



## Moonbase Explorer Mission

Welcome to the Moonbase Explorer program! This hands-on, science-based simulation will give your students exposure to multiple science standards, as well as a chance for them to see math, reading and writing in action.

The Moonbase Explorer program lasts a full 2 hours - with your group of student astronauts being split into two halves. One group will be in our Moonbase simulator while the other is in our EVA Lab. The groups will trade places after approximately one hour.

### TO MAKE THIS A VALUABLE AND EDUCATIONAL EXPERIENCE:

- Invite 4 adults per class, not including the teacher, to act as our Mission Specialists. The success of the mission relies heavily on the Mission Specialist's guidance.
  
- Share the Mission Specialist information sheet with your volunteers.
  
- Split your students into two groups and complete a CREW MANIFEST for each group. (Place your students where you believe they will be interested in the listed team-type activities. There is no right or wrong here!) Bring these CREW MANIFESTS on your mission day.
  
- Arrive at least 5 minutes prior to your scheduled Moonbase Explorer program time.
  
- Enter the doors marked **Planetarium Entrance**.
  
- Plan to use the washroom before your scheduled start time.
  
- Refrain from cell phone usage and text messaging during the Mission!

Thank you, in advance, for your focus and participation on this program. We're looking forward to seeing you and your crew of excited astronauts!

## Mission Specialist Information

Thank you for volunteering to be a part of the Moonbase Explorer program. The following information will give you an idea of the activities at each station. You will receive additional information on mission day. It's important to note that it is unlikely that your team will complete all the activities listed.

**TASK CARDS:** The Task Cards are your guide through your team's investigations. Please read each task card step by step with your astronauts. Astronauts should complete all activities together. There will be some questions at the end of each task for you and the astronauts to discuss.

<h3><u>Engineering Investigations</u></h3> <ul style="list-style-type: none"><li>• How will we collect solar energy on the Moon?</li><li>• EVA - Are there metals on the Moon?</li><li>• How do we travel on the surface of the Moon?</li><li>• How do we protect ourselves from the Sun?</li><li>• Construction of the Moonbase.</li></ul>	<h3><u>Life Support Investigations</u></h3> <ul style="list-style-type: none"><li>• How do we sort germs aboard the spacecraft as helpful or harmful?</li><li>• How do we handle and sort chemicals properly?</li><li>• EVA - Is there an oxygen source on the Moon?</li><li>• Did we find oxygen in our moon rock sample?</li><li>• What do living things need to survive in space?</li><li>• How can we grow and harvest food crops in space?</li></ul>
<h3><u>Geology Investigations</u></h3> <ul style="list-style-type: none"><li>• What types of tools do we need to collect samples on the Moon?</li><li>• Which crater has the best supply of metal resources?</li><li>• Which metal is the heaviest?</li><li>• What is the amount of iron in lunar soil?</li><li>• What lunar resources can we use to make an energy source?</li><li>• What is the best way to grow crops on the Moon?</li><li>• EVA - Is there an energy source on the Moon?</li></ul>	<h3><u>Medical Investigations</u></h3> <ul style="list-style-type: none"><li>• What types of exercise do we need to stay healthy in space?</li><li>• How do we keep our bones healthy in space?</li><li>• What kinds of foods should we eat to stay healthy?</li><li>• Can we eat a balanced diet in space?</li><li>• EVA - Is there water on the Moon?</li></ul>

# Moonbase Explorer Crew Manifest

School \_\_\_\_\_ Date \_\_\_\_\_ Grade \_\_\_\_\_

# of Students \_\_\_\_\_ # of Guests \_\_\_\_\_ (including teacher)

Teacher \_\_\_\_\_ e-mail \_\_\_\_\_

Commanders: \_\_\_\_\_

## TEAMS

<b>Engineering</b>	1 _____ 5 _____ 9 _____ 13 _____ 17 _____ 21 _____
<b>Geology</b>	2 _____ 6 _____ 10 _____ 14 _____ 18 _____ 22 _____
<b>Life Support</b>	3 _____ 7 _____ 11 _____ 15 _____ 19 _____ 23 _____
<b>Medical</b>	4 _____ 8 _____ 12 _____ 16 _____ 20 _____ 24 _____

*Please fill in the crew manifest in numeric order to accommodate the number of students in your group.*