

Lesson 13

Mission Debriefing

GRADE LEVEL(S)

3—6

LENGTH

Two to three 45-minute periods

MATERIALS

- Giant Destination Mars Map
- Art supplies (paper, pencils, markers, etc.)

ESSENTIAL QUESTION

What have I learned about exploring Mars for future sustainability?

LESSON OBJECTIVE(S)

Students will be able to demonstrate their understanding of the four sections of the ShareSpace Foundation Mars Curriculum: Getting Familiar with Mars, What Have We Done There?, Planning for Our Visit, and Mission to Mars.

ENGAGEMENT

1. In this lesson, students imagine Mars to be a future vacation destination and will need to encourage people to come and visit. Students will create a scripted travel video or commercial, construct a brochure or website, or other type of advertisement to convince people to visit a fictitious base on Mars using what they've learned through the course of the first twelve ShareSpace Foundation Mars Curriculum lessons.
2. Read students the following prompt: *What will Mars be like in the future? Some suggest we will have a permanent base on Mars to conduct research and explore the planet. A permanent base needs people to support it. Some even believe that Mars will be a tourist destination some day!*
3. Students will make compelling statements about Mars and what people would do on a visit to convince potential visitors it's worthwhile to go.

EXPLORATION

1. Have students work in groups of four or five.
2. Ask the students to review the information they've recorded in their STEAM notebooks from previous lessons to find interesting and relevant information to use in their advertisements.
3. Explain to the students that they will work in their groups to create a travel brochure, commercial or video script, or website design (on paper).
4. Have each group locate an area on the Mars Map that is not a previous or future rover landing site, geographical obstacle, or uneven surface. This area will be the location of the settlement they will advertise for.
5. While creating their advertisements, students should include:
 - a descriptive, interesting summary of Mars
 - the area of Mars they've chosen and any nearby areas of interest (rover lander, crater, etc.)
 - the mode of transportation from Earth to Mars and any pertinent travel

details (approximate travel time, etc.)

- a description of what they've decided to build at their settlement
- a description of activities on Mars, which may include science activities, popular destinations, recreational sports in lower gravity, etc.
- a description of safety features provided for a stay on Mars

EXPLANATION

1. When completed, students will present their brochure, website design, or read/act out their scripts to the rest of the class.

EXTENSION

1. Students will synthesize their learning about Mars in the same way as the lesson, but to script out a story board that introduces their Mars Rover prototype and their findings presented in the mission briefing. This story board will be used for a 7-minute videotaped pitch of their prototype and team as the next crew of the next mission to Mars. Each group should touch on the following:
 - three key findings about Mars that have informed their design and mission plan
 - a brief overview of their Mars Rover prototype and the activities it can conduct
 - the region of Mars they would explore
 - the anticipated outcome of their mission/work on Mars to be with timeline from launch to return
 - a position, defended by data, to the question "should humans consider living on Mars?"
2. Students may use a variety of platforms to develop their video (with teacher or technology support assistance). Students should dress professionally and use creative means to display their prototype and messaging in the video.
3. Each class will select the top prototype and mission debriefing video that may be submitted to Buzz Aldrin's ShareSpace Foundation, along with photo of team/prototype and mission plan for display on the foundation website.

EVALUATION

1. During this lesson, the teacher is encouraged to use formative assessment such as questioning and examining student responses/notes throughout the lesson to elicit evidence of learning and deepen student understanding. Teachers may wish to grade team participation, materials produced, and/or review students' science notebooks to formally assess student understanding.
2. Teachers are encouraged to create their own grade-level and ability-level assessment so as to best meet the needs of their students.