The surreal and inspiring landscape at the Mars Desert Research Station in Utah. The habitat and observatory can be seen centre-right.

Mars Analog Field Test/ Resource Kit

In April 2012 six crew members will spend two weeks living and working as though on Mars at the Mars Society's Mars desert research Station (MDRS) deep in the Utah desert.

The station is an analogy for what an early mission to Mars habitat might be like.

It comprises a ten-metre diameter two-storey "habitat" in which international crews live and work over a two-week period, or "mission". There is also a greenhouse, and an observatory.

Kiwis on Mars

The first Kiwi crew (actually Australasian since there are two honorary Kiwis from Australia in the team) is due to begin Mission 118 on 22 April 2012 and will finish on 6 May New Zealand Standard Time (NZST).

Obviously Utah gravity is Earth gravity (Mars has only one-third Earth's pull), and the atmosphere is breathable, as opposed to the approximately-95% carbon dioxide Martian atmosphere, but the crews nevertheless live the life of Martian explorers to the full.

Crew members wear functioning simulated spacesuits while outside the habitat (called the "hab" for short), and communicate via radio. Each mission undertakes work programmes in areas such as geology, biology, nutrition, astronomy, etc., and crew members are expected to help with all tasks involving keeping the hab going. Occasionally this requires a bit of engineering.

Purpose

Following an initial training and induction period, the crew will perform a range of experiments and exercises, related to their areas of expertise or interest. Schools and other groups within New Zealand will be able to propose and contribute additional experiments. We will also be encouraging schools to run 'control' versions of experiments back in New Zealand for comparison, and to increase engagement.

Resource 2: Mission Patch

Create a mission patch for your classroom's activity during KiwiMars

Rationale

What are mission patches? Who creates them? What significance do they have to the mission?

Description

For every space flight, the astronaut crew designs their own mission patch. Included in the patch design are various elements describing the different phases of that particular mission. The names of the crew are usually incorporated into the design, as is the name of the space vehicle and its mission number.

This resource will focus on some of the different mission patches that have been created throughout the history of space missions and will present some of the elements that describe the mission's purpose, the name of the space vehicle, and the mission number.

Have the class create a mission patch for their classroom for the activity undertaken during KiwiMars 2012.

Make sure that the patch portrays the mission of the class, some identifying characteristics, like the room number, the teachers name, what subject, the date, semester, or class period. Be creative and design a patch that is unique and symbolic of your class and classmates. Work together as a team to design the patch and display it proudly in your classroom.
Create a computer-generated copy of it by scanning it, or designing it on the computer.
You can make smaller copies of your newly created mission patch and use it as name tags for field trips or when you need to be identified as a group.

Outcomes

1. Understanding of how mission patches are created.

2. Emulate the teamwork used to create a mission patch.

Students will discuss the decision that each team made about mission type, goals, names, and patch design, including the compromises necessary to come up with a single design. They will learn to work together as a team to achieve their goal or the mission will not be successful.

For this event the students will need paper, pencil and map colors.

Resources:

http://history.nasa.gov/mission_patches.html

http://www.spacecenter.org/docs/Activities-MissionPatch.pdf

Review the latest space missions and look at the created mission patch for the specific mission and discuss some of the elements you see in the patch.

Resource adapted from NASA MISSION PATCH DESIGN

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The KiwiMars crew mission begins on 22 April and ends 6 May New Zealand Standard Time (NZST).

For more information on the mission and crew visit www.kiwispace.org.nz/mars2012