

## MY VIRTUAL TOUR OF THE MOON

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Today, on my adventure, I took a virtual tour of the moon! Thanks to NASA, I got a chance to explore in space! By learning about the moon, we could learn so much about the Solar System that we haven't yet learned. We started on the Western Border of the moon, where the near and far side meet, there is a huge lunar crater called the Orientale Basin. Here the LRO strain map with surface gravity measurement gives us a look of the structure beneath the lunar crust. The next location we went to receives little direct sunlight and has some of the coldest recorded temperatures in the solar system. The South Pole, the highlighted spots signify potential water ice based on temperature readings from LRO's diviner instrument and reflectance from its laser altimeter. LOLA also allows us to see into the darkness of Shackleton crater by bringing us this digital elevation model deep, but it pales in comparison to the largest known impact crater in the Earth-moon system. The South Pole Aiken basin. Sitting on the far side, it's 2,500 kilometers across and 13 kilometers deep. We don't yet know exactly how old the basin is, but it was first seen in the 1960s by spacecraft flying around the far side. As much as we use LRO data to investigate areas we can't see from Earth, we also probe familiar territory on the lunar nearside to bring back images with an all-new level of detail. The Tycho crater is about 100 million years old. The Lunar Reconnaissance Orbiter camera captures the central peak with a 100 metre wide Boulder at the summit. The origins are still a mystery though. Then, we went across the moon's near side. There were many volcanic materials which creates a crater so bright, you can see it without a telescope! We then went to the Aristarchus plateau. From here, you can discover a lot about the volcanic history of the moon. It gives scientists a better understanding of the sequence of events in early lunar. Next, was the Apollo 17. The bottom half of the Apollo 17 lunar lander still sits on the surface. We neared closer to the end of the tour with the final destination. The North Pole detailed terrain measurements by LOLA allow scientists to model sunlight and shadow at the poles. I learned that over decades and centuries, sunlit peaks in crater rims here may be ideal locations for generating solar power for the future. How cool is that? On this tour of the moon, I learned so much, and I am excited to further explore space!