

Lesson Title: Journey to Mars: Exploring the Red Planet with NASA

Lesson Duration: 2+ Days

Target Grade: 7th Grade Science

Day 1: Understanding Mars and the Journey There

Objective:

- Students will understand basic facts about Mars [Mars Facts](#), its environment, and the challenges of traveling there [Six Technologies to Get Humans to Mars](#).
- Students will explore NASA's current missions and research about Mars.

Materials:

- Large touch screen TV for visual aids
- Access to NASA websites (e.g., Mars Exploration Program, NASA Mars Rover Mission)
- Printed worksheets or digital access for students

Lesson Outline:

1. Introduction to Mars (15 minutes)

- Use the NASA website's Mars overview: [Mars Facts](#), [NASA Mars Exploration](#)
- Discuss key facts about Mars: distance from Earth, atmosphere, surface conditions, etc.
- Highlight Mars rovers (Perseverance, Curiosity) and their mission goals.

2. Activity: NASA's Interactive Mars Exploration (20 minutes)

- Guide students to explore Mars using NASA's interactive tools (e.g., [Explore Mars with 3D Models](#), [Mars Trek - Solar System Treks](#)).
- Ask students to record interesting features they discover about the surface of Mars.

3. Discussion and Homework Assignment (10 minutes)

- Discuss the biggest challenges of living on Mars (radiation, no breathable atmosphere, extreme temperatures).
 - Homework: Ask students to explore NASA's Mars rover page and write down three things they learned about the Perseverance rover's mission. [Mars 2020: Perseverance Rover](#)
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Day 2: Preparing for a Mission to Mars

Objective:

- Students will dive deeper into the logistics of a human mission to Mars.
- They will use NASA data to understand the challenges of space travel and settlement.

Lesson Outline:

1. NASA's Mars Habitat and Supplies (20 minutes)

- Show NASA's concepts for Mars habitats : [Mars Mission](#).
- Discuss how NASA plans to sustain life on Mars (growing food, water recycling, etc.).

2. Activity: Design Your Mars Mission (25 minutes)

- In groups, students will use NASA's available resources to plan a [Mars mission](#).
- Food, Water, Power, Spacesuits, Communications, Shelter

3. Wrap-Up (10 minutes)

- Recap the importance of NASA's research and exploration efforts.

- o Homework: Write a one-page reflection on what it would be like to live on Mars for a year.
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Additional Resources:

- [Mars Facts](#)
- [NASA's Mars Exploration Program](#)
- [NASA Mars Rover Perseverance](#)
- [Human Missions to Mars](#)