

Space Exploration Mission

SCIENCE



Overview

Students design and narrate a mission to explore a planet, moon, or other celestial body, demonstrating knowledge of space science and engineering challenges.

Steps for Teachers

1. Introduce different destinations in our solar system and beyond
2. Students select a destination and research its characteristics
3. Students identify challenges their mission must overcome (temperature, gravity, distance)
4. Students design their spacecraft and mission plan
5. Students create astronaut/scientist characters and space backgrounds
6. Students record their mission video explaining the journey and discoveries
7. Host a 'Space Agency' presentation day

Example

A student plans a mission to Europa, Jupiter's moon. Astronaut character in a spacecraft: 'We're heading to Europa because scientists think there's an ocean under the ice! The journey will take 6 years. Our biggest challenge is radiation from Jupiter—our ship has special shielding. When we arrive, we'll use a drill to go through the ice and send a submarine to search for life. If we find even tiny microbes, it would change everything we know!'

Grading Rubric

Criteria	Excellent	Proficient	Developing
Scientific Accuracy	Destination facts are accurate; realistic mission parameters	Most facts are correct with minor inaccuracies	Significant scientific errors about destination
Problem-Solving	Identifies real challenges and proposes reasonable solutions	Addresses some challenges appropriately	Ignores obvious challenges or gives implausible solutions
Mission Design	Thoughtful, detailed mission plan with clear objectives	Basic mission plan with main elements	Vague or incomplete mission design
Enthusiasm & Wonder	Conveys excitement about space exploration	Shows some interest in the topic	Lacks enthusiasm or sense of discovery