



ORION QUICK FACTS

Orion is America's next generation spacecraft that will take astronauts to exciting destinations never explored by humans. It will serve as the exploration vehicle that will carry the crew to distant planetary bodies, provide emergency abort capability, sustain the crew during space travel, and provide safe reentry from deep space.

Orion Summary

Number of crew.....	4
Total change in velocity.....	4,390 ft/s
Gross liftoff weight	
Artemis I:	74,000 lbs
Artemis II:	78,000 lbs
Trans-lunar insertion mass	
Artemis I:	54,500 lbs
Artemis II:.....	58,500 lbs
Post-trans lunar insertion mass	
Artemis I:	53,000 lbs
Artemis II:	57,000 lbs
Stack height.....	67 ft
Crew module + service module height	26 ft

Launch Abort System – Emergency Crew Escape System

Height	50 ft
Diameter	3 ft. at tower; 17 ft at base
Weight at liftoff	17,000 lbs
Abort motor weight	8750 lbs, 4700 of that is prop.
Attitude control motor.....	1600 lbs, 650 of that is prop.
Jettison motor weight.....	900 lbs, 360 of that is prop.
Weight of propellant.....	5700 lbs

Crew Module – Crew and Cargo Transport

Height	11 ft
Diameter	16.5 ft
Habitable volume	316 ft ³
Pressurized volume	690.6 ft ³
Artemis I weight at liftoff.....	21,900 lbs
Artemis II weight at liftoff.....	22,900 lbs
Artemis I nominal landed weight.....	19,500 lbs
Artemis II nominal landed weight.....	20,500 lbs
Engines/Thrusters	12 RCS thrusters

Service Module – Propulsion, Electrical Power, Fluids Storage

Length.....	15.7 ft
Diameter	16.5 ft
Artemis I weight.....	31,100 lbs
Artemis II weight.....	34,100 lbs
Engines/Thrusters	24 RCS thrusters, 8 Aux, 1 OMS

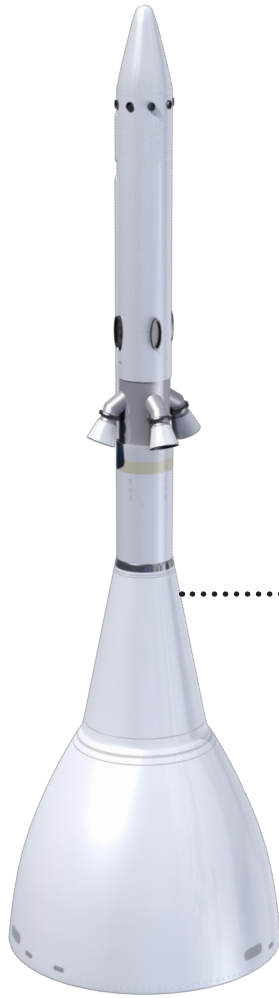
Orion-to-Stage Adapter

Mass Properties	
Jettisoned Fairings.....	3,050 lbs
Spacecraft Adapter	1,125 lbs

** Artemis 2 numbers assume weight of crew of four astronauts each 180 lbs. and all their supplies for a 21 day mission.



THE ORION SPACECRAFT



Launch Abort System

The launch abort system, positioned above the crew module, can activate within milliseconds to pull the crew to safety and position the module for a safe landing.

Crew Module

The crew module is capable of transporting four crew members beyond low-Earth orbit, providing a safe habitat from launch through landing and recovery.

Service Module

The service module provides support to the crew module from launch through crew module separation prior to entry. It provides in-space propulsion capability for orbital transfer, attitude control, and high altitude ascent aborts. While mated with the crew module, it also provides water, oxygen and nitrogen to support the crew module living environment, generates and stores power while in space, and provides primary thermal control. The service module also has the capability to accommodate unpressurized cargo.

