Atremis II Compared to Apollo 8

With the successful completion of Artemis' II 10 day mission on April 10, 2026 the essential differences between the historical Apollo 8 mission and the new mission shall be attributed. Here's a **comparison table** showing the essential technical differences between **Apollo 8** and **Artemis II** thus demonstrating progress and advancement.

Program	**Apollo program** **1998**	**Artemis program** **2026**
Goal	First crewed spacecraft to leave Earth orbit and *orbit the Moon* to pave the way for lunar landing missions. (Wikipedia) Name: Apollon (Greek mythology)	First crewed Artemis flight – *fly around the Moon* and return, testing systems for future lunar surface missions. (Wikipedia) Name: Artemis, twin sister of Apollon
Mission Type	Lunar orbit mission – spacecraft entered orbit around the Moon and circled it multiple times. (Wikipedia)	Crewed lunar *flyby/free-return trajectory* – no orbit insertion around the Moon. (Wikipedia)
Crew Size	3 astronauts (Borman, Lovell, Anders). (Wikipedia)	4 astronauts (Wiseman, Glover, Koch, Hansen). (Wikipedia)
Launch Vehicle	**Saturn V** heavy-lift rocket. Payload capacity to LEO, 140,000 kg (310,000 lb) (Wikipedia) Launch cost: approx. $1.5 billion in 2022 money ($185 million in 1998)	**Space Launch System (SLS)** rocket. Payload capacity to 95,000 kg (209,000 lb)[L] (Wikipedia) Launch cost: approx. $4 billion
Spacecraft	Apollo Command/Service Module (no lunar lander). (Wikipedia)	Orion crew capsule with European Service Module (first crewed Orion flight). (Wikipedia)
Trajectory & Distance	Entered *lunar orbit* at ~70–193 mi altitude and orbited 10 times; returned via trans-Earth injection. (NASA)	Followed a *free-return boomerang path*, passing ~4,000+ mi from Moon before returning. (Wikipedia)
Duration	~6 days. (NASA)	~9–10 days. (Wikipedia)
Key Objectives	Test translunar injection, navigation, communications; place crew in lunar orbit to prepare for landing missions. (NASA)	Test crewed SLS/Orion deep-space systems, life support, communications, lasers, and operations for future Artemis landings. (NASA)
Historic Milestones	First humans to leave Earth's gravity, see far side of the Moon, and witness Earthrise. (Wikipedia)	First crewed deep-space flight since Apollo 17; first woman, first Black astronaut, and first Canadian in lunar vicinity; new distance record. (The Guardian)
Science & Tech	1960s navigation, photography for landing site selection. (NASA)	Modern life-support systems, advanced communications (including laser comms), system performance in deep space. (Airbus)

Landing?	No lunar surface landing – but orbited Moon. (Wikipedia)	No lunar surface landing – flyby only. (Wikipedia)
Splash Down	Dec. 27, 1968; 10:52 a.m. EST Pacific Ocean Recovery Ship: USS Yorktown	April 10, 2026; 20:07 EDT (00:07 GMT) Pacific Ocean Commander Reid Wiseman confirming his crew is healthy.

Summary of the biggest differences:

- **Trajectory**: *Apollo 8* entered lunar orbit, whereas *Artemis II* performs a *flyby/free-return* around the Moon. (Wikipedia)
- **Technology/Spacecraft**: Artemis II uses *modern Orion and SLS* with advanced systems (life support, laser comms), while Apollo 8 used *legacy Apollo hardware*. (Airbus)
- **Objectives**: Apollo 8 was mainly a *lunar orbit test* ahead of landing; Artemis II is a *systems shakedown* for future lunar surface missions. (NASA)
- **Historic context and crew size**: Artemis II has a more diverse crew and aims to push *operational deep-space exploration* farther. (The Guardian)
- 

Artemis II on its flight around the Moon (Credit NASA)