#) on their own. Using their worksheet, participants can write down their thoughts on the International Space Station and what they would bring to space. Have participants share what they would bring in person or share their object via photo or video using Flipgrid or Padlet.

Extension Activities

To deepen student engagement with this content, you may choose to add the following activities :

Learn More About Astronauts

Have participants watch three [videos](#) of NASA astronauts sharing their stories and ask participants to share what the astronauts have in common or what they may have in common with the astronauts.

International Space Station

Have participants read the descriptions of the [International Space Station](#) modules and nodes. Have them share what surprises them about the space station and what they would add on to the Space Station if they could.

Additional Resources/ References

Space Tourists

The first human in space traveled to space in April 1961. Since then, more than 550 people have been to space, predominantly astronauts sent up by space agencies all around the world. Between 2001 and 2009, that opportunity has opened up for private citizens, or space tourists to travel to space.

During the period from 2001 to 2009, 7 space tourists made 8 space flights aboard a Russian Soyuz spacecraft to the International Space Station through Space Adventures, a private spaceflight company founded in 1998. These individuals were:

- Dennis Tito, April-May 2001
- Mark Shuttleworth, April 2002
- Gregory Olsen, October 2005
- Anousheh Ansari, September 2006
- Charles Simonyi, April 2007 and again in March 2009
- Richard Garriott, October 2008
- Guy Laliberté , September 2009

The publicized price was in the range of US\$20–25 million per trip. Due to the increase in the International Space Station crew size, there has not been an orbital tourist flight since 2009, but that may soon change.

In June 2019, NASA announced that the organization aimed to start allowing private astronauts to travel to and stay on the International Space Station. Several private companies have also shared their own plans to send private citizens up to the space station and beyond.

The Soyuz capsule on display at the Intrepid Sea, Air & Space Museum carried Gregory Hammond Olsen, the third private citizen to travel to space through Space Adventures. This is the only type of spacecraft used so far to take space tourists up into space.

Various companies such as Space X, Boeing, Virgin Galactic, and Blue Origin, have discussed plans for private suborbital and orbital flight in their own spacecraft, which would allow for space travel without a government agency.

The Museum is deeply grateful to the funders that make our education programs possible:



*This project was made possible in part by the
Institute of Museum and Library Services, Award ID:
CAGML-247144-OMLS-20*

ACTIVITY 1: A DAY ON THE INTERNATIONAL SPACE STATION

Directions:

Explore the [International Space Station](#) virtually and write in the names of the spots you believe are the most suited for each of these activities. If you're not sure by looking around, read the descriptions of the different modules for more information.

Area	Name of the Module or Node
Where would you go to get the best view?	
Where would you want to take a nap?	
Where would you go to eat a snack?	
Where could you use the restroom?	
Where could you conduct experiments?	
Where could you get some exercise?	
Where could you find any misplaced cargo?	
Where could you go on a space walk?	
Where would you go to read a book?	

Where do you think you would spend the most time on the International Space Station? Why?

