The Space Command exhibit addresses some of the challenges of studying objects that are too far away to observe in person, as well as the tools astronomers have developed to overcome these challenges. Help your students make connections between the workshop and Space Command by using the Exhibit Research Sheet (below) to guide students’ exploration of the exhibit.

If the class generated a list of questions about objects in space or how astronomers study them (see Pre-visit Discussion), encourage each student to choose one question, record it on the Exhibit Research Sheet, and look for information relating to that question in the exhibit.

Additionally, here are some examples of guiding questions you might ask during your students’ exploration of the exhibit:

Find the Remote Command section of the exhibit and take a look at the maps of our nearest celestial neighbors – the left panel shows stars within 35 parsecs (114 light years) of our sun, and the right panel is a close-up showing stars within 6.5 parsecs (21 light-years).

- What is a light year? Why do you think we measure distances in space in light years or parsecs, rather than kilometers or miles?
- If we could invent a spacecraft that traveled at the speed of light, how long would it take to travel to some of these stars? What do you think would be some of the difficulties of that kind of space journey?

The Galactic Anatomy panels show pictures of The Mice, two galaxies which are 290 million light years away from our solar system.

- What tools might astronomers have used to collect these images?
- What kinds of information do you think astronomers can find out about these galaxies? What things can we probably not find out (yet)?

The Remote Mission game gives you an idea of what it would be like to carry out a research mission to a distant planet.

- What different tools did you need to complete the mission? What jobs did they do?
- What things were difficult about the mission? How would the mission be easier if you could perform the jobs in person? How would it be more difficult or dangerous?

IN THE WORKSHOP SPECTROSCOPY: COLORS OF LIGHT, YOUR STUDENTS ASSEMBLE AND UTILIZE A SIMPLE VERSION OF A SPECTROSCOPE, ONE OF THE PRIMARY TOOLS ASTRONOMERS USE TO GATHER INFORMATION ABOUT THE UNIVERSE.

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During-visit Resources

Spectroscopy: Colors of Light

The Life in Space area illustrates some of the challenges of exploring and studying even the planets in our own solar system.

• Try designing a space suit in the Space Vacations computer game. What are some of the things you need to consider in designing space gear? If you were actually planning a mission to one of these planets, which one would you pick? Why?
• Build and test a model Mars Rover. Try to make a rover that rolls as straight as possible. What body shape works best? What type of wheels? What challenges did you have? What if you needed to be able to change the rover’s direction? How would you adapt your design?

The Space Command Educator Guide contains more information and resources relating to the exhibit, including additional activities and curriculum connections. Find it at www.fi.edu/teachers/educator-guides.
Spectroscopy: Colors of Light

Draw or write about something in the exhibit that talks about a type of object you might discover or study in space.

Draw or write about something in the exhibit that talks about tools we might use to study objects in space.

What is one new thing you learned from this exhibit?

What new questions do you have about objects in space and how we study them?