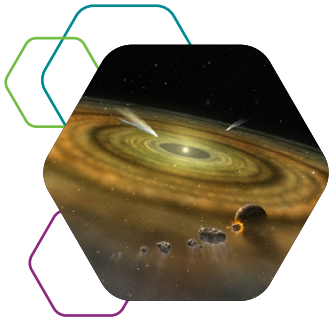


EXPLORING THE SOLAR SYSTEM
Mission to Space

Let's play a game!

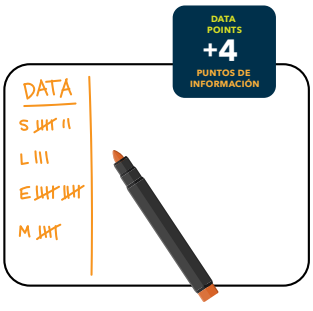
Game pieces

Choose one of the four missions and its matching game piece. Now, take turns rolling the dice and moving your game piece to advance through the board.

There are five sections of the game: **Planning, Engineering, Launch, Data Collection,** and **Data Analysis.** Each section gives the player a sample of what happens during a mission to space.

Mission Boost

If you land on a **Mission Boost** space, draw a **Mission Boost** card. Each card has a mini-challenge relating to Earth and space. Complete the challenge to earn an extra turn! (If you don't want to do the challenge on your card, just place it at the bottom of the pile and draw another card.)



Data Collection

When you reach the **Data Collection** section of the board, you will need to collect *10 data points* before you can leave the loop. Use the whiteboard to keep track of your points.

The first person to complete their mission wins the game. Read about what your mission discovered and share it with your group!

EXPLORE SCIENCE

A successful mission to space takes a lot of planning, research, and curiosity.

Developing, planning, and completing a mission to space is a complex process with many steps. Mission teams include scientists, engineers, technicians, artists, and members from many more professions. They work together to develop questions, plan experiments, and build spacecraft that will explore our planet, the solar system, and beyond!

NASA's Juno spacecraft captured this image of Jupiter's stormy northern hemisphere.

NASA has carried out many Earth and space missions using aircraft, spacecraft, and surface explorers. Each mission has unique goals and needs, but all require careful planning and execution. Specialized on-board instruments must withstand the powerful forces of launch—and sometimes landing—and the harsh environment of space. Whether their destination is Earth's orbit, another planet, or even the Sun, spacecraft need to arrive intact before they can collect data. Once they do, they can begin capturing images, recording temperatures, or analyzing samples. The mission team shares this data with scientists all around the world to understand it and to come up with new questions for the next mission.

Missions to space are full of surprises and challenges. The Mars rover Opportunity is a well-known example of some of the surprises NASA mission teams can encounter. Opportunity landed on the surface of Mars in 2004 to explore past water activity, rocks, and soils on the planet. It was only designed for a 90-day mission. But Opportunity sent data back to Earth for over 14 years before communications stopped in late 2018, returning over 217,000 images in total! This surprisingly long rover adventure on Mars also came with challenges for the NASA mission team, like plotting safe pathways over big boulders and up dangerously steep slopes.

An artist's depiction of Opportunity on the surface of Mars.