Nasa solar system overview

What are NASA's key questions about the solar system?
NASA is looking to answer key questions about our home planet, neighboring planets in our solar system and the universe beyond: How did our solar system originate and change over time? How did the universe begin and evolve; what is its destiny?

What is NASA's role in exploring the solar system?
Water is but one piece of our search for habitable planets and life beyond Earth, yet it links many seemingly unrelated worlds in surprising ways. NASA is looking to answer key questions about our home planet, neighboring planets in our solar system and the universe beyond: How did our solar system originate and change over time?

What is the shortest year of all the planets?
Since Mercury is the fastest planet and has the shortest distance to travel around the Sun, it has the shortest year of all the planets in our solar system - 88 days. Mercury is a rocky planet, also known as a terrestrial planet. Mercury has a solid, cratered surface, much like the Earth's moon.

Where is water found in the solar system?
While Earth is only the fifth largest planet in the solar system, it is the only world in our solar system with liquid water on the surface. Just slightly larger than nearby Venus, Earth is the biggest of the four planets closest to the Sun, all of which are made of rock and metal.

NASA"s real-time science encyclopedia of deep space exploration. Our scientists and far-ranging robots explore the wild frontiers of our solar system. ... Our solar system is moving with an average velocity of 450,000 miles per hour (720,000 kilometers per hour). But even at this speed, it takes about 230 million years for the Sun to make one ...

The solar system consists of an average star we call the Sun, its "bubble" the heliosphere, which is made of the particles and magnetic field emanating from the Sun - the interplanetary medium - and objects that orbit the Sun: from as close as the planet Mercury all the way out to comets almost a light-year away.A light year is the distance light travels in a year, moving at about ...

Overview. Facts. Stories; Resources; All Planets. Mercury. Venus. Earth. Mars. Jupiter. Saturn. Uranus. Neptune. ... This picture of Neptune was produced from images taken by NASA"s Voyager 2 in the summer of 1989 as it became the first spacecraft to fly by the planet. ... Eyes on the Solar System lets you explore planets, moons, asteroids ...

Our solar system is made up of a star--the Sun--eight planets, 146 moons, a bunch of comets, asteroids and space rocks, ice, and several dwarf planets, such as Pluto. ... NASA explores the unknown in air and space,

innovates for the benefit of humanity, and inspires the world through discovery. About NASA"s Mission; Join Us. Home;

Farther out in the solar system, scientists have long had their eyes set on exploring Uranus and Neptune. So far, each of these worlds has been visited by only one brief spacecraft flyby (Voyager 2, in 1986 and 1989, respectively). Collectively, Uranus and Neptune are referred to as ice giant planets.

Cassini revealed in great detail the true wonders of Saturn, a giant world ruled by raging storms and delicate harmonies of gravity. Cassini carried a passenger to the Saturn system, the European Huygens probe--the first human-made object to land on a world in the distant outer solar system.. After 20 years in space -- 13 of those years exploring Saturn -- Cassini ...

Astronomers have followed the downsizing of Jupiter"s trademark Great Red Spot since the 1930s. Credit: NASA, ESA, and A. Simon (GSFC) News Release: 2014-24 Hubble has tracked immense dark storms on Neptune that appear and vanish over time. Credit: NASA, ESA, and M.H. Wong and A.I. Hsu (UC Berkeley) News Release: 2018-08 A giant polar cap, which ...

It"s the hottest planet in our solar system. Venus is the second planet from the Sun, and the sixth largest planet. It"s the hottest planet in our solar system. ... Venus Overview; Facts; By the Numbers ; Exploration; Stories; Resources; All Planets. Mercury. Venus. Earth. Mars. Jupiter. ... NASA"s Mariner 10 spacecraft captured this ...

The first U.S. mission to Venus in more than three decades, VERITAS will study Earth"s sister planet from crust to core. VERITAS is the next mission in NASA"s Discovery Program of smaller, focused missions to explore ...

What is the Planetary Data Ecosystem? Planetary Science Division Information and Data Policy (PDF) NASA defined the Planetary Data Ecosystem (PDE) as the ad hoc connected framework of activities and products that are built upon and support the data collected by planetary space missions and research programs, which primarily are NASA funded. The PDE IRB [...]

Solar System Exploration Program. The Solar System Exploration Program consists of large, strategic missions that seek to advance high priority science objectives set forth by the planetary science community. Because of their complexity, NASA typically assigns these efforts directly to a NASA center or other implementing organization.

In 2014, NASA formed the Planetary Missions Program Office to bring the Discovery, New Frontiers and Solar System Exploration missions into a common management system. The missions in each series are independent, with their own unique science goals.

Pluto is a dwarf planet located in a distant region of our solar system beyond Neptune known as the Kuiper

Belt. Pluto was long considered our ninth planet, but the International Astronomical Union reclassified Pluto as a dwarf planet in 2006. NASA"s New Horizons was the first spacecraft to explore Pluto up close, flying by in 2015. Pluto was discovered in 1930 by astronomer Clyde ...

The Moon makes Earth more livable, sets the rhythm of ocean tides, and keeps a record of our solar system"s history. Skip to main content . Missions . Search All NASA Missions; ... Overview. The Moon makes Earth more livable by ...

This 3D simulation of our solar system is powered by real spacecraft data. NASA/JPL-Caltech/VTAD. "The thing I love the most about our solar system is that it"s an incredible natural laboratory," said Dr. Lori Glaze, director of ...

Mars is one of the most explored bodies in our solar system, and it"s the only planet where we"ve sent rovers to explore the alien landscape. NASA missions have found lots of evidence that Mars was much wetter and warmer, with a ...

Don"t let the name fool you. Our solar system"s small bodies - asteroids, comets, and meteors - pack big surprises. These chunks of rock, ice, and metal are leftovers from the formation of our solar system 4.6 billion years ago. They are a lot like a fossil record of our early solar system. There are currently known asteroids and known ...

The Sun is a 4.5 billion-year-old yellow dwarf star - a hot glowing ball of hydrogen and helium - at the center of our solar system. It"s about 93 million miles (150 million kilometers) from Earth ...

NASA"s Planetary Science missions to the outer solar system help help scientists understand more about Earth and the formation and evolution of the solar system. ... Small Bodies of the Solar System. Data. Data Overview. PDE Elements. PDE IRB. Status Updates. Archives/Repositories. Opportunities. Training Toolkit.

But Jupiter is the solar system"s Texas: everything"s bigger. The most powerful energies there come to 400,000 electron volts, while our most powerful auroras on Earth hit only a few thousand volts. Maybe the most iconic storm in the solar system, Jupiter"s Great Red Spot has been swirling for centuries.

Jupiter is the largest planet in our solar system. If Jupiter was a hollow shell, 1,000 Earths could fit inside. Jupiter also is the oldest planet, forming from the dust and gases left over from the Sun"s formation 4.5 billion years ago. But it has the shortest day in the solar system, taking only 10.5 hours to spin around once on its axis.

NASA"s real-time science encyclopedia of deep space exploration. Our scientists and far-ranging robots explore the wild frontiers of our solar system. ... When the solar system settled into its current layout about 4.5 billion years ago, Earth formed when gravity pulled swirling gas and dust in to become the third planet from the Sun. Like ...

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Uranus is the seventh planet from the Sun, and it"s the third largest planet in our solar system - about four times wider than Earth. Uranus is a very cold and windy planet. It is surrounded by faint rings, and more than two dozen small moons as it rotates at a nearly 90-degree angle from the plane of its orbit.

Mercury is the smallest planet in our solar system and the nearest to the Sun. Mercury is only slightly larger than Earth"s Moon. Its surface is covered in tens of thousands of impact craters. Despite its proximity to the Sun, Mercury is not the hottest planet in our solar system - that title belongs to nearby Venus, thanks to its dense ...

Saturn is the sixth planet from the Sun and the second largest planet in our solar system. Adorned with a dazzling system of icy rings, Saturn is unique among the planets. Saturn is a massive ball made mostly of hydrogen and helium. The farthest planet from Earth discovered by the unaided human eye, Saturn has been known since ancient times.

Final Venus Flyby for NASA"s Parker Solar Probe Queues Closest Sun Pass. ... James Webb Space Telescope Mission Overview. James Webb Space Telescope. 00:10:43. Hubble - Eye in the Sky: Driving The Telescope ... Hubble - Eye in the Sky: Time Machines. 01:22:55. New Horizons - Summiting the Solar System: Part 1. New Horizons Mission. 01: ...