

# CREW MANIFEST

Mission Date \_\_\_\_\_ Number of Students \_\_\_\_\_ School \_\_\_\_\_

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

Please bring two copies of this completed CREW MANIFEST with you the day of the mission. Instructions are given on the next page. If you would like to view descriptions of each team, consult the TEAM DESCRIPTIONS sheet.

TEAMS	MISSION CONTROL CREW	SPACE STATION CREW
COM	* _____ _____	* _____ _____
SAT	* _____ _____	* _____ _____
BIO	* _____ _____	* _____ _____
ATMO	* _____ _____	* _____ _____
GEO	* _____ _____	* _____ _____
OCEAN	* _____ _____	* _____ _____
SPACE WEATHER (optional, but recommended)	* _____ _____	* _____ _____
<b>Additional positions:</b>		
CRYO	* _____ _____	* _____ _____
ENERGY	* _____ _____	* _____ _____



## **CUSTOMIZE YOUR CREW**

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The crew is customizable for the number of students you are bringing:

- A minimum of 12 students is needed, at least 2 for each of the first seven teams above.
- We recommend if you have from 14-26 students that you fill in the top seven teams, beginning with two in each position.
- Then fill in one more for each team except for COM (that's up to 20).
- Then from 21-26 students fill in a fourth member for each team.
- The final four teams are optional, but just as exciting as all the rest. If you have more than 22 students, fill in these teams in a manner that fits the strengths of your students or your teaching objectives (at least two per team).
- The last two teams, Public Affairs and Media are less science-oriented than the rest. Public Affairs requires writing skills, while Media requires some skills at video/ audio production and interviewing.

If you have any questions about how to do this, please call the Challenger Learning Center.

## TEAM DESCRIPTIONS

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

TEAM	DESCRIPTION	JOB TITLES
<b>COM</b>	<ul style="list-style-type: none"> <li>Provides communications support between astronauts and mission control and makes announcements</li> </ul>	Astronaut, Engineer, Astronaut Trainer
<b>SAT (Satellite)</b>	<ul style="list-style-type: none"> <li>Builds and tests a remotely operated satellite to study Earth, installing critical equipment and components and retrieving data</li> <li>Monitors the Earth observation network of satellites</li> </ul>	Computer Scientist, Mechanical Engineer, Electrical Engineer, Structural Engineer
<b>BIO (Biosphere)</b>	<ul style="list-style-type: none"> <li>Studies the impact of Earth's vegetation and photosynthesis on carbon dioxide levels and climate change</li> <li>Observes population parameters and their environmental effects</li> <li>Monitors biological contamination</li> </ul>	Biologist, Earth Scientist, Botanist, Ecologist
<b>ATMO (Atmosphere)</b>	<ul style="list-style-type: none"> <li>Examines greenhouse gases, and global temperature</li> <li>Studies precipitation and cloud cover and atmospheric aerosols</li> <li>Monitors air quality on the space station</li> </ul>	Meteorologist, Climatologist, Earth Scientist, Chemist, Envir. Engineer
<b>GEO (Geosphere)</b>	<ul style="list-style-type: none"> <li>Observes ways in which land use, biomass burning and volcanic eruptions affect the carbon cycle and the greenhouse effect</li> <li>Monitors the carbon levels in the Space Station life support system</li> </ul>	Geologist, Seismologist, Volcanologist, Earth Scientist, Spacecraft Engineer
<b>OCEAN</b>	<ul style="list-style-type: none"> <li>Researches how changes in temperature and carbon dioxide in the atmosphere affect biological and physical properties of the ocean</li> <li>Monitors the plant chamber temperature levels</li> </ul>	Oceanographer, Marine Biologist, Chemist, Earth Scientist
<b>SPACE WEATHER</b>	<ul style="list-style-type: none"> <li>Examines sun spot activity, solar flares, and coronal mass ejections and their effects on Earth</li> <li>Handles preparations for any solar flare or space debris emergencies and determines their location, severity and effects</li> </ul>	Electrical Engineer, Solar Astronomer, Physicist
<b>CRYO (Cryosphere)</b>	<ul style="list-style-type: none"> <li>Examines Earth's polar regions: snow and ice cover in the Northern Hemisphere, reflected sunlight, and temperature</li> <li>Monitors the water supply and water recovery system in space</li> </ul>	Glaciologist, Earth Scientist, Climatologist, Spacecraft Engineer
<b>ENERGY</b>	<ul style="list-style-type: none"> <li>Study solar power, incoming and outgoing radiation from the Sun, and how solar radiation affects climate change</li> </ul>	Earth Scientist, Solar Astronomer

\* Media/Public Affairs - High School N/A - Middle School - TBD