

Exploring our Solar System

The vastness and alien nature of space is what makes it interesting and even romantic to humans. It is the opposite of our shielded green and blue marble of life. It is black, cold, desolate and absolutely hostile to human life. This project is all about giving some grounded perspective to students about what it is really like, (based on our admittedly limited knowledge), on other planets and preparing them to make their own virtual journeys via the Rocket, Suit and Alien projects that come after this.

Prep:

Students will need access to different kinds of research materials.

Students will need a way to record and store the results of the research, (the below chart would be ideal).

Students will need instruction on how our planet, (and solar system), orbits our sun.

Students will need instruction on theory of knowledge procedures.

Objective:

Students will access differing research materials about our solar system, (internet and books from library would be preferable as they will see how scientific information accuracy is extremely dependent on the date that research was conducted on), so they can learn about the importance of source validity.

Students will need to answer several questions about each of the main areas/celestial bodies of our solar system, (as well as Earth), using compare/contrast methods within their existing research materials.

Students will need to prepare their research materials for presentation and upload it when finished.

Practice:

1. Students will gain access to our library and computer lab for comparing and contrasting research of the different bodies of the solar system.
2. Students will use computer and book based research methods to answer questions about each of the planets, their composition and atmospheres which will help them to choose a planet and then design a space suit to fit the environment
3. Students will create a final version of their research presentation and upload it to their E-portfolio.

Grade Level Expectations

1. Grade 4 – Students will be expected to use compare and contrast methods on their solar system research to develop an understanding of our system while accurately collecting data and completing a presentation for their E-portfolio.
2. Grade 5 – Students will be expected to use compare and contrast methods on their solar system research to develop an understanding of our system while accurately collecting data and completing a presentation for their E-portfolio.

Rubric

Emerging	Developing	Proficient	Extending
<p>Inconsistent attendance with many unexcused absences.</p> <p>Student has many unfinished assignments and doesn't attempt to catch up on work missed.</p> <p>Student doesn't self-advocate, gives up when finding challenge with assignments rather than seeking help.</p> <p>Student's work is consistently unfinished, and/or late.</p> <p>Student rarely engages with, focuses on and perseveres through obstacles on their project work or the intricacies therein.</p>	<p>Attends consistently with reminders. Absences are often excused.</p> <p>With teacher help, student informs teacher about work that they need to catch up on.</p> <p>With assistance, student's work ethic and attitude are consistent.</p> <p>With assistance, student's work fulfills the expectations of the assignment and is on time.</p> <p>With guidance, student perseveres with, focuses on and engages with their project work during most classes.</p>	<p>Good attendance. Rarely away and any absences are mostly excused.</p> <p>Student takes responsibility for catching up on missed work and acquires it from peers or the website.</p> <p>Student's work ethic and attitude is not dependent on assignment success level.</p> <p>Student's meets the expectations of the assignment and is on time.</p> <p>Student perseveres with, focuses on and engages on project work consistently at every stage of its development.</p>	<p>Excellent attendance. Student always attends class and away, the absences are always excused.</p> <p>Student is always conscientious of deadlines and always hands their work in complete and on time.</p> <p>Student's work ethic and attitude set an example for other students.</p> <p>Student's work goes beyond the expectations of the assignment and is on time or finished early.</p> <p>Student is a leader during class time and understands the subject matter so assistance is consistently offered to other students on their project work.</p>

The Sun:

Atmosphere: _____

Temperature: _____

Environment: _____

Mercury:

Atmosphere and number of Moons: _____

Temperature: _____

Environment: _____

Venus:

Atmosphere and number of Moons: _____

Temperature: _____

Environment: _____

Earth:

Atmosphere and number of Moons: _____

Temperature: _____

Environment: _____

Mars:

Atmosphere and number of Moons: _____

Temperature: _____

Environment: _____

Asteroid Belt:

Atmosphere?: _____

Temperature?: _____

Environment: _____

Jupiter:

Atmosphere and number of Moons: _____

Temperature: _____

Environment: _____

Saturn:

Atmosphere and number of Moons: _____

Temperature: _____

Environment: _____

Uranus:

Atmosphere and number of Moons: _____

Temperature: _____

Environment: _____

Neptune:

Atmosphere and number of Moons: _____

Temperature: _____

Environment: _____

Kuiper Belt:

Atmosphere?: _____

Temperature?: _____

Environment: _____

Pluto:

Atmosphere and number of Moons: _____

Temperature: _____

Environment: _____
