



Study with Quizlet and memorize flashcards containing terms like In essence, the nebular theory holds that _____, According to modern science, what was the approximate chemical composition of the solar nebula?, The terrestrial planets are made almost entirely of elements heavier than hydrogen and helium. According to modern science, where did the elements heavier than ???



4- According to our theory of solar system formation, why do all the planets orbit the Sun in the same direction and in nearly the same plane? C) The laws of conservation of energy and conservation of angular momentum ensure that any rotating, collapsing cloud will end up as a spinning disk. 9- The nebular theory of the formation of the



Study with Quizlet and memorize flashcards containing terms like According to the nebular theory, what are asteroids and comets? A. They are the shattered remains of collisions between planets. B. They are the shattered remains of collisions between moons. C. They are leftover planetesimals that never accreted into planets. D. They are chunks of rock or ice that ???

ACCORDING TO THE NEBULAR THEORY THE SOLAR SYSTEM FORMED FROM



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. According to the law of conservation of angular momentum, Another problem with the nebular hypothesis was the fact



Study with Quizlet and memorize flashcards containing terms like Briefly outline the steps in the formation of our solar system, according to the nebular theory., By what criteria are planets considered either terrestrial or Jovian?, Explain why the terrestrial planets have meager atmospheres, as compared to the Jovian planets. and more.



According to the nebular theory, why did terrestrial planets form in the inner solar system and jovian planets in the outer solar system? Ices condensed only in the outer solar system, where some icy planetesimals grew large enough to attract gas from the nebula, while only metal and rock condensed in the inner solar system, making terrestrial

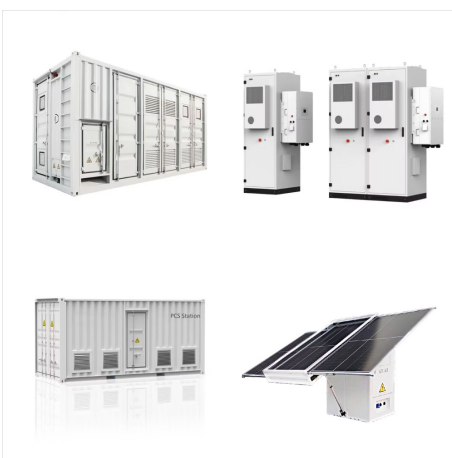
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Our solar system contains the sun, inner rocky planets, the gas giants, or the outer planets, and other celestial bodies, but how they all formed is something that scientists have debated over time.. The nebular theory, also ???



Rotation of the Solar Nebula We can use the concept of angular momentum to trace the evolution of the collapsing solar nebula. The angular momentum of an object is proportional to the square of its size (diameter) divided by its period of rotation ($D^2 P$) ($D^2 P$). If angular momentum is conserved, then any change in the size of a nebula must be compensated for by a proportional ???



Ask the Chatbot a Question Ask the Chatbot a Question planetesimal, one of a class of bodies that are theorized to have coalesced to form Earth and the other planets after condensing from concentrations of diffuse matter early in the history of the solar system. According to the nebular hypothesis, part of an interstellar cloud of dust and gas underwent gravitational collapse to ???

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The nebular hypothesis is the most widely accepted model in the field of cosmogony to explain the formation and evolution of the Solar System (as well as other planetary systems) suggests the Solar System is formed from gas and dust orbiting the Sun which clumped up together to form the planets. The theory was developed by Immanuel Kant and published in his Universal ???



Pluto and Planet Definition. The outermost part of the solar system is known as the Kuiper belt, which is a scattering of rocky and icy bodies yond that is the Oort cloud, a zone filled with small and dispersed ice traces. These two locations are where most comets form and continue to orbit, and objects found here have relatively irregular orbits compared to the rest of ???



OverviewHistorySolar nebular model: achievements and problemsFormation of stars and protoplanetary disksFormation of planetsMeaning of accretionSee alsoNotes

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While cannot rewind time and watch the formation of the Solar System from the beginning, we can look at the Solar System as it is today for clues as to its origins. From that, we can develop a model to describe how it may have gotten that way. 6.5.1 Nebular Theory. According to nebular theory, one of these clouds began to contract. The



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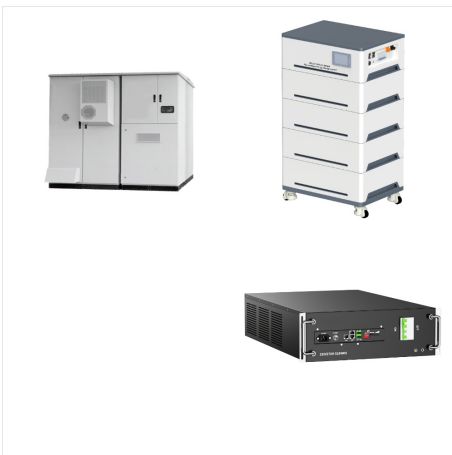


The nebular theory of the formation of the solar system successfully accounts for four of these facts, while one can be considered to be just a coincidence. Which fact is a coincidence? Our solar system has an equal number of terrestrial and jovian planets.

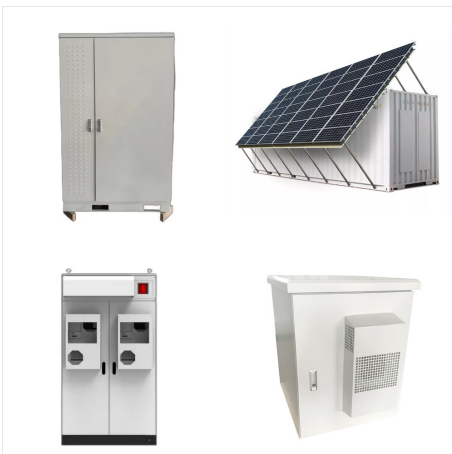
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As our solar system formed, the nebular cloud of dispersed particles developed distinct temperature zones. Temperatures were very high close to the center, only allowing condensation of metals and silicate minerals ???



The nebular theory, also known as nebular hypothesis, presents one explanation of how the solar system formed. Pierre-Simon, Marquis de Laplace proposed the theory in 1796, stating that solar systems originate from ???



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? 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.



1) The solar system begins as a cloud of dust and gas (nebula) 2) Nebula rotates and collapses toward the center of the cloud 3) Heat and pressure is generated at the center forming the Sun 4) A disk of gas and dust spins around the Sun and particles clump together to form planets (Protoplanetary Disk) 5) Repeated collisions of these particles result in asteroid-sized bodies ???



According to the nebular theory, how did the Oort cloud form? It is made of planetesimals formed in the outer solar system that were flung into distant orbits by encounters with the jovian planets. Rather than being a planet, Pluto is really just a large member of. the Kuiper belt.

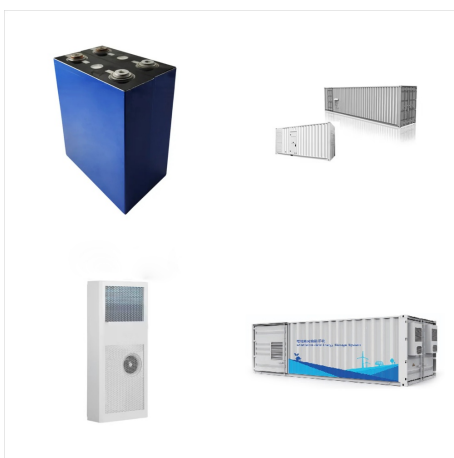
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Study with Quizlet and memorize flashcards containing terms like In essence, the nebular theory holds that A) our solar system formed from the collapse of an interstellar cloud of gas and dust. B) nebulae are clouds of gas and dust in space. C) the planets each formed from the collapse of its own separate nebula. D) the nebular theory is a discarded idea that imagined planets forming ???



Comets condensed in the outer solar system, and many of them were thrown out to great distances by close gravitational encounters with the giant planets. After the Sun ignited, a strong solar wind cleared the system of gas and dust. The asteroids represent the rocky debris that remained. Size and Time Scales of the Solar System



The first step toward a theory of Solar System formation and evolution was the general acceptance of heliocentrism, The nebular hypothesis says that the Solar System formed from the gravitational collapse of a fragment of a giant molecular cloud, [9] According to the nebular hypothesis, the outer two planets may be in the "wrong place".

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Study with Quizlet and memorize flashcards containing terms like Features of Our Solar System that provide clues to how it formed: #1 motion of large bodies, Features of our solar system formation clues: #2 Two major planet types, Features of our solar system formation clues: #3 swarms of smaller bodies and more.



? The Nebular Theory is the scientific theory for how stars and planets form from molecular clouds and their own gravity. The majority of the material within the giant molecular ???



According to our theory of solar system formation, why do all the planets orbit the Sun in the same direction and in nearly the same plane? A) The original solar nebula happened to be disk-shaped by chance. B) Any planets that once orbited in the opposite direction or a different plane were ejected from the solar system.

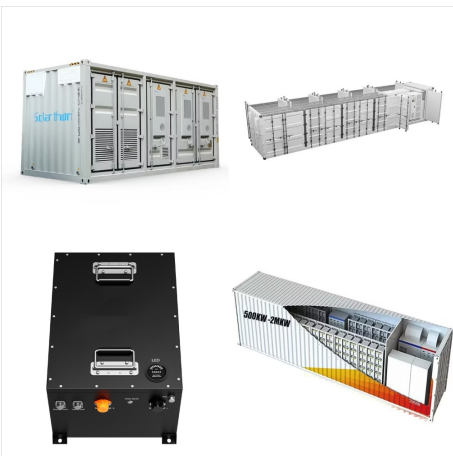
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Study with Quizlet and memorize flashcards containing terms like What is the primary reason that astronomers suspect that some jovian moons were captured into their current orbits?, According to our present theory of solar system formation, which of the following best explains why the solar nebula ended up with a disk shape as it collapsed?, According to present understanding, ???



The nebular hypothesis is the possible explanation for how the Sun, the Earth, and the rest of the solar system formed approximately 4.6 billion years ago out of the gravitational collapse of a



According to the nebular theory, what are asteroids and comets? A) According to our theory of solar system formation, why do we find some exceptions to the general rules and patterns of the planets? A)Our theory is not quite correct because it cannot explain these exceptions. B)The exceptions probably represent objects that were captured by