

Objective

By the end of this lesson, the student will understand the key factors and challenges involved in making Mars a livable planet.

Materials and Prep

- Computer or tablet with internet access
- Paper and pen for note-taking

No prior knowledge is required for this lesson.

Activities

1. Research Mars' environment and conditions using online resources. Take notes on the important aspects that make Mars inhospitable for humans.
2. Identify potential solutions or technologies that could be used to make Mars habitable. Consider factors such as temperature, atmosphere, water, and food sources.
3. Create a concept map or diagram illustrating the key challenges and possible solutions for creating a livable environment on Mars.
4. Write a short essay discussing the feasibility and potential benefits of making Mars habitable for human colonization.

Ninth Grade Talking Points

- "Mars is often referred to as the 'Red Planet' due to its reddish appearance caused by iron oxide (rust) on its surface."
- "Mars has a very thin atmosphere consisting mostly of carbon dioxide, which makes it difficult for humans to breathe."
- "The average temperature on Mars is about -80 degrees Fahrenheit (-62 degrees Celsius), making it extremely cold."
- "One of the biggest challenges in making Mars habitable is the lack of liquid water on its surface."
- "Scientists have proposed various ideas to create a sustainable environment on Mars, such as terraforming or creating enclosed habitats."
- "Developing technologies to generate oxygen and produce food on Mars would be crucial for human survival."
- "The colonization of Mars could potentially provide opportunities for scientific research, resource extraction, and space exploration."