



Photo Credit: NASA/James Blair

# What Does It Take to Make a Winning Team?

## LESSON OVERVIEW

Students will explore the life of astronauts and learn about a particular team. They will also discover what makes a good team and how teamwork can make a big difference in the success of an astronaut crew.

## LEARNING OBJECTIVES

Students will collaborate in groups and work together to learn about what it takes to be a successful astronaut team.

## TEACHER NOTES AND PREP

### Background

The crews of Artemis II and III will be very diverse groups of astronauts and each individual will bring different life experiences and backgrounds to their roles.

*“To an astronaut far from home, it’s as important as oxygen, fuel, and radiation shielding: teamwork. Weakened bones, radiation-damaged cells, spacecraft malfunctions—when you think of journeying through space, these are the threats that come to mind. Yet, there’s another issue equally critical. That issue is teamwork.”*

- Dr. Tony Phillips

Knowing your teammates’ backgrounds and strengths is important for building a successful team. This is especially important when working in space where astronauts have to live together in a small space for a long time. It’s crucial to understand each other and bring out the best in each other to make the mission a success!

Teachers should review the resources in the external reference below to become familiar with what it takes to be an astronaut that is part of a team in a small space.

### Student Ages

8-13

### Subjects

Language Arts  
Reading and Writing

### Skills

Character  
Collaboration  
Communication  
Critical Thinking

### Estimated Time

50 minutes

### Educational Settings

Classroom  
Informal (museums, science centers, and camps)



### Preparation

Students will be introduced to astronauts and learn about their varied backgrounds and interests. After reading and gathering information, they will share what they have learned about the groups. Afterwards, students will work together to compile a list of skills they think the astronauts would need to be a good teammate. Everyone's view may look different.

### STUDENT ACTIVITIES

#### Supplies

- Print and cut out the Astronaut Interview Cards (you'll likely need multiple copies for multiple groups)
- Pencils
- Paper

#### Warm-Up and Introduction (10 minutes)

- Ask students to imagine what life is like as an astronaut. Astronauts live and work in a small space for extended periods of time. For example, the four astronauts on the Artemis II mission (estimated to launch in 2024) will be in the Orion spacecraft together for 10 days. The Orion spacecraft is about 16.5 feet (5 meters) in diameter, like a small, round school classroom. That's not much space and you can't escape! The following resources help explain what the Orion spacecraft is and what it does:

**NASA** | About Orion Spacecraft

<https://www.nasa.gov/specials/orionfirstflight/>

**NASA** | How We Are Going to the Moon

[https://youtu.be/\\_T8cn2J13-4](https://youtu.be/_T8cn2J13-4)

- Ask the students to imagine living in the Orion spacecraft with three other people that are not their family members or close friends. What might they want to know about those other people before they go? How would they feel leading up to the mission?
- Explain to students that they are going to learn about a group of astronauts in order to identify skills and characteristics that helped the astronauts to work well as a team.

#### Astronaut Team Research and Presentation (25 minutes)

Break students into small groups:

- Students will read the astronaut cards to learn about each astronaut's background.  
*[EDUCATOR NOTE: For younger students, we recommend four groups with one card assigned to each group. For older students, we recommend groups of four students per group and each student reads one card.]*
- Students will discuss each biography. What makes these people different? What makes them the same? What are their hobbies?
- Ask one student from each group to present what their group found the most interesting about the astronauts. Did anything surprise them?
- Once students present, have them go back into groups and record what skills they think would be important for this team.
- Have students come up with five traits of good teamwork.
- One student from each group should share the five traits they identified with the class.

### Post-Activity Debrief (15 minutes)

Regroup as a class and discuss the following . . .

- Did any teamwork strategies surprise you from other groups?
- What did you learn about teamwork from this exercise?
- Was it easy as a group to decide on what makes a team work well together?
- Show students the video of astronaut Mike Massimino talking about teamwork to give them a broader perspective.

### GUIDING IDEAS AND QUESTIONS

- Everyone is different, but we can all be good teammates.
- In space exploration, astronauts spend long periods of time in small spaces together. It's critical to understand their teammates and identify ways to bring out the best in each other.
- What are the traits of good teamwork?

### PERFORMANCE EXPECTATIONS

Students will:

- collaborate and work as a team to decide what teamwork traits they think are important, and
- learn about the varied backgrounds that make up a team of astronauts.

### NGSS SCIENCE AND ENGINEERING PRACTICES

For educators based in the United States, the Next Generation Science Standards (NGSS) Science and Engineering Practices in this lesson are:

- obtaining, evaluating, and communicating information; and
- asking questions and defining problems.

### EXTERNAL REFERENCES

**NASA** | Astronaut Mike Massimino On Teamwork and Never Giving Up  
[https://youtu.be/H7QByc\\_9pkE](https://youtu.be/H7QByc_9pkE)

**NASA** | Team Me Up, Scotty  
[https://www.nasa.gov/vision/space/livinginspace/10jan\\_teammeup.html](https://www.nasa.gov/vision/space/livinginspace/10jan_teammeup.html)

**SciWorthy** | What Happens When Astronauts Don't Get Along?  
<https://sciworthy.com/what-happens-when-astronaut-teams-dont-get-along/>

### SUPPORTING FILES

- Vocabulary List
- Astronaut Interview Cards

### EXTENSIONS



#### LANGUAGE ARTS / WRITING EXTENSION

Ask students to write down their own biographical information, key skills, likes, and dislikes; then share with members of their group and discuss ways they could manage their team dynamic to ensure they work well together.



#### STEAM EXTENSION

Each space mission has a patch that represents the crew of astronauts going into space. Ask each group to draw their own mission patch to represent their astronaut team and the mission they would like to go on to outer space. Have your students add items that symbolize and represent their own interests and hobbies to continue the theme of getting to know your teammates.