EXPLORATION

MOON to MARS

NASA’S EXPLORATION PLANS

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Building on 60 years of exploration experience, NASA will push the boundaries of human exploration.

Together, we will build an innovative, sustainable return of humans to the Moon with commercial and international partners with the ultimate goal of sending humans to Mars.
EXTENDING HUMAN EXPLORATION FROM LOW-EARTH ORBIT TO DEEP SPACE

Open to multiple destinations and missions
Allows human exploration to advance at sustainable pace
Leverages commercial and international partnerships
Artemis Phase 1: Path to The Lunar Surface

Artemis I: First human spacecraft to the Moon in the 21st century

Artemis II: First humans to orbit the Moon in the 21st century

Artemis Support Mission: First high-power Solar Electric Propulsion (SEP) system

Artemis Support Mission: First pressurized module delivered to Gateway

Artemis Support Mission: Human Landing System delivered to Gateway

Artemis III: Crewed mission to Gateway and lunar surface

Commercial Lunar Payload Services
- CLPS-delivered science and technology payloads

Early South Pole Mission(s)
- First robotic landing on eventual human lunar return and In-Situ Resource Utilization (ISRU) site
- First ground truth of polar crater volatiles

Large-Scale Cargo Lander
- Increased capabilities for science and technology payloads

Humans on the Moon - 21st Century
First crew leverages infrastructure left behind by previous missions

Lunar South Pole Target Site

2020 - 2024
Achieving 2024 – A Parallel Path to Success

Artemis 1
First flight test of SLS and Orion as an integrated system

Artemis 2
First flight of crew to the Moon aboard SLS and Orion

Artemis 3
First crew to the lunar surface; Logistics delivered for 2024 surface mission

PPE
Power and Propulsion Element arrives at NRHO via commercial rocket

Pressurized Module
Small area for crew to check out systems prior to lunar transfer and decent

Human Landing System

Transfer
Transfers lander from Gateway to low lunar orbit

Descent
Descends from Transfer Vehicle to lunar surface

Ascent
Ascends from lunar surface to Gateway

Up to three commercial rocket launches, depending on distribution of the Transfer, Descent, and Ascent functions.
Gateway Enables Lunar & Mars Exploration

Initial Gateway focuses on the minimum systems required to support a 2024 human lunar landing while also supporting Phase 2.

- Provides command center for 2024 human landing.
- Establishes strategic presence around the Moon.
- Creates resilience and robustness in the lunar architecture.
- Open architecture provides building blocks for partnerships and future expansion.