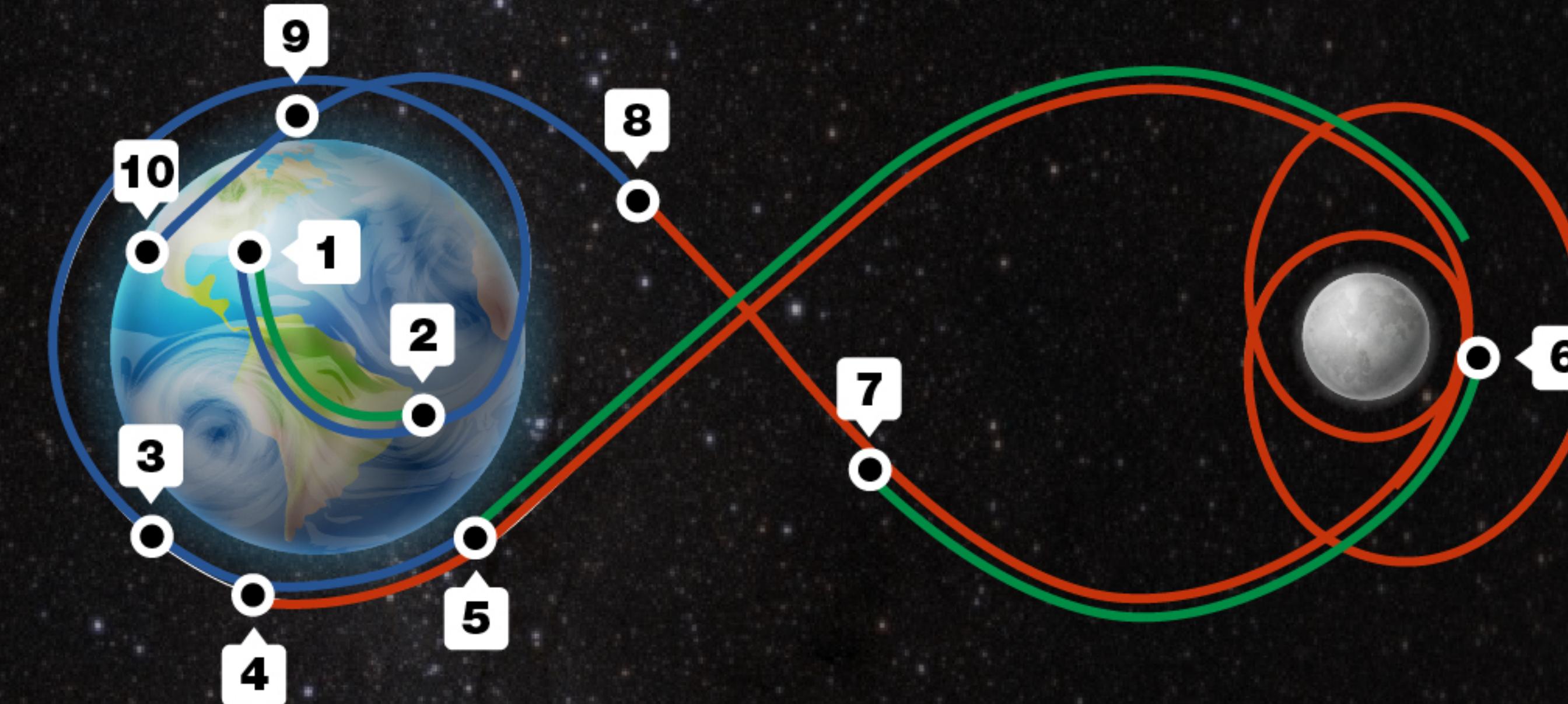


# ARTEMIS I

## COMMUNICATIONS AND NAVIGATION MILESTONES



### NSN DTE NSN TDRS **1** Launch

Both the Launch Communications Segment and the constellation of Tracking and Data Relay Satellites will maintain communication between the Space Launch System and Orion.

### NSN TDRS **2** Low-Earth Orbit

In low-Earth orbit, NASA's Near Space Network TDRS will maintain continuous communications with Orion and the Interim Cryogenic Propulsion Stage (ICPS), which will accelerate Orion fast enough to overcome the pull of Earth's gravity and set it on a precise trajectory to the Moon.

### NSN TDRS **3** ICPS Separation

Once Orion no longer needs the ICPS, the Near Space Network will monitor telemetry from the ICPS until it is out of range. The ICPS will continue towards the Moon on a heliocentric trajectory, deploying small satellites that provide additional science in translunar orbit.

### DSN **4** Handover to DSN

As Orion prepares to leave the area of near-Earth space covered by the Near Space Network, network engineers will pass communications services to the Deep Space Network.

### DSN NSN DTE **5** Journey to the Moon

En route to the Moon, the Deep Space Network will be the primary method of communication with Earth, with Near Space Network ground stations providing supplementary tracking and navigation data.

### DSN **6** Distant Retrograde Orbit

When Orion arrives at the Moon, it will enter a distant retrograde orbit, a highly stable orbit in which Orion travels opposite the direction the Moon travels around Earth. There, NASA will continue to test and demonstrate Orion's capabilities.

### DSN NSN DTE **7** Return Transit

Returning from the Moon, the Deep Space Network will be the primary method of communication with Earth, with Near Space Network ground stations providing supplementary tracking and navigation data.

### DSN NSN TDRS **8** Return Trajectory Correction Burn

During the final engine burn that places Orion on target to safely enter Earth's atmosphere, the Near Space Network will join the Deep Space Network, ultimately taking over communications for the remainder of the mission.

### NSN TDRS **9** Re-entry

During re-entry, the enormous heat generated as Orion encounters the atmosphere turns the air surrounding the capsule into plasma. Until it dissipates, this can disrupt communications with the spacecraft.

### NSN TDRS **10** Splashdown and Recovery

The Near Space Network maintains communications through the unfurling of parachutes, splashdown in the Pacific Ocean, and recovery of the capsule by military and NASA professionals.

**NSN**

NEAR SPACE NETWORK

■ NSN DTE

■ NSN TDRS

**DSN**

DEEP SPACE NETWORK