

# How did our planets form

For example, many astronomers believe a giant impact formed Earth's moon, when a Mars-size object struck the proto-Earth. The impact destroyed the interloper and vaporized a good fraction of our ...

Scientists think planets, including the ones in our solar system, likely start off as grains of dust smaller than the width of a human hair. They emerge from the giant, donut-shaped disk of gas and dust that circles young stars. Gravity and other forces cause material within the disk to collide.

The Sun and the planets formed together, 4.6 billion years ago, from a cloud of gas and dust called the solar nebula. A shock wave from a nearby supernova explosion probably initiated the collapse of the solar nebula. The Sun formed in the center, and the planets formed in a thin disk orbiting around it.

Our solar system is a wondrous place. Countless worlds lie spread across billions of kilometers of space, each dragged around the galaxy by our Sun like an elaborate clockwork.. The smaller, inner planets are rocky, and at least one has life on it. The giant outer planets are shrouded in gas and ice; miniature solar systems in their own right that boast intricate rings ...

Solar system - Origin, Planets, Formation: As the amount of data on the planets, moons, comets, and asteroids has grown, so too have the problems faced by astronomers in forming theories of the origin of the solar system. In the ancient world, theories of the origin of Earth and the objects seen in the sky were certainly much less constrained by fact. Indeed, a ...

The inner rocky planets, including Earth, formed closer to the Sun, while the outer gas giants like Jupiter and Saturn formed farther out, where the solar nebula contained more volatile elements. Understanding the Big Bang Theory and the formation of the solar system not only deepens our appreciation of the vast cosmos but also sheds light on ...

Modern studies of planet formation include comparing exoplanetary systems, identification of protoplanetary disks around newborn stars, and computer models to trace the creation of ...

OverviewFormationHistorySubsequent evolutionMoonsFutureGalactic interactionChronologyThe nebular hypothesis says that the Solar System formed from the gravitational collapse of a fragment of a giant molecular cloud, most likely at the edge of a Wolf-Rayet bubble. The cloud was about 20 parsecs (65 light years) across, while the fragments were roughly 1 parsec (three and a quarter light-years) across. The further collapse of the fragments led to the formation of dense cor...

The various planets are thought to have formed from the solar nebula, the disc-shaped cloud of gas and dust left over from the Sun's formation. [ 36 ] The currently accepted method by which the planets formed is accretion, in which the planets began as dust grains in orbit around the central protostar.



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The Sun and the planets formed from the contraction of part of a gas/dust cloud under its own gravitational pull and that the small net rotation of the cloud created a disk around the central condensation. The central condensation eventually formed the Sun, while small condensations in the disk formed the planets and their satellites.

According to this theory, the Sun and all the planets of our Solar System began as a giant cloud of molecular gas and dust. Then, about 4.57 billion years ago, something happened that caused the ...

Our planet began as part of a cloud of dust and gas. It has evolved into our home, which has an abundance of rocky landscapes, an atmosphere that supports life, and oceans filled with mysteries. ... As the planet changed, and the crust began to form, volcanic eruptions occurred frequently. These volcanoes pumped water vapor, ammonia, and carbon ...

This solar system, with its star, its classical planets, its dwarf planets, and its "leftover" comets and asteroids, formed from a nebula full of elements in the form of gas and dust. Over time, these many very small pieces stuck together to make bigger concentrations of mass, eventually culminating in a star and a bunch of planets that ...

Our solar system formed about 4.5 billion years ago from a dense cloud of interstellar gas and dust. The cloud collapsed, possibly due to the shockwave of a nearby exploding star, called a supernova. ... dwarf planets, and large moons. In other cases, planets did not form: the asteroid belt is made of bits and pieces of the early solar system ...

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3 days ago; These were young planets, and eventually, over a long time and through many, many collisions, our eight planets were formed - Mercury, Venus, Earth, Mars, Jupiter, Saturn, ...

Scientists think planets, including the ones in our solar system, likely start off as grains of dust smaller than the width of a human hair. They emerge from the giant, donut-shaped disk of gas and dust that circles young stars. ... much of it now in the form of new worlds. Watch the video to see this process unfold. This animation shows how ...

Our sun was but a fledgling protostar, continually amassing more matter via gravity and steadily cranking up its internal nuclear fusion. There was no solar system, only a giant, ... Why did rocky planets form closer to the sun and the gas giants farther away? One theory involves the solar wind, the steady flow of plasma that emanates from a ...



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Astronomers, however, are still hunting for another possible planet in our solar system, a true ninth planet, after mathematical evidence of its existence was revealed on Jan. 20, 2016. The ...

Presumably the first planets formed in much the same way, but no one can be sure. Also, when did the first planets form? The planetary system HIP 11952 might help lead astronomers along the path ...

How did our solar system form? ... About 71% of our planet's surface is covered in water, according to the U.S. Geological Survey, and Earth's atmosphere protects the planet from solar radiation.

Discover how a giant interstellar cloud known as the solar nebula gave birth to our solar system and everything in it. The solar system as we know it began life as a vast, swirling cloud of gas and dust, twisting through the universe without direction or form. About 4.6 billion years ago, this ...

And like that, the solar system as we know it today was formed. There are still leftover remains of the early days though. Asteroids in the asteroid belt are the bits and pieces of the early solar system that could never quite form a planet. Way off in the outer reaches of the solar system are comets.

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