

EXPLORING THE NEXT FRONTIER

In the 21st century, teams of scientists and explorers have reached farther into space than ever before.

WHAT'S IN A COMET?

Scientists got a firsthand look in 2006, when NASA's Stardust mission snagged a sample from one of the frozen dust balls. Inside, scientists found lots of surprises—including an amino acid, a compound that's one of the building blocks of life. Could comet dust have spawned life on Earth?

FAST FACTS: INTERNATIONAL SPACE STATION (ISS)



248: Miles above Earth¹



17,500: Miles per hour that the station travels as it orbits Earth²



924,739: Mass in pounds³



200+: Number of astronauts from 15 different nations who have visited since 2000⁴



2: Number of bathrooms onboard⁵



178: Number of space walks by ISS astronauts⁶

MANY WORLDS

1,000+

Number of confirmed exoplanets (planets outside our solar system)⁷

3,841

Number of suspected exoplanets⁸

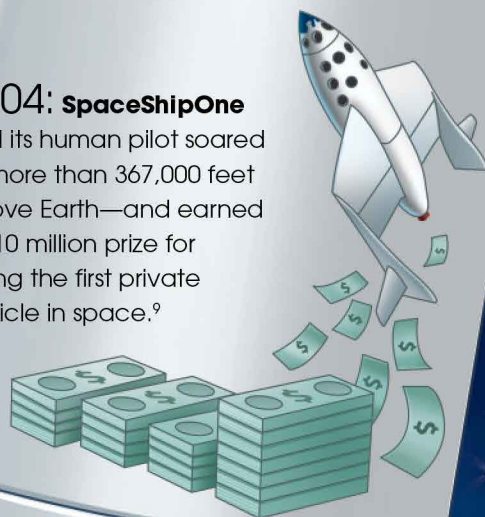
SO YOU WANT TO BUILD A ROCKET?

Before the 21st century, only government space agencies had made it successfully to space.

That all changed in the new millennium. Now private companies are building spaceships, too.

2004: **SpaceShipOne**

and its human pilot soared to more than 367,000 feet above Earth—and earned a \$10 million prize for being the first private vehicle in space.⁹



2012: **Dragon** became the first commercial spacecraft to deliver supplies to the International Space Station.¹⁰



2014: **Virgin Galactic SpaceShipTwo** plans to fly passengers to space in 2014 and is already selling seats—for \$250,000 each.¹¹



H-2-OH!

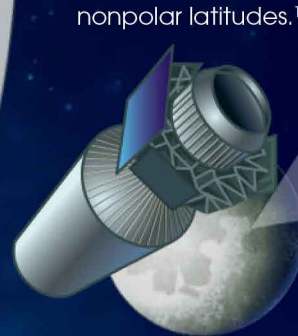
Water is necessary for life as we know it. The liquid is abundant on our planet. However, water in the form of ice is also common in our solar system, from deposits at the poles of Mercury and the moon to ice-covered moons and rings around distant Jupiter and Saturn.



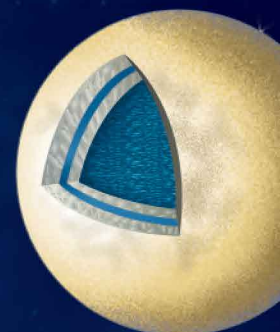
► **Mars** was a watery world in the distant past—and today may contain entire underground oceans of frozen water. New scientific evidence suggests large reservoirs of underground ice may exist at nonpolar latitudes.¹³



► **NASA's LCROSS probe** found water in a crater near the moon's south pole in 2009.¹⁴



► **Saturn's moon Titan** may have a hidden ocean under its ice shell.¹⁵



► **Neptune** is a distant mystery. Some scientists propose that a hot ocean exists between the rocky core and icy surface shell of the planet's moon Triton.¹⁶



ROBOT OVERACHIEVERS

NASA's robotic rovers Spirit and Opportunity landed on Mars in 2004 sending scientists data about the geology of Earth's next-door neighbor. While Spirit stopped transmitting in 2010, Opportunity continues to deliver data in 2014.¹⁷



I'M OUTTA HERE!

In 2012, after a 35-year journey, NASA's Voyager 1 spacecraft became the first human-made object to leave our solar system.¹² Voyager carries a gold-plated copper disk with sounds and images from Earth—just in case it should run into any alien life-forms on its travels.



Explore Your Own Backyard: The Next Frontier. To see what friends Tuck, Munch, Emma, and Alex discovered in theirs, check out CallHimEcho.com. See *Earth to Echo* in theaters July 2, 2014.