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NASA's Juno Mission to Jupiter: What is Inside the Giant Planet

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Juno's principal goal is to understand the origin and evolution of Jupiter. Underneath its dense cloud cover, Jupiter safeguards secrets to the fundamental processes and conditions that governed our solar system during its formation. As our primary example of a giant planet, Jupiter can also provide critical knowledge for understanding the planetary systems being discovered around other stars. With its suite of science instruments, Juno will investigate the existence of a solid planetary core, map Jupiter's intense magnetic field, measure the amount of water and ammonia in the deep atmosphere. JUNO is also the first spacecraft to fly over Jupiter's aurora and will measure both the energetic particles raining down on the planet and the bright "northern and southern lights" they excite. NASA's JUNO mission was launched in August 2011 and was put into orbit over Jupiter's poles on 4th July 2016.