Working There

Blue Horizons

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Mentors:

Thank you to Dan H, Max J, Tabitha G

Areas of Focus

- Spacesuit Design and Materials
- Exploration and Research Focus
- Surface Mobility

Mechanical Counter Pressurization Suit

Helmet

Life Support Systems

Communication

Radiation & Thermal

Sixteen Suits Included
2000 Kg + parts

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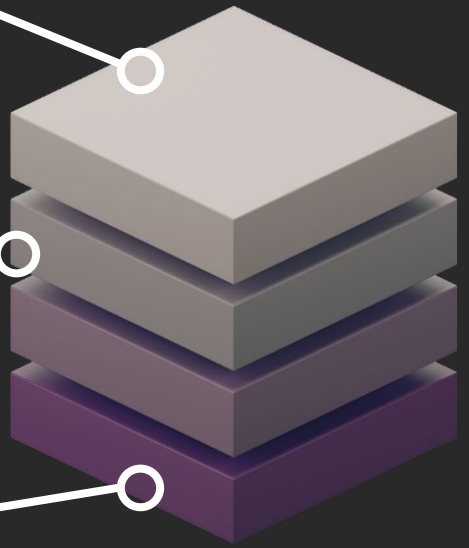
Layer by Layer

Thermal Micrometeoroid Garment
Nomex/ Teflon/ Kevlar

Boron nitride nanotubes/ Aerogel

Spandex/ Nylon



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Components

Helmet

- Polycarbonate shield
- Radiation protection
- Camera and lights

Communications

- Radio
- Range between surface systems

Portable Life Support Systems

- Respiration system
- Drinking water

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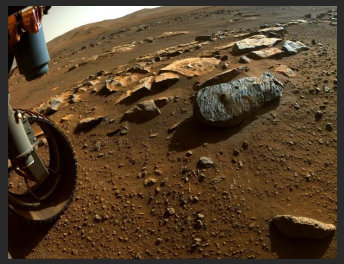
Research

Water Extraction



Search for Life

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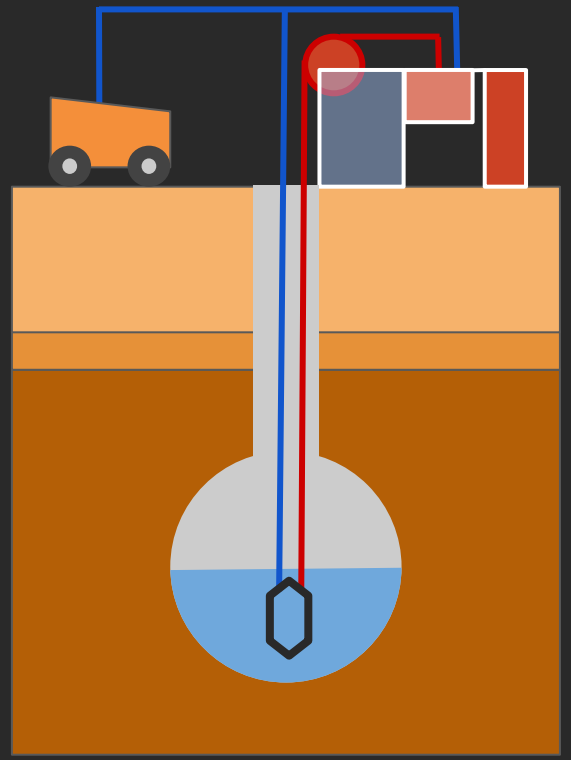
Water Extraction Experiment

Rodriguez Well

- Circulating heated water through a 1m deep ice well
- Tested in Antarctica
- Small Scale
- Day 130 - Day 270



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The Search for Life

Rock Samples with Signs of Life:

- Arrival
- 200 day analysis of 10 samples
- 70+ days of continued sample collection

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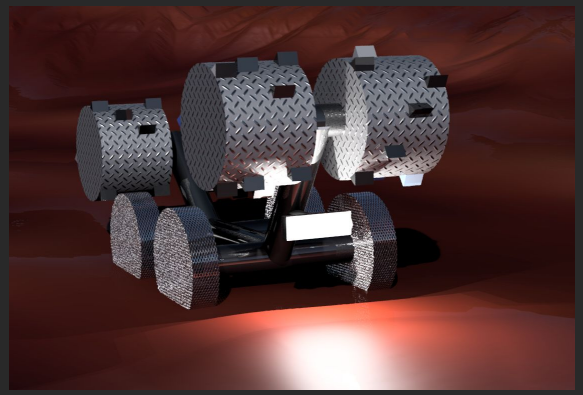
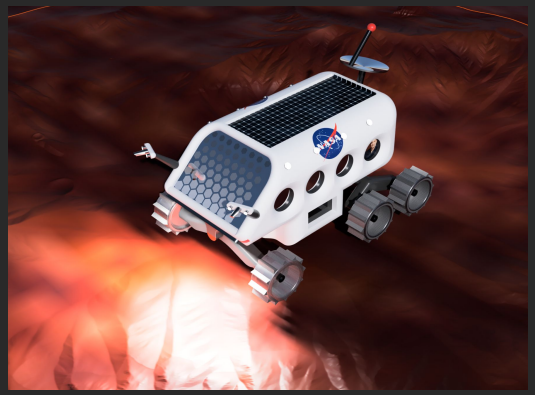
Surface Mobility



20 unmanned rovers excavate canyon walls for habitat.



1 pressurized, manned rover comes on the second rocket.

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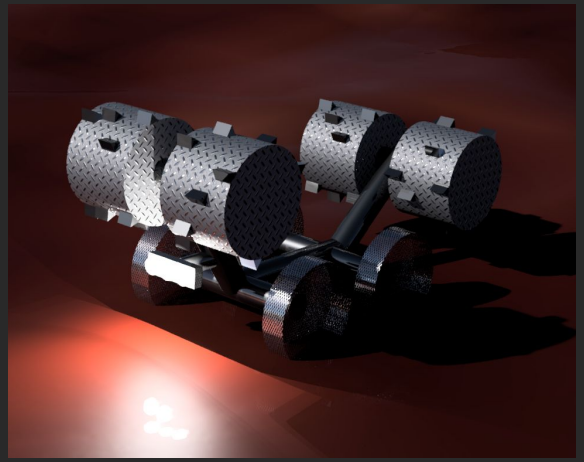
Unmanned Rover

Power System

- Batteries
- Plutonium (nuclear) charging system



Components

- Fully collapsible
- Tools (on 10)
  - Drills
  - Spectrometers
  - Cameras

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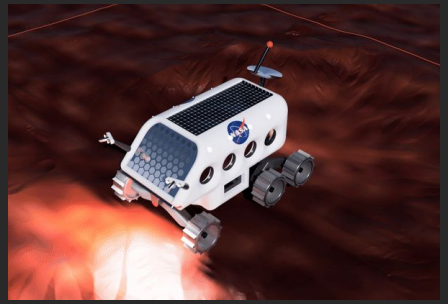
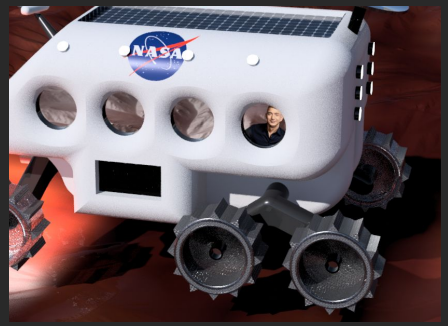
Manned Rover

Power System

- Photovoltaic (solar) cells
- Backup nuclear power





Components

- Nickel titanium alloy tires for durability
- Pressurized
- Life support
- Docks with habitat
- Range of 50 km

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