

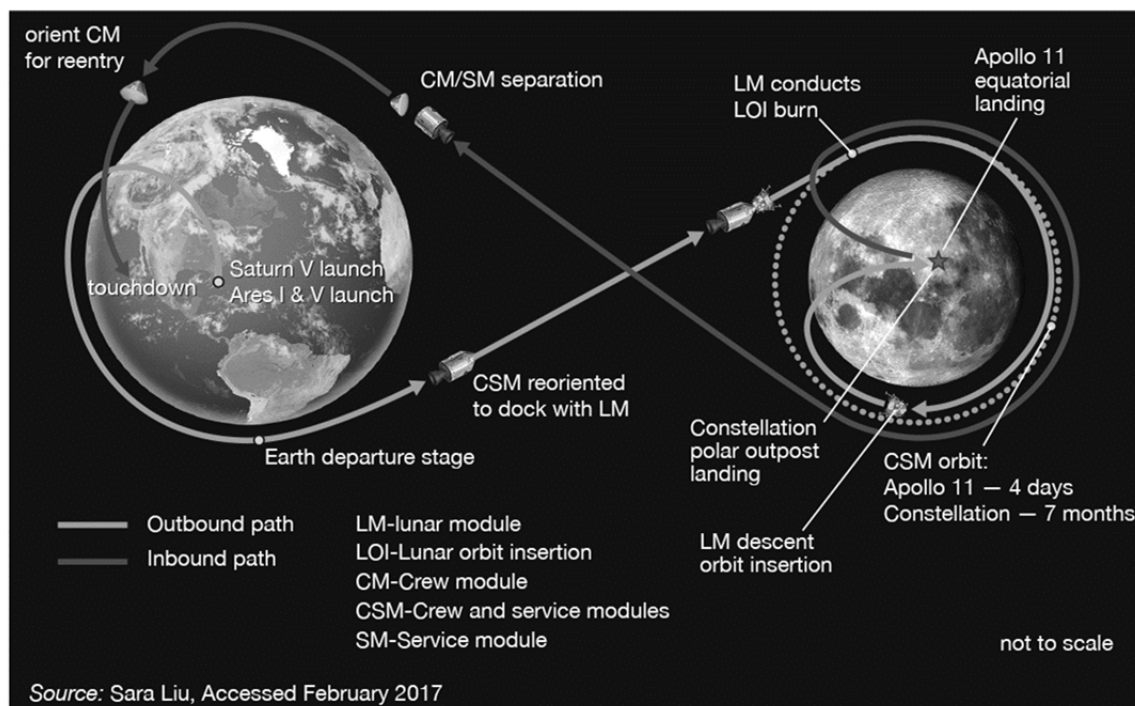
UNIT PERFORMANCE TASK

What role does gravity play in a lunar landing?

An understanding of gravity has played an important role in the space program and in the lunar landings. You have been invited to participate in the Constellation Program, which aims to have another lunar landing and “sustained human presence” in space in the future. Learn about the space program and how they rely on an understanding of gravity to plan missions and outposts in space. You will focus on how gravity affects sending people and materials into space and landing people and materials safely on other bodies. You will also learn about how changes in gravity affect the human body.

Constellation Mission Diagram

This diagram shows the proposed Constellation mission to land on the moon and includes the outbound and inbound trajectories and landing areas.



The steps below will help guide your research and help you write a proposal.

- 1. Ask a Question** Develop questions you will need to answer to write a proposal for sending a manned spacecraft to the moon to develop a colony. Think about how gravity plays a role in what items are brought into space, how people and the spaceships move around, and the structure of the spaceship.

Name: _____

Date: _____

- 2. Conduct Research** Research answers to the relevant questions using NASA and the Constellation Program as resources. Think about answers to how gravity affects people's bodies, supplies for travel, and spacecraft movement.

- 3. Evaluate Data** Analyze your research to identify important variables that you need to consider in your proposal. Include a list of ways that you will address gravity in your plan.

- 4. Write a Proposal** Based on your research, construct a written proposal for sending a manned spacecraft to the moon to develop a colony.

- 5. Communicate** Present your recommendation about a lunar colony to the class.



Self-Check

	I identified and accounted for the role gravity plays in sending people into space and landing them back on Earth or another body in space.
	I researched the Constellation Program and how the space program relies on an understanding of gravity in space.
	I constructed a written proposal for sending a manned spacecraft to the moon to develop a colony.
	My proposal and recommendation were clearly communicated to others.