

MARS HABITAT

Objective

Upon completion of this activity, students will be able to:

- work in groups demonstrating teamwork, communication and problem-solving.
- conduct research about Martian and terrestrial living.
- design a Mars habitat.

Instructional Time

45 minutes

Materials

“Mars Habitat” Student Worksheets

Internet

Science journals

Magazines

Books

Paper

Pencils/Pen

Procedure

1. Distribute the class activity sheets.
2. Assign students to their teams.
3. Explain the activity to the students.
4. Provide a timeline for completing research and habitat design.

Student Name _____ Date _____

MARS HABITAT

The year is 2076 and an international venture to Mars is in the initial planning stages. Your mission is to design a Mars Habitat for 25 crewmembers. You will work in a team to set up a habitat that will address the actual challenges that future planners will face. Your team's design should be developed based on technological and scientific information gathered from a variety of sources; i.e., Internet, science journals, magazines, books, etc. You will work with engineers from other teams who have the same component. Together you will complete your research and share the results. Once the engineers have completed their research on individual components, you will return to your base group and consult with the other engineers to design a habitat for long-term survival on the surface of Mars. The Mars habitat must provide for:

- Basic human need – physiological, psychological and social
- The ability to do scientific studies
- A livable environment/shelter

The components necessary for research will be as follows:

- Clothing
- Recreation
- Communication
- Food
- Waste Management
- Transportation
- Water
- Shelter
- Energy

Each engineer will submit a written report for their component with their base team as well as a visual aid to be used during the presentation to the class.

Student Name _____ Date _____

MARS HABITAT

BASE TEAM: _____

COMPONENT(S) RESEARCHED: _____

DIRECTIONS. Each question should be answered on a separate sheet of paper. Each questions will be written at the top of the page before the written answer. Staple this page to the top of your written answers.

QUESTIONS

1. What Mars conditions affect the design of the habitat? List all known information about Mars that will be needed to design your component(s).
2. What human considerations affect the design of the habitat? List all aspects of human nature and needs that will affect your design.
3. What technical considerations affect the design of the habitat? Explain technologies that will be utilized and incorporated in your component.
4. Any suggestions? This is your brainstorming—sharing information.
5. Final design—writing.