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Solar System

Vocabulary: 20 | Sentences: 24

原文 / Original

The Solar System: Our Cosmic Neighborhood The solar system consists of the Sun and everything that orbits, or travels around, the Sun. This includes the eight planets and their moons, dwarf planets, and countless asteroids, comets, and other small icy objects. The solar system extends about two light-years from the Sun, marking the outer boundary where the Sun's gravitational influence ends. At the center of our solar system is the Sun, a giant star that produces enormous amounts of energy through nuclear fusion. The Sun contains 99.86% of the solar system's total mass and provides the light and heat necessary for life on Earth. Without the Sun's gravitational pull, the planets would drift aimlessly through space. The eight planets are divided into two main categories. The four inner planets—Mercury, Venus, Earth, and Mars—are terrestrial planets with solid, rocky surfaces. These planets are relatively small and close to the Sun. Mercury is the smallest and fastest planet, completing an orbit in just 88 Earth days. Venus is the hottest planet due to its thick atmosphere that traps heat. Earth is the only

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planet known to support life, while Mars has attracted scientific interest for its potential to harbor life. Beyond Mars lies the asteroid belt, a region containing millions of rocky objects. This belt marks the boundary between the inner and outer planets. The asteroids range in size from tiny particles to Ceres, the largest object in the belt and the only dwarf planet in the inner solar system. The four outer planets—Jupiter, Saturn, Uranus, and Neptune—are much larger than the inner planets. Jupiter is the largest planet in our solar system, with a mass more than twice that of all other planets combined. It features the Great Red Spot, a storm that has raged for centuries. Saturn is famous for its spectacular ring system, composed mainly of ice particles. Uranus and Neptune, the most distant planets, are ice giants with frigid temperatures. Uranus rotates on its side, while Neptune has the strongest winds in the solar system. Beyond Neptune lies the Kuiper Belt, a donut-shaped region containing countless icy bodies. This region is similar to the asteroid belt but much larger. Pluto, once considered the ninth planet, is now classified as a dwarf planet in the Kuiper Belt. Each planet travels in an elliptical orbit around the Sun, following the laws of gravity

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discovered by Isaac Newton. Earth completes one orbit in exactly 365.25 days, defining our year. The outer planets take much longer—Neptune, the most distant, requires about 165 Earth years to complete one orbit. The solar system formed approximately 4.6 billion years ago from a giant cloud of gas and dust. Over millions of years, this material slowly collapsed under its own gravity, forming the Sun and the surrounding protoplanetary disk from which the planets eventually emerged. Today, scientists continue to explore our solar system using spacecraft and telescopes. Missions like Voyager have sent back remarkable images of distant worlds, while Mars rovers search for signs of ancient life. Understanding our solar system helps us appreciate both the fragility and resilience of our home planet.

中英双语 / EN-CH

The solar system consists of the Sun and everything that orbits, or travels around, the Sun.

太阳系由太阳和围绕它运行的所有天体组成。

This includes the eight planets and their moons, dwarf planets, and countless asteroids, comets, and other small icy objects.

这包括八大行星及其卫星、矮行星以及无数的小行星、彗星和其他小型冰冻物体。

The solar system extends about two light-years from the Sun, marking the outer boundary where the Sun's gravitational influence ends.

太阳系从太阳延伸约两光年，标志着太阳引力影响的外边界。

At the center of our solar system is the Sun, a giant star that produces enormous amounts of energy through nuclear fusion.

在我们太阳系的中心是太阳，这颗巨大的恒星通过核聚变产生巨大的能量。

The Sun contains 99.86% of the solar system's total mass and provides the light and heat

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necessary for life on Earth.

太阳占太阳系总质量的99.86%，并为地球上的生命提供光和热。

Without the Sun's gravitational pull, the planets would drift aimlessly through space.

没有太阳的引力作用，行星将在太空中无目的地漂浮。

The eight planets are divided into two main categories.

八大行星分为两大类。

The four inner planets—Mercury, Venus, Earth, and Mars—are terrestrial planets with solid, rocky surfaces.

四颗内行星——水星、金星、地球和火星——是具有固体岩石表面的类地行星。

These planets are relatively small and close to the Sun.

这些行星相对较小，距离太阳较近。

Mercury is the smallest and fastest planet, completing an orbit in just 88 Earth days.

水星是最小也是最快的行星，在短短88个地球日里完成一次轨道运行。

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Venus is the hottest planet due to its thick atmosphere that traps heat.

金星是温度最高的行星，因为其厚厚的大气层会将热量困住。

Earth is the only planet known to support life, while Mars has attracted scientific interest for its potential to harbor life.

地球是唯一已知能够支持生命的行星，而火星因其潜在的生命栖息地吸引了科学家的兴趣。

Beyond Mars lies the asteroid belt, a region containing millions of rocky objects.

在火星之外是小行星带，那里有数百万颗岩石天体。

This belt marks the boundary between the inner and outer planets.

这条带子标志着内行星和外行星之间的分界线。

The asteroids range in size from tiny particles to Ceres, the largest object in the belt and the only dwarf planet in the inner solar system.

小行星的大小从微小颗粒到谷神星不等，谷神星是带中最大的天体，也是内太阳系唯一的矮行星。

The four outer planets—Jupiter, Saturn, Uranus, and Neptune—are much larger than the inner

planets.

四颗外行星——木星、土星、天王星和海王星——比内行星大得多。

Jupiter is the largest planet in our solar system, with a mass more than twice that of all other planets combined.

木星是太阳系中最大的行星，其质量超过所有其他行星总质量的两倍。

It features the Great Red Spot, a storm that has raged for centuries.

它拥有大红斑，这是一个已经持续了几个世纪的巨大风暴。

Saturn is famous for its spectacular ring system, composed mainly of ice particles.

土星以其壮观的环系而闻名，这些环主要由冰粒子组成。

Uranus and Neptune, the most distant planets, are ice giants with frigid temperatures.

天王星和海王星是距离最远的行星，它们是寒冷的气态巨行星。

Uranus rotates on its side, while Neptune has the strongest winds in the solar system.

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天王星侧向自转，而海王星拥有太阳系中最强的风。

Beyond Neptune lies the Kuiper Belt, a donut-shaped region containing countless icy bodies.

在海王星之外是柯伊伯带，这是一个环形区域，包含无数冰冻天体。

This region is similar to the asteroid belt but much larger.

这个区域类似于小行星带，但要大得多。

Pluto, once considered the ninth planet, is now classified as a dwarf planet in the Kuiper Belt.

曾经被认为是第九颗行星的冥王星现在被归类为柯伊伯带中的矮行星。

Each planet travels in an elliptical orbit around the Sun, following the laws of gravity discovered by Isaac Newton.

每一颗行星都沿着艾萨克·牛顿发现的引力定律所描述的椭圆形轨道绕太阳运行。

Earth completes one orbit in exactly 365.25 days, defining our year.

地球在精确的365.25天内完成一次轨道运行，定义了我们的年份。

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The outer planets take much longer—Neptune, the most distant, requires about 165 Earth years to complete one orbit.

外行星需要更长的时间——最远的海王星大约需要165个地球年才能完成一次轨道运行。

The solar system formed approximately 4.6 billion years ago from a giant cloud of gas and dust.

太阳系大约在46亿年前从一个巨大的气体和尘埃云中形成。

Over millions of years, this material slowly collapsed under its own gravity, forming the Sun and the surrounding protoplanetary disk from which the planets eventually emerged.

数百万年来，这种物质在其自身的引力作用下逐渐坍缩，形成了太阳及其周围的原行星盘，最终行星从这里诞生。

Today, scientists continue to explore our solar system using spacecraft and telescopes.

今天，科学家们继续使用航天器和望远镜探索我们的太阳系。

Missions like Voyager have sent back remarkable images of distant worlds, while Mars rovers search for signs of ancient life.

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像旅行者号这样的任务已经发回了遥远世界的惊人图像，而火星探测车则在寻找古代生命的迹象。

Understanding our solar system helps us appreciate both the fragility and resilience of our home planet.

了解我们的太阳系有助于我们欣赏家园的脆弱性和韧性。

词汇表 / Vocabulary

1. solar 太阳的	11. giant 巨大的
2. system 系统	12. fusion 融合
3. consists 由...组成	13. mass 质量
4. orbit 轨道	14. light-years 光年
5. planets 行星	15. inner 内部的
6. dwarf 矮小的	16. outer 外部的
7. asteroid 小行星	17. ring 环
8. comet 彗星	18. ice 冰
9. gravitational 引力的	19. belt 带
10. boundary 边界	20. Kuiper 柯伊伯

精彩句子 / Sentences

1. The solar system consists of the Sun and everything that orbits, or travels around, the Sun.

太阳系由太阳和围绕它运行的所有天体组成。

2. The four inner planets—Mercury, Venus, Earth, and Mars—are terrestrial planets with solid, rocky surfaces.

四颗内行星——水星、金星、地球和火星——是具有固体岩石表面的类地行星。

3. Without the Sun's gravitational pull, the planets would drift aimlessly through space.

没有太阳的引力作用，行星将在太空中无目的地漂浮。

4. The asteroid belt marks the boundary between the inner and outer planets.

小行星带标志着内行星和外行星之间的分界线。

5. Jupiter is the largest planet in our solar system, with a mass more than twice that of all other planets combined.

木星是太阳系中最大的行星，其质量超过所有其他行星总质量的两倍。

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6. Saturn is famous for its spectacular ring system, composed mainly of ice particles.

土星以其壮观的环系而闻名，这些环主要由冰粒子组成。

7. Uranus and Neptune, the most distant planets, are ice giants with frigid temperatures.

天王星和海王星是距离最远的行星，它们是寒冷的气态巨行星。

8. Pluto, once considered the ninth planet, is now classified as a dwarf planet in the Kuiper Belt.

曾经被认为是第九颗行星的冥王星现在被归类为柯伊伯带中的矮行星。

9. Each planet travels in an elliptical orbit around the Sun, following the laws of gravity discovered by Isaac Newton.

每一颗行星都沿着艾萨克·牛顿发现的引力定律所描述的椭圆形轨道绕太阳运行。

10. Earth completes one orbit in exactly 365.25 days, defining our year.

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the most distant, requires about 165 Earth years to complete one orbit.

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