

MISSION BRIEFING

Experience Activity

Experience: Getting a Grip on the Moon

Phase II 

Prep Time: 20 minutes

Activity Length: 60 minutes

Summary: Since tool design for the Artemis missions involves consideration of the different environment factors on the lunar South Pole, testing and improving the design is essential. Prototyping early and often to get feedback from the crew will be a necessary step. Testing while wearing gloves in an analog environment like the Johnson Space Center rock yard creates a baseline for the Artemis tools' performance, and this helps scientists and engineers understand how the tool will eventually function on the lunar surface.

Learning Objective: Participants will use the problem-based learning framework to test and redesign their modified tool.

Outcome: Participants test and redesign their tool to collect rock samples.

Student roles: The Tools Engineer, Project Manager, Human Factors Engineer, and Mission Specialist (Geologist) will complete testing of the tool and provide feedback to the team.

Challenge Questions:

- What were some difficulties your team faced during the initial design and build process, and how did you overcome them?
- Were you surprised by the performance of your tool? Explain.
- How were you able to improve your tool during the redesign phase? What design changes did you make, and how did they improve your tool's performance?