



## ROADS CHALLENGE MISSION OBJECTIVE OVERVIEW

### MO-01: MISSION DEVELOPMENT LOG (MDL)

A Mission Development Log is the record of your mission, beginning to end. Document your planning discussions, your trials, failures, and successes, and modifications made as ideas evolve. Each member should contribute!

### MO-02: OBSERVE & EXPLAIN THE MOON

For many peoples, the Moon is a calendar in the sky. Discover how for yourself! Keep a lunar observation journal over a multi-week period. What did you learn from your monthlong Moon journaling? What is your Moon story?

### MO-03: INVESTIGATE THE MOON'S SURFACE

Despite our challenge's name, there are no roads on the Moon. So what kind of driving surface will your rover encounter? Observe the Moon's surface, investigate lunar regolith, and then design your rover wheels!

### MO-04: LIFE IN "CLOSED" SYSTEMS

Earth comes with everything humans need to live — space doesn't. Astronauts need to bring their environment with them in what's called a "closed" system. Investigate the needs of living things, then use your findings to model a system to support a lunar crew.

### MO-05: PACK YOUR MOON KIT

Longterm missions - in space - in closed habitat - with a group.... Sounds stressful! How do you keep yourself grounded on Earth while living in space? NASA will provide you with food and air. Now pack what YOU need for wellness on your mission.

### MO-06: PATH(S) TO THE MOON

Time to hit the ROAD(S). Following Artemis's real flight trajectory from the Earth to the Moon, simulate the journey with accuracy and safety. Once at the Moon, dock with the Gateway!

### MO-07: ROVER TESTING & NAVIGATION

In MO-03, you designed your rover's wheels. Now you'll find out how your rover performs on lunar soil and terrain. Make modifications to improve your rover's capabilities and keep careful logs of your progress in your MDL.

### MO-08: MAKE A MISSION PATCH

A mission patch is an important symbol of any NASA mission, reflecting the team, the object of study, the spacecraft, the mission goals, or a combination! How will you represent your Artemis ROADS mission with imagery?

### MO-09: FINAL MISSION CLOSEOUT

IT'S GO TIME! Your team has modeled and tested their mission, now it's time to fly. Teams in-person at a hub will present their MDL to the judges, then complete MOs 06 and 07 live. Virtual teams will submit their MDL and a mission video on the NESSP website.

### WING IT LIKE WINGLEE!



As NESSP's founding director, Dr. Winglee, might remind us, sometimes you gotta wing it! Describe something

you tried for Artemis ROADS that didn't go as expected. What happened, what did you learn, and what happened next?

