

# CREW MANIFEST

# MISSION: LUNAR QUEST

Mission Date: \_\_\_\_\_ Mission Time: \_\_\_\_\_ # of Students: \_\_\_\_\_ Grade: \_\_\_\_\_

Teacher's Name(s): \_\_\_\_\_ School: \_\_\_\_\_

Please bring two (2) copies of this completed **CREW MANIFEST** with you on the day of the mission. Instructions for completing this form are provided on page 2. ***\*Required to fly Lunar Quest***

	TEAM	SPACE STATION CREW	MISSION CONTROL CREW
1	<b>COM</b> <i>Communications</i>	* _____ _____	* _____ _____
2	<b>ROV</b> <i>Rover</i>	* _____ _____	* _____ _____
3	<b>BOT</b> <i>Robotics</i>	* _____ _____	* _____ _____
4	<b>LS</b> <i>Life Support</i>	* _____ _____	* _____ _____
5	<b>GEO</b> <i>Geology</i>	* _____ _____	* _____ _____
6	<b>MED</b> <i>Medical</i>	* _____ _____	* _____ _____
7	<b>SW</b> <i>Space Weather</i>	* _____ _____	* _____ _____
8	<b>NAV</b> <i>Navigation</i>	* _____ _____	* _____ _____
<b>Additional Positions</b>			
9	<b>ASTRO</b> <i>Astrobiology</i>	_____ _____	_____ _____
10	<b>HAZ</b> <i>Hazard</i>	_____ _____	_____ _____



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## CUSTOMIZE YOUR CREW

## MISSION: LUNAR QUEST

The crew is customizable based upon the number and talents of your students. We recommend filling in the teams in a manner that fits the strengths of your students and teaching objectives.

To start, review the team descriptions on page 3. This will provide you with details needed to place your students on the most appropriate team. Then follow the guidelines below for completing the crew form on page 1.

Each Team includes at least one student on the Mission Control Crew and one student on the Space Station Crew.

- A minimum of 16 students are needed to fly Lunar Quest.
- At least two (2) students, one student per crew, must be assigned to the first eight (8) teams.
- If you have 16-32 students, you should assign students to the top eight (8) teams to start.
  - Place one (1) student on each crew – Mission Control and Space Station for each team.
  - Once you have assigned one (1) student to the top eight (8) teams of both crews, go back and assign a second student to the other slot for each team. These students will work as partners.
- If you have more than 28 students, add remaining students to the ASTRO (Astrobiology) and HAZ (Hazard) teams
- Remember, each team member in the Mission Control Crew must have a corresponding team member in the Space Station Crew.

If you have questions about completing the Crew Manifest, please call your Challenger Learning Center.

## TEAM DESCRIPTIONS

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Review each of these job descriptions to familiarize yourself with the type of work being conducted during the mission.

	<b>TEAM</b>	<b>DESCRIPTION</b>	<b>JOB TITLES</b>
<b>1</b>	<b>COM</b> <i>Communications</i>	<ul style="list-style-type: none"> <li>• Provide communications support between astronauts and Mission Control.</li> <li>• Manage the distribution of assignments during an event and during some emergencies.</li> <li>• Provide critical ROVER launch information.</li> </ul>	Audio Engineer
<b>2</b>	<b>ROV</b> <i>Rover</i>	<ul style="list-style-type: none"> <li>• Build and test a remotely operated robot to study the moon, installing critical equipment and components and retrieving data.</li> </ul>	Aerospace Engineer Mechanical Engineer Electrical Engineer Structural Engineer
<b>3</b>	<b>BOT</b> <i>Robotics</i>	<ul style="list-style-type: none"> <li>• Examine different lunar rocks through the use of robotic arms.</li> <li>• Execute basic programs for unmanned rovers to gather their payloads.</li> </ul>	Mechanical Engineer Robotic Engineer Electrical Engineer
<b>4</b>	<b>LS</b> <i>Life Support</i>	<ul style="list-style-type: none"> <li>• Work hand in hand with their peers to ensure safe conditions for all team members on the spacecraft.</li> <li>• Manage life support emergencies as they emerge.</li> </ul>	Life Support Specialist Bio-Medical Engineer
<b>5</b>	<b>GEO</b> <i>Geology</i>	<ul style="list-style-type: none"> <li>• Examine different moon rocks for key elements and minerals.</li> <li>• Research and map possible dig sites for important minerals.</li> </ul>	Geologist Seismologist Spacecraft Engineer
<b>6</b>	<b>MED</b> <i>Medical</i>	<ul style="list-style-type: none"> <li>• Monitor the health of the crew with a focus on osteoporosis and radiation.</li> <li>• Run various diagnostics on different team members, blood pressure, monitoring radiation, and heart rate.</li> </ul>	Doctor Nurse
<b>7</b>	<b>SW</b> <i>Space Weather</i>	<ul style="list-style-type: none"> <li>• Examine sun spot activity, solar flares and coronal mass ejections and their effects on satellites and the spacecraft.</li> <li>• Handle preparations for solar flare or space debris emergencies by determining location, severity and effects.</li> </ul>	Electrical Engineer Solar Astronomer Physicist Meteorologist
<b>8</b>	<b>NAV</b> <i>Navigation</i>	<ul style="list-style-type: none"> <li>• Track satellites to ensure quality communication.</li> <li>• Calculate and plot the course for the Spacecraft to reach and navigate on the moon.</li> </ul>	Navigation Engineer Navigator

8	<b>ASTRO</b> <i>Astrobiology</i>	<ul style="list-style-type: none"> <li>• Study life as we know it and what is necessary for life to survive.</li> <li>• Search for planets that fit the criteria necessary to sustain life as we know it.</li> </ul>	Astrobiologist
9	<b>HAZ</b> <i>Hazard</i>	<ul style="list-style-type: none"> <li>• Study pH levels and air quality and their relationship with healthy living conditions for the crew.</li> <li>• Create and design an air filter out of the materials provided.</li> </ul>	Hazardous Materials Specialist