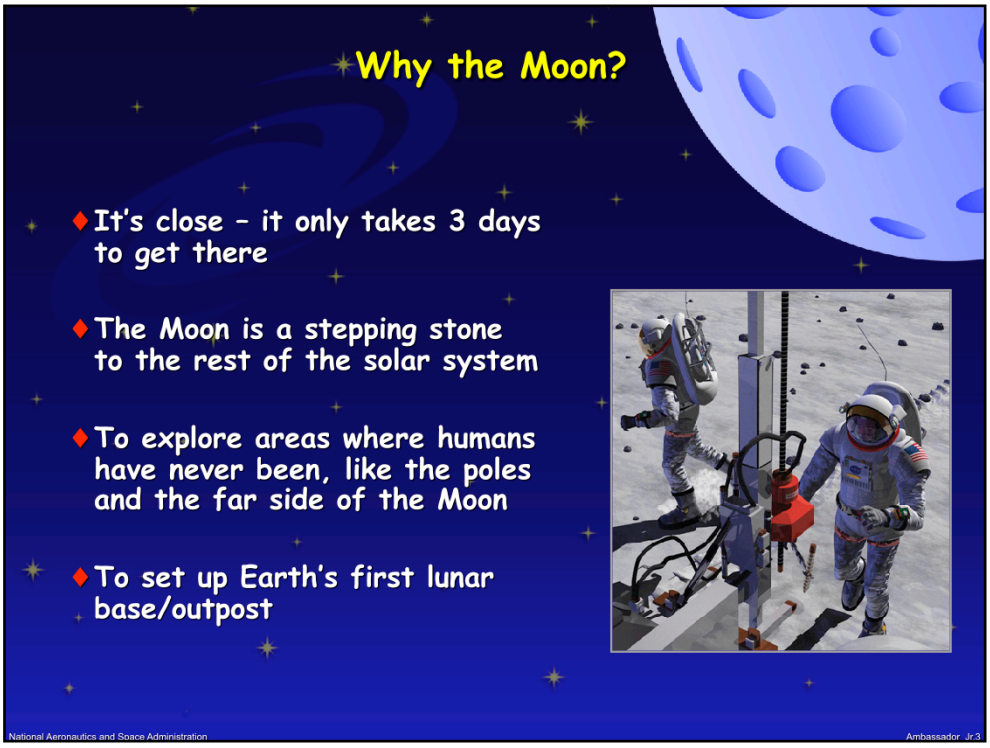

- Thank you for inviting me to speak to your group. I would like to share with you some of the exciting things being done by NASA.


Why do we explore space? We explore to inspire students to explore, learn, and build a better future. We want to encourage students to study math, science, engineering and technology.

Technologies used to explore space often find uses here on Earth-- but we need to explore first to make those technologies a reality.

And finally, when we travel to other worlds, we discover new information about the universe that improves and teaches us about life on Earth.

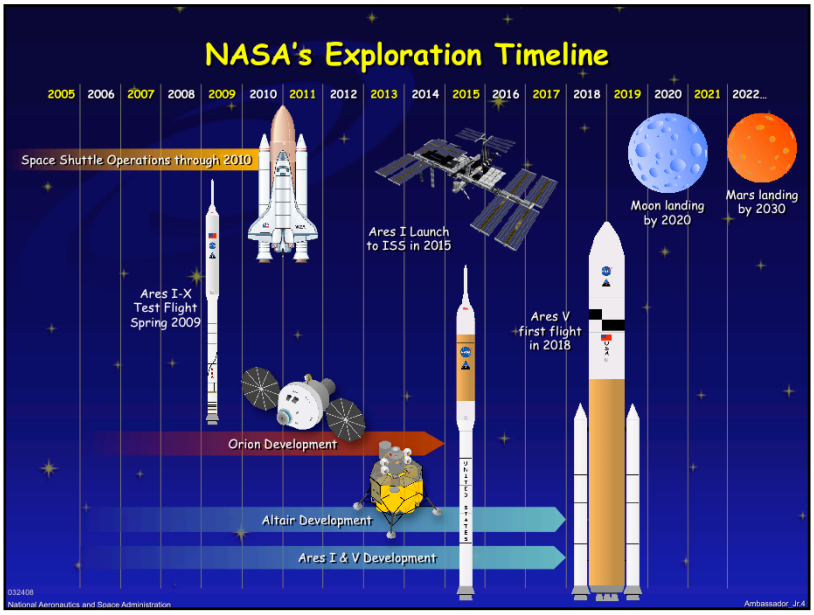
By going to the Moon and beyond, we will learn more about our current and future world.




- Why do we want to go back to the Moon? It only takes 3 days to get to the Moon and 3 days to get back. We can build a foundation of experience proving ourselves closer to home before we take on the much bigger job of going to Mars which would take six to nine months. The Moon is a stepping stone to the rest of the solar system.

- When we explored the Moon previously, we focused on regions near the equator, on the near side of the Moon. Now, we have the capability to explore the poles and the far side of the Moon.

- NASA would like to set up Earth's first lunar base/outpost on the Moon. This would allow us to explore the Moon for longer periods of time.

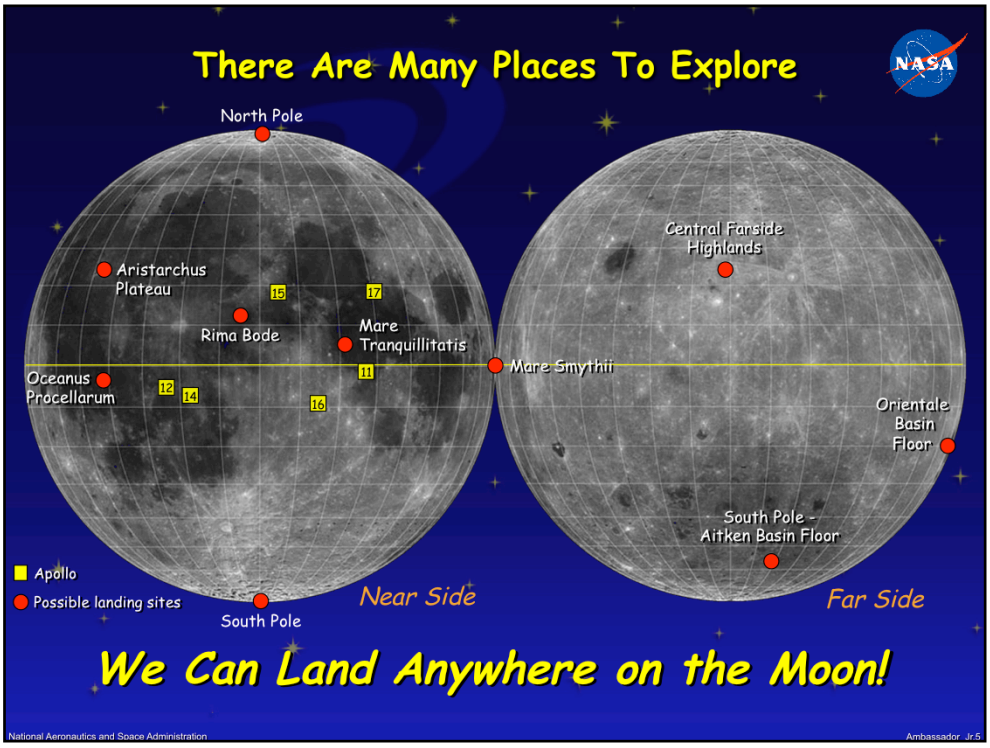



•This next phase of space exploration will be “a journey, not a race.”

•A new fleet of launch vehicles is being developed. They are the Ares I and the Ares V. They are currently in development. Following the first launch of the Ares I-X test flight in 2009, the Ares I is scheduled for its first mission to the International Space Station in 2015. From 2010 when the Shuttle retires until 2015, we will continue to depend on our International partners to provide crew and cargo launches.

•The first flight of Ares V will be in 2018. We anticipate the next human landing on the Moon to occur by 2020.

•The Space Shuttle will continue flying through 2010 when it retires and is no longer in use.

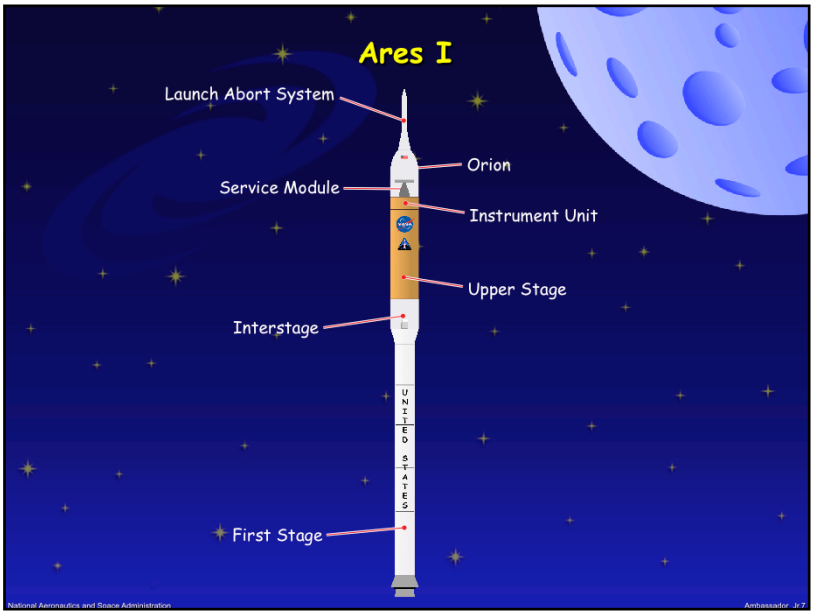



- Why do we want to explore the Moon? Haven't we already been there? Well, imagine you live on Planet X and travel to Earth. You land right in the middle of the Sahara Desert and you go a mile to the north, south, east and west. You say, "Well, we have seen all of Earth."

- If you look at the picture, you can see that the yellow squares are where we have been on the Moon with the Apollo Missions. The red circles are possible landing sites. With the Apollo missions, the exploration was near the equator, but now we can explore the poles and the far side of the Moon.

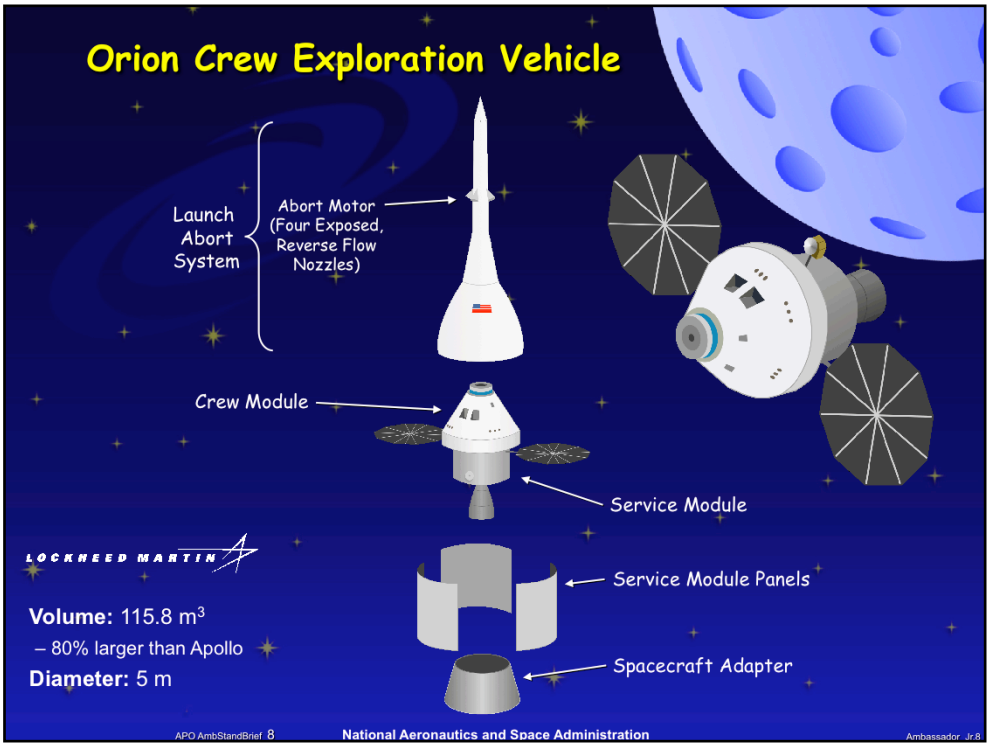
- We can land anywhere on the Moon!


- The journey to the Moon will require a variety of vehicles, including the Ares I crew launch vehicle, the Ares V cargo launch vehicle, the Orion crew exploration vehicle, and the Altair lunar lander.
- The architecture for lunar missions will use two launches, with the Ares V transporting the Altair lunar lander and the Earth Departure Stage (EDS), followed by Ares I transporting the crew.




- This is a stackable version of the Ares I.

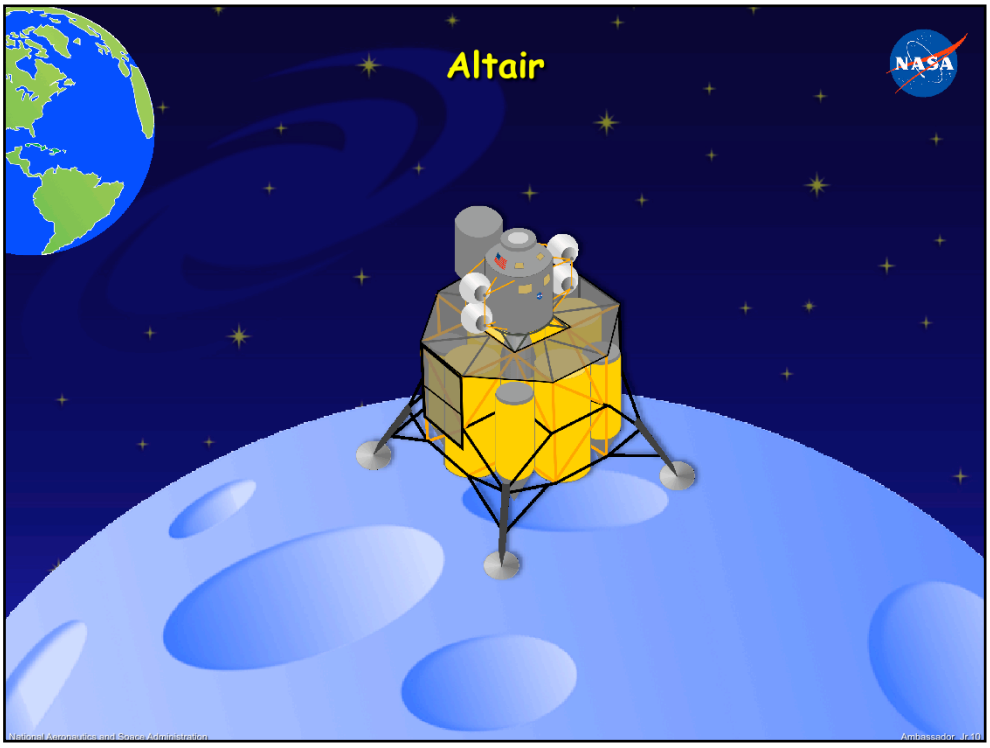
- First Stage
- Interstage
- Upper Stage
- Instrument Unit
- Service Module
- Orion- Crew Vehicle
- Launch Abort System




- The purpose of the Ares launch vehicles is to get human beings and their equipment into space. NASA's primary crew exploration vehicle will be the Orion.
- Orion has a Crew Module (CM) modeled after the Apollo Command Module, but it will have more than twice as much interior space.
- The Crew Module houses the crew and supplies and includes the primary controls for the spacecraft.
- The Service Module houses the propulsion system, provides electrical power, and stores liquid water for the crew.
- Orion will be able to transport up to six crew members to the ISS or up to four crew members to the Moon.


- This is a stackable view of the Ares V.

- Solid Rocket Booster- 5 ½ segments
- Core Stage
- Interstage
- Earth Departure Stage
- Altair Lunar Lander
- Shroud




- Altair will be able to land four astronauts on the Moon and provide support for weeklong exploration missions. The Altair will return the crew to the Orion spacecraft that will bring them home to Earth. Altair will launch aboard the Ares V.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