

Space Exploration:

Create a mission to travel to another planet for resources.

Create resource stations by mining other planets.

<https://youtu.be/Wm2PgPTwVBY>

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This project will give students the opportunity to use their creativity by exploring moons and planets.



Activity Overview

Pick a planet in our solar system and determine what kind of resource is most plentiful and valuable there. Keep in mind that the resource will be used to further space exploration. Come up with a plan to get to that planet including the crew needed for the mission. Create a poster/advertisement that conveys this information.

Activity Background

The planets and celestial bodies in our solar system aren't just giant rocks or gaseous objects orbiting in space. There are valuable resources in every planet, moon, or asteroid. For example, our moon has been proven to contain substantial amounts of water. Since it is the closest celestial body in space, it would be a good option if Earth ever needed to mine water off our planet.

The crew in this poster reflects the personnel needed to complete this mission. However, if the planet was too far away, the choice of hyper sleep or even a robotic crew might need to be reflected in your poster.



This is an example poster/advertisement.

Materials and Method

Be creative and include the following types of information:

- The planet you have chosen
- An image of the resource being mined
- The crew needed to complete the mission
- Persuasive or enticing language

You will need

- Poster board
- Pencil or Markers

Or

- Digital program such as Photoshop, Illustrator, or Paint



Activity

Watch the PowerPoint DYH Space Exploration Presentation

1. Be inspired by this video: <https://youtu.be/Wm2PgPTwVBY>
2. See how-to instructions summarized in this graphic presentation: <https://tinyurl.com/y6q2x39m>
3. Look at the poster example
4. Decide the planet and resources
5. Create your poster either on paper or on a computer

Resources for water on the moon:

- <https://www.nasa.gov/press-release/nasa-s-sofia-discovers-water-on-sunlit-surface-of-moon/>
- <https://www.space.com/7530-significant-amount-water-moon.html>
- <https://www.newscientist.com/article/dn17861-how-astronauts-could-harvest-water-on-the-moon/>

Leading questions:

- What resources are on other planets? I.E. Water, Iron, Gold, or Uranium
- How long would it take you to get to that planet?
- How would you keep the crew healthy in space?
- What equipment would be needed to mine that resource?



Activity Objectives

Texas Essential Knowledge and Skills

1. §112.18.B.11.A
 - describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, and comets;
2. §112.18.B.11.C
 - describe the history and future of space exploration, including the types of equipment and transportation needed for space travel.
3. §112.19.B.9.A
 - analyze the characteristics of objects in our solar system that allow life to exist such as the proximity of the Sun, presence of water, and composition of the atmosphere; and
4. §112.19.B.9.B
 - identify the accommodations, considering the characteristics of our solar system, that enabled manned space exploration.
5. §112.20.B.8.A
 - describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Hertzsprung-Russell diagram for classification;

Corresponding College and Career Readiness (CCR) Anchor Standards

Anchor Standard 5 Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

Anchor Standard 7 Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

Keywords

Earth, Moon, Sun, Solar system, space exploration,